EXHIBIT E1

CHAPTER 94 REPORT FOR 2020
EAST WHITELAND TOWNSHIP

CHAPTER 94
MUNICIPAL WASTELOAD MANAGEMENT
ANNUAL REPORT

OPERATING YEAR 2020
MALVERN HUNT WASTEWATER TREATMENT PLANT

EAST WHITELAND TOWNSHIP
CHESTER COUNTY, PENNSYLVANIA

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EAST WHITELAND TOWNSHIP
CHESTER COUNTY, PENNSYLVANIA

CHAPTER 94
MUNICIPAL WASTELOAD MANAGEMENT
ANNUAL REPORT

MALVERN HUNT WASTEWATER TREATMENT PLANT
OPERATING YEAR 2020

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1. INTRODUCTION

As required by Chapter 94, Municipal Wasteload Management, Title 25 of the Rules and Regulations of the Pennsylvania Department of Environmental Protection (PADEP), this report summarizes the operation of the East Whiteland Township (Township) Malvern Hunt Wastewater Treatment Plant (WWTP) for the past five years, and projected loading for the next five years. Data presented in the tables and graphs included in the Appendices were taken from 2020 plant operating records.

The WWTP is located in East Whiteland Township, Chester County, Pennsylvania. The plant has a permitted 0.105 MGD lagoon treatment and spray irrigation system that is designed to serve the 279 unit residential community of Malvern Hunt.

The facility was constructed in 2000 by the Cutler Group, Inc. and was owned and operated by the Cutler Group, Inc. until October 31, 2007 when Water Quality Management Permit No. 1599418 for the WWTP was transferred to East Whiteland Township. The Township contracted Miller Environmental, Inc. to operate the WWTP from October 2007 to July 2011. ARRO Consulting, Inc. has been operating the WWTP since August 2011.

The WWTP process is an aerated lagoon treatment system, consisting of an influent pump station, a headworks with a comminutor and influent bar screen, a secondary treatment lagoon, storage/polishing lagoon, and effluent spray pumps. Sewage flow to the treatment lagoon is continuous, going through aeration, solid-liquid separation settling, and decanting processes. The treated water is discharged through an 8-inch diameter gravity main to the storage/polishing lagoon. The supernatant of the storage/polishing lagoon is chlorinated prior to being pumped out for spray irrigation.

The WWTP spray irrigation is applied to three (3) zones located in woodlands north of the Malvern Hunt development (18.5 acres total). By the current permit the facility can simultaneously spray in two of the three zones, alternating the three zones with a minimum of five days rest period for the inactive zone. The application rate to the spray zones cannot exceed 0.25 inches per hour at any time.

2. HYDRAULIC AND ORGANIC LOADINGS

2.1 2020 Plant Performance

Malvern Hunt development is fully built-out with 279 residential units. The WWTP currently has a permitted hydraulic capacity of 0.105 MGD Annual Average Flow (AAF) with a design hydraulic capacity of 0.393 MGD. The design organic capacity of the facility is 222 lbs BOD_5/day.

Table 1 of Appendix A contains the 2020 plant performance information for the WWTP. During 2020 the average sewage flow was 49,203 gallons-per-day (gpd) (0.0492 MGD), well below the permitted limit of 0.105 MGD. The highest consecutive maximum three-month average for 2020 was 55,100 gpd (0.0551 MGD).

Influent BOD_5 and total suspended solids are tabulated in Table 1. The plant's current permitted maximum monthly organic influent limit is 222 lbs/day. During 2020 the maximum monthly influent organic load was 112 lbs/day. Permitted discharge limits for $CBOD_5$ and suspended solids are 25 mg/l and 30 mg/l, respectively. During 2020 the highest monthly effluent $CBOD_5$ was 12.4 mg/l and the highest monthly effluent total suspended solids was 11.6 mg/l, both parameters at or below the permitted limits.

2.2 Current Hydraulic and Organic Loadings

Table 2 of Appendix A contains a summary of monthly average hydraulic loadings on the Malvern Hunt WWTP for the years 2016 through 2020. Flow has fluctuated over this period with a maximum average annual flow of 49,203 gpd (0.0492 MGD) in 2020 and a minimum average annual flow of 44,292 gpd (0.0443 MGD) in 2019. Current flows remain below the permitted limit of 0.105 MGD (105,000 gpd) for average annual flow.

The highest maximum three-month flow for the time period was 52,567 gpd (0.0526 MGD) in 2018 and the minimum three-month flow was 45,333 gpd (0.0453 MGD) in 2017. The average 5-year flow peaking factor is 1.056.

Influent BOD and TSS samples are collected once a month. Effluent samples are collected on the same day as influent samples during land application months, generally March through November, but during 2020 April through November. In months where no effluent

land applications occur effluent testing is suspended. Table 1A contains the results of the monthly sampling and also the approximate influent flow on the day of sampling.

Table 3 of Appendix A contains the average annual organic loadings for the plant during the years from 2016 and 2020. In 2020 the average annual BOD_5 loading increased from the previous year's level to 112 lbs./day, with maximum 1-month loading of 176 lbs./day. These loadings are below the plant's permitted influent loading limit of 222 lbs./day. The average 5-year organic peaking factor is 1.53.

3. 5-YEAR HYDRAULIC AND ORGANIC LOADING PROJECTIONS

As previously stated, the WWTP hydraulic loading data has been available since the start-up of the WWTP, but organic loading data has only been available since August of 2011. Also, the Malvern Hunt Development is currently built out with 279 units and no population changes are expected for the next five years. Table 4 of Appendix A contains the summary of past and projected hydraulic and organic loadings for the WWTP. As demonstrated by Exhibit 1 and Exhibit 2 in Appendix A, the WWTP is not projected to expect hydraulic or organic overloads in the next five years.

4. SEWER EXTENSIONS

Malvern Hunt Development is currently built-out with 279 units and no future extensions and connections are expected.

5. PROGRAM FOR SANITARY SEWER MONITORING, MAINTENANCE, AND REPAIR

Operation and maintenance activities for the treatment plant and collection system are performed by the treatment plant operator and the Township's public works crew. The mechanical equipment in the treatment facility is inspected weekly by the plant operator. Maintenance performed is logged into the plant's record.

The plant operator routinely performs the laboratory analyses required for process control and discharge permit reporting purposes. Results of the analyses are recorded on a monthly log. A copy is forwarded to the appropriate State and Federal agencies as required by the facility's WQM permit.

6. CONDITION OF THE SEWER SYSTEM

The Township is continuing the corrective measures necessary to prevent unwanted runoff from entering into the system, thus reducing the inflow/infiltration in the system. The Township has created a numbering system for all 1,452 manholes in its sanitary sewer system, including Malvern Hunt WWTP drainage area, and located each manhole with a GPS locating device. A sewer system layer has been developed in the Township's GIS data map with each manhole located and identified with its corresponding number. The Township is beginning to televise its system again and is inputting this information onto the new GIS layer to allow the Township to better detect and remedy excessive infiltration and inflow if encountered.

7. SEWAGE PUMPING STATIONS

There is one pumping station within the collection system and it receives all the sewage flow from the Malvern Hunt development and pumps it to the WWTP. The station was constructed in 2000 and it has two (2) pumps – one operating, one backup – with each pump rated at approximately 300 gpm or 432,000 gpd (0.4320 MGD). The pumps alternate lead-lag at the station. A magnetic flow meter is located on the force main leaving the station. The meter totalizer amounts are logged approximately each work-day, which excludes weekends and holidays; therefore, instantaneous readings can't be made during peak flow events, only maximum daily readings are available.

Based on the 2020 metering records, the average daily flow leaving the station was 49,203 gpd (0.0492 MGD) and the maximum daily flow was 195,836 gpd (0.1958 MGD) following a 5.86-inch rainfall event. There were no instances in 2020 in which both the lead and lag pump were operating simultaneously. As the Malvern Hunt development is built out no additional flows would be expected; therefore, the influent pumps are expected to be able to handle any future peak flows if they can manage current peak flows.

There are two effluent spray pumps at the WWTP that operate alternately. Each pump has a hydraulic design capacity of 220 gpm or 316,800 gpd (0.3168 MGD). In 2020, the annual average flow for the effluent spray pumps was 73,540 gpd (0.0735 MGD) and the maximum daily flow was 164,000 gpd (0.1640 MGD). One pump is able to handle all normal flow to the spray fields.

8. PUMPING STATION FLOW DURING MAJOR STORM EVENTS

The Department requires Chapter 94 Reports to include a discussion of metered flow data for the collection and conveyance systems, specifically during major storm events (greater than 1.0 inch of rain).

Exhibit 3 of Appendix A contains a graph of the monthly rainfall and flow totals at the WWTP. The chart shows that rainfall does not have influence on the monthly flow at the WWTP.

Table 5 of Appendix A contains a summary of the rainfall and metered flow at the Malvern Hunt metered influent pump station for the ten (10) days in 2020 where rain fell more than 1.0-inch plus in a 24-hour period and Exhibit 4 of Appendix A is the chart developed from this data. As related to yearly average flow, the peaking factor for the pump station during the rain events is:

Pump Station	Annual Avg. Flow (MGD)	Peak Flow (MGD)	Rain Events Peaking Factor	
			High	Average
Malvern Hunt	0.0492	0.1958	3.98	2.14

The high peaking factor at the pump station occurred during a 5.86-inch rainfall event in August 2020. The high peaking factor is within the Department's current pump station peaking factor guidelines.

9. INDUSTRIAL WASTES

There is no industrial waste discharged to Malvern Hunt's WWTP.

10. CALIBRATION REPORTS

The flow meter was calibrated quarterly during 2020. Copies of the calibration reports are included in Appendix B.

Appendix A

Table 1

2020 Plant Performance Summary

Table 1

EAST WHITELAND TOWNSHIP
MALVERN HUNT WASTEWATER TREATMENT PLANT
2020 CHAPTER 94 REPORT
PLANT PERFORMANCE SUMMARY

		BOD5				TSS		
Month	Avg Daily Flow (gpd)	Daily Load (lbs/day)	Influent (mg/l)	Effluent (mg/l)	Percent Removal	Influent (mg/l)	Effluent (mg/l)	Percent Removal
January	43,800	115	316	0.0	100.0	190	0.0	100.0
February	42,900	176	491	0.0	100.0	146	0.0	100.0
March	50,700	51	120	0.0	100.0	47	0.0	100.0
April	54,300	59	130	10.7	91.8	87	17.0	80.5
May	49,700	116	281	12.4	95.6	280	37.0	86.8
June	48,000	135	337	7.0	97.9	488	5.0	99.0
July	49,400	97	235	3.8	98.4	243	5.0	97.9
August	51,100	98	231	3.5	98.5	89	5.0	94.4
September	45,200	124	329	6.0	98.2	440	14.0	96.8
October	49,130	80	195	2.5	98.7	136	5.0	96.3
November	51,100	169	396	2.0	99.5	470	5.0	98.9
December	55,100	122	265	0.0	100.0	133	0.0	100.0
Annual Average	**49,203**	**112**	**277**	**6.0**	**97.3**	**229**	**11.6**	**93.8**
Max. 3 Month Average	**51,777**							
Max. Month	**55,100**	**176**		**12.4**			**37.0**	
Discharge Limits	**105,000**	**222**		**25**			**30**	

NOTES

1. **No land application effluent flow during the months of January, February, March and December 2020, therefore no effluent testing was done during these months.**

Table 1A

2020 Organic Loading Sampling

Daily Flow and Sample Results

Table 1A

EAST WHITELAND TOWNSHIP
MALVERN HUNT WASTEWATER TREATMENT PLANT
2020 CHAPTER 94 REPORT
ORGANIC LOADING SAMPLING: DAILY FLOW and SAMPLE RESULTS

		SAMPLING DAY FLOW			BOD5				TSS	
Month	Sample Date	Pump #1 (minutes)	Pump #2 (minutes)	Avg. Daily Infl. Flow (gpd)	Influent Sample (mg/l)	Organic Load (lbs/day)	Effluent Sample (mg/l)	Percent Removal	Influent Sample (mg/l)	Effluent Sample (mg/l)
January	1/13/2020	96	86	49,575	316	131	0.0	100.0	190	0.0
February	2/10/2020	81	85	45,467	491	186	0.0	100.0	146	0.0
March	3/9/2020	89	87	48,206	120	48	0.0	100.0	47	0.0
April	4/13/2020	92	96	51,493	130	56	10.7	91.8	87	17.0
May	5/11/2020	98	97	53,410	281	125	12.4	95.6	280	37.0
June	6/8/2020	81	88	46,289	337	130	7.0	97.9	488	5.0
July	7/13/2020	83	83	45,467	235	89	3.8	98.4	243	5.0
August	8/10/2020	76	78	42,180	231	81	3.5	98.5	89	5.0
September	9/7/2020	77	76	41,906	329	115	6.0	98.2	440	14.0
October	10/12/2020	89	91	49,301	195	80	2.5	98.7	136	5.0
November	11/9/2020	80	83	44,645	396	147	2.0	99.5	470	5.0
December	12/7/2020	84	88	47,110	265	104	0.0	100.0	133	0.0

Average Influent Pump Rate = ***274*** **gpm**

NOTES

1. **No land application effluent flow during the months of January, February, March and December 2020, therefore no effluent testing was done during these months.**

Table 2

Hydraulic Loading Data (2016 – 2020)

Table 2

EAST WHITELAND TOWNSHIP
MALVERN HUNT WASTEWATER TREATMENT PLANT
2020 CHAPTER 94 REPORT
HYDRAULIC LOADING DATA (GPD)
2016 - 2020

Month	2016	2017	2018	2019	2020	2020 Rainfall (in.)
January	44,600	46,900	45,300	46,400	43,800	3.23
February	48,800	43,900	48,600	44,900	42,900	2.65
March	40,500	45,200	45,900	47,600	50,700	4.45
April	43,300	42,300	46,000	41,200	54,300	5.92
May	46,800	45,900	64,700	47,800	49,700	2.84
June	53,200	44,800	46,500	47,700	48,000	2.87
July	44,900	44,300	46,500	43,600	49,400	8.61
August	44,900	44,380	46,500	39,400	51,100	9.37
September	44,900	42,400	46,500	40,800	45,200	2.48
October	54,600	43,600	43,700	43,000	49,130	4.19
November	46,900	42,900	50,200	43,400	51,100	5.95
December	47,900	45,600	47,500	45,700	55,100	6.50
Average Annual Flow (GPD)	**46,775**	**44,348**	**48,158**	**44,292**	**49,203**	
					Total	**59.06**
Max. 3 Month Ave. Flow (GPD)	**49,800**	**45,333**	**52,567**	**46,367**	**51,777**	
PEAKING FACTOR						
Max. 3 Month Ave. Flow / Ave. Annual Flow	**1.065**	**1.022**	**1.092**	**1.047**	**1.052**	

Flow Peaking Factor: Average 5 Year Ratio	**1.056**

Rain Data from USGS Site #01473169 Valley Creek near Valley Forge.

Table 3

Organic Loading Data (2016 – 2020)

Table 3

EAST WHITELAND TOWNSHIP
MALVERN HUNT WASTEWATER TREATMENT PLANT
2020 CHAPTER 94 REPORT
ORGANIC LOADING DATA (lbs BOD5/day)
2016 - 2020

Month	2016	2017	2018	2019	2020
January	62	76	78	62	115
February	73	86	52	119	176
March	71	76	114	65	51
April	68	43	149	88	59
May	74	79	168	22	116
June	98	106	65	61	135
July	85	87	164	59	97
August	101	42	47	57	98
September	71	75	99	94	124
October	80	41	76	49	80
November	83	85	83	100	169
December	50	91	88	102	122
Average Annual BOD (lbs/day)	**76**	**74**	**99**	**73**	**112**
Max. 1 Month BOD5 Loading (lbs/day)	**101**	**106**	**168**	**119**	**176**
RATIO: Max. 1 Month BOD5 / Ave. Annual BOD5	**1.32**	**1.43**	**1.70**	**1.63**	**1.57**

Organic Peaking Factor: Average 5 Year Ratio	**1.53**

Table 4

Past and Projected Treatment Plant Loadings

Table 4

EAST WHITELAND TOWNSHIP
MALVERN HUNT WASTEWATER TREATMENT PLANT
2020 CHAPTER 94 REPORT
PAST AND PROJECTED TREATMENT PLANT LOADINGS

Year	Connected Population	Average Total Flow (gpd)	Max. 3 Month Ave. Flow (gpd)	Per Capita Flow (gpcd)	Average Total BOD5 (lbs/day)	Per Capita BOD5 (lbs/day)
2016	762	46,775	49,800	61.4	76	0.100
2017	762	44,348	45,333	58.2	74	0.097
2018	762	48,158	52,567	63.2	99	0.129
2019	762	44,292	46,367	58.1	73	0.096
2020	762	49,203	51,777	64.6	112	0.147
Average	**762**	**46,555**		**61.1**	**87**	**0.114**
Projected Loadings						
2021	762	46,555	49,144	61.1	87	0.114
2022	762	46,555	49,144	61.1	87	0.114
2023	762	46,555	49,144	61.1	87	0.114
2024	762	46,555	49,144	61.1	87	0.114
2025	762	46,555	49,144	61.1	87	0.114

Table 5

Flow Summary at Rainfall Greater Than 1.0 Inch per Day

Table 5

EAST WHITELAND TOWNSHIP
MALVERN HUNT WASTEWATER TREATMENT PLANT
2020 CHAPTER 94 REPORT
INFLUENT FLOW SUMMARY AT RAINFALL GREATER THAN 1.0 INCH PER DAY

Rain Date	Rain (in.)	Influent Rainfall Flow	
		Peak (MGD)	Peaking Factor
01/25/20	2.21	0.1008	2.05
03/28/20	1.31	0.1005	2.04
04/13/20	2.49	0.0000	0.00
04/30/20	1.09	0.0742	1.51
07/06/20	3.43	0.0611	1.24
07/10/20	3.21	0.1060	2.15
08/04/20	5.86	0.1958	3.98
10/29/20	2.07	0.0920	1.87
11/30/20	2.52	0.1104	2.24
12/24/20	2.65	0.1052	2.14

Yearly Avg Flow (MGD) = 0.0492
Maximum Daily (MGD) = 0.1958
High Peaking Factor = 3.98
Average Peaking Factor = 2.14

NOTE 1. **No recorded pump station influent flow data is available for the April 13, 2020 rainfall event.**

Exhibit 1

Hydraulic Loading Graph

EXHIBIT 1

EAST WHITELAND TOWNSHIP
MALVERN HUNT WASTEWATER TREATMENT PLANT
2020 CHAPTER 94 REPORT
HYDRAULIC LOADING

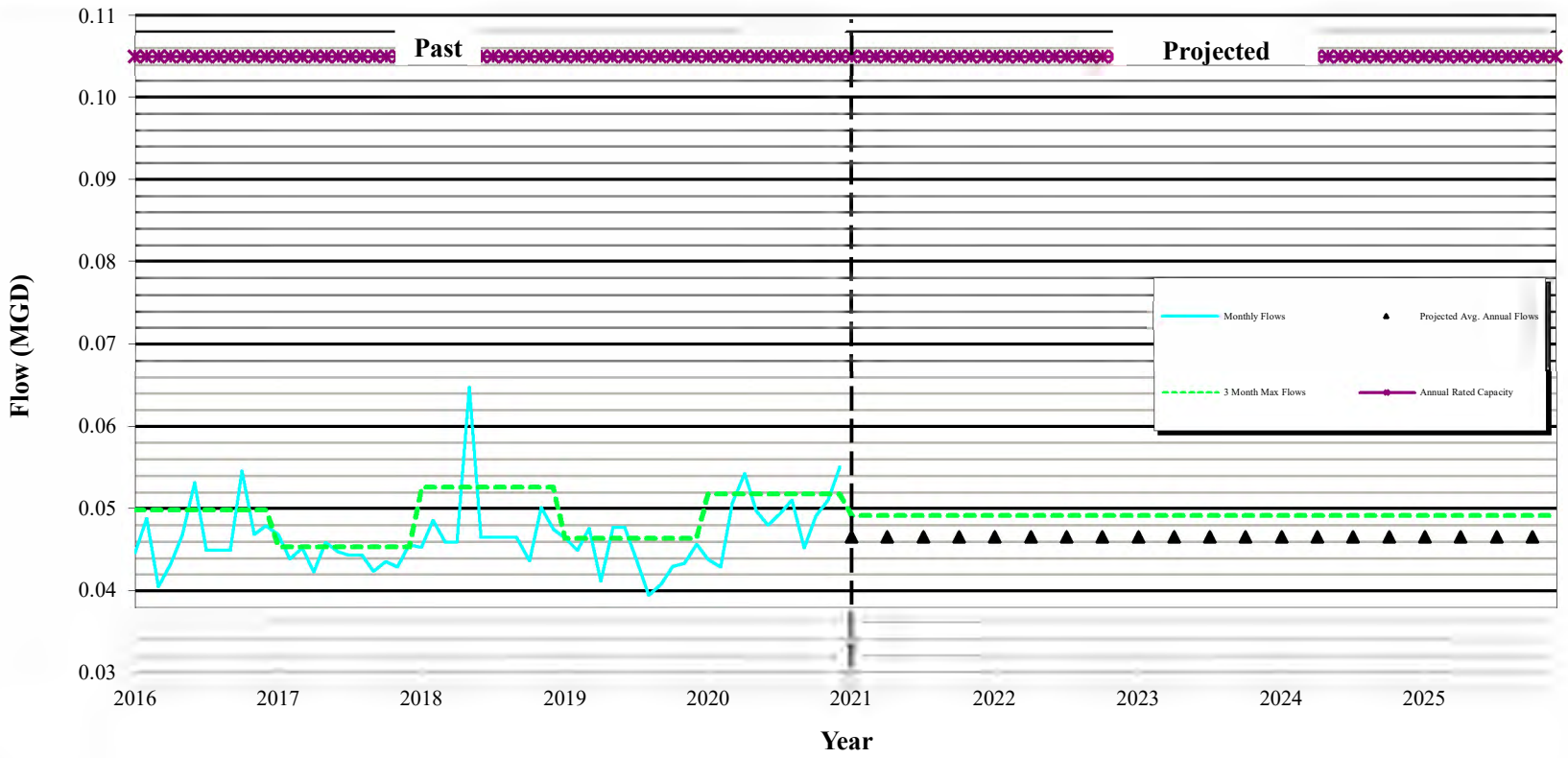


Exhibit 2

Organic Loading Graph

EXHIBIT 2

EAST WHITELAND TOWNSHIP
MALVERN HUNT WASTEWATER TREATMENT PLANT
2020 CHAPTER 94 REPORT
ORGANIC LOADING

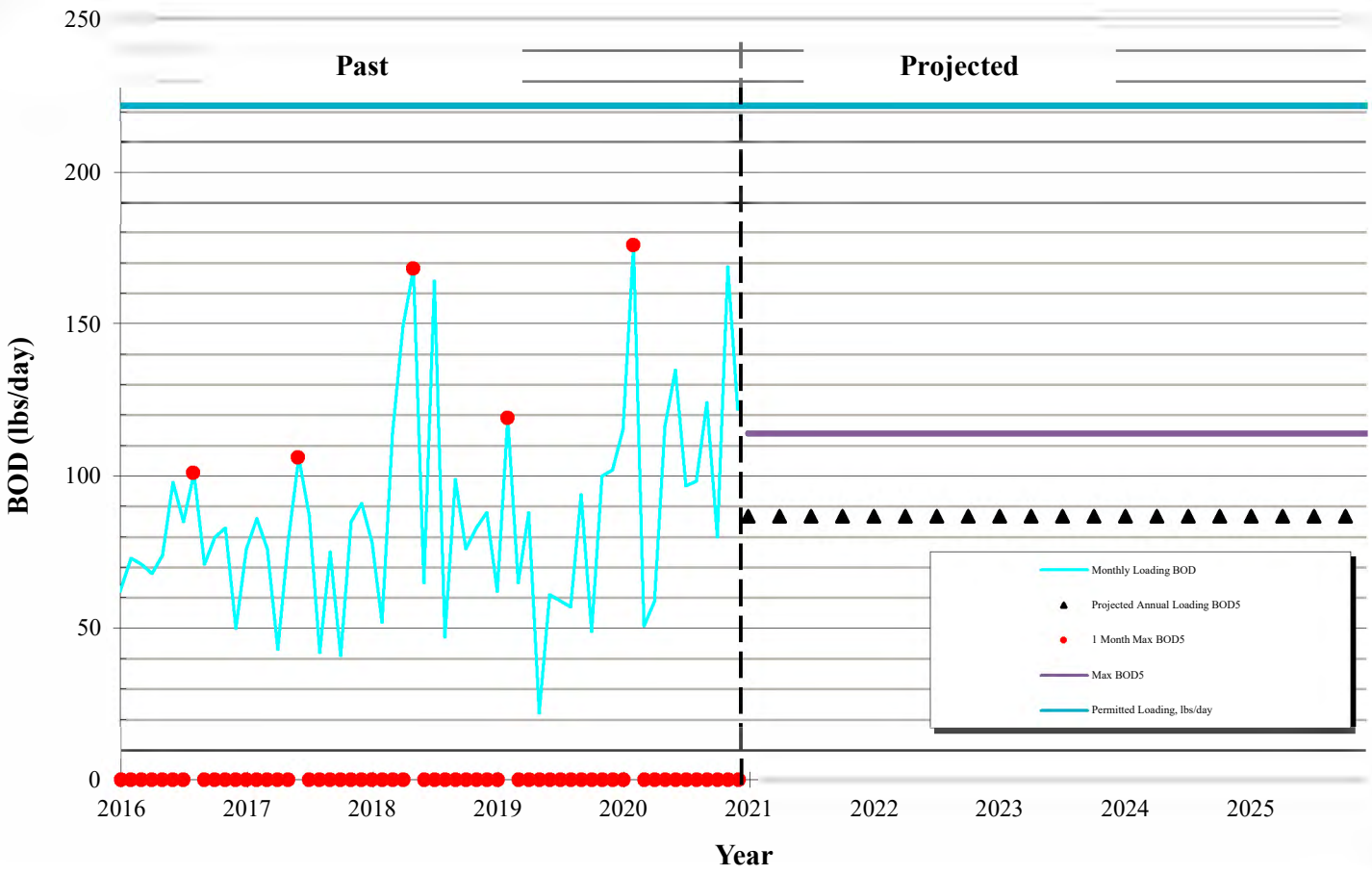


Exhibit 3

Monthly Total Flow Versus Rainfall Graph

EXHIBIT 3

EAST WHITELAND TOWNSHIP
MALVERN HUNT WASTEWATER TREATMENT PLANT
2020 CHAPTER 94 REPORT
MONTHLY TOTAL FLOW VERSUS RAINFALL

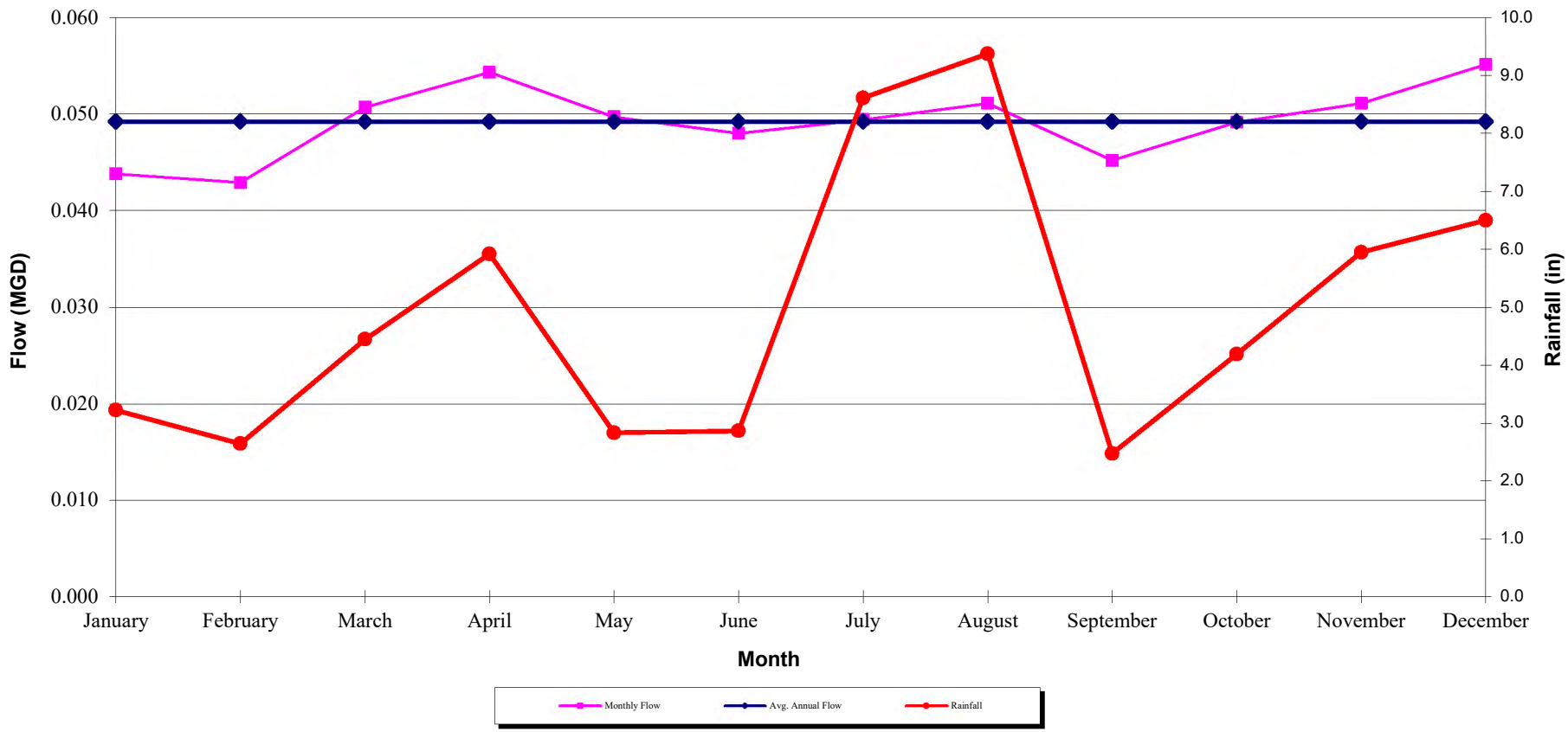
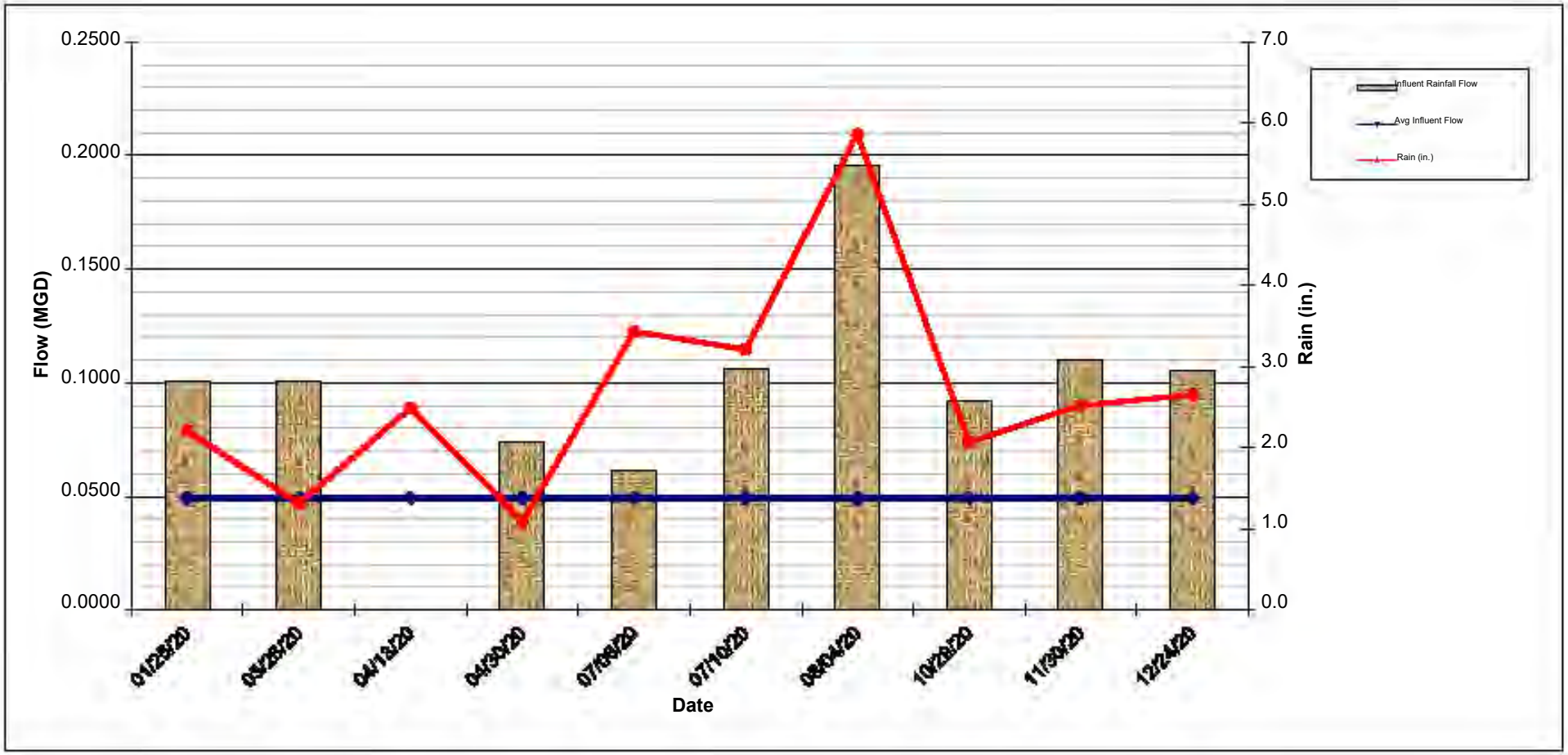


Exhibit 4

Flow Graph at Rainfall Greater Than 1.0 Inch per Day

EXHIBIT 4

EAST WHITELAND TOWNSHIP
MALVERN HUNT WASTEWATER TREATMENT PLANT
2020 CHAPTER 94 REPORT
INFLUENT FLOW GRAPH AT RAINFALL GREATER THAN 1.0 INCH PER DAY



NOTE 1. No recorded pump station influent flow data is available for the April 13, 2020 rainfall event.

Appendix B

Flow Meter Calibration Reports

CALIBRATION TRACKING FORM

FULL REPORT ON ALL CUSTOMERS FOR EAST WHITELAND TWP.

Revision Date:	**4/8/2019**				**Quarterly**		
Revised By:	**D. Reilly**	Cell Phone 215-803-6459					
Wood View							
Loop Description or Tag	**Equipment Description**	**Manufacturer**	**Model#**	**Serial #**	**Location (Bldg/Flr/Panel)**	**Calibration Range**	**Freq.**
Korman Corp.	Flow Meter (E Whiland x100)	Badger	2100	2534	Parking lot (Wood View)	0-50 GPM. = 4-20 Ma.	Quarterly
Totalizer x 10	SCADA	Maple System	HM15070	120609618	Mill Lane	4-20 Ma. = 0 - 50 GPM	Quarterly
Totalizer x 10	Chart Recorder / Totalizer	Chessel	392	951052544C03	Gen.room(Woodview) **OUT OF SERVICE**	4-20 Ma. = 0 - 50 GPM	Quarterly
Totalizer x 10	Chart Recorder / Totalizer	Chessel	392	951053863C03	Generator room (Wood View)	4-20 Ma. = 0 - 400 GPM	Quarterly
	Flow Meter (Tredyffrin)	Rosemount	8712	860180575	Meter pit	0-400 GPM = 4-20 Ma.	Quarterly
Totalizer tested 2-27-20					**NOTE: Left all units within spec.**	**3/3/2020**	
Unisys							
Loop Description or Tag	**Equipment Description**	**Manufacturer**	**Model#**	**Serial #**	**Location (Bldg/Flr/Panel)**	**Calibration Range**	**Freq.**
Exeter Prop.Mang.	Flow Meter / Totalizer x100	Badger	2100	2792	Parking lot (Unisys)	0 - .45 MGD = 4-20 Ma.	Quarterly
Totalizer x 100	SCADA	Maple System	HM15070	120609618	Mill Lane	0 to 312.50 GPM	
Totalizer tested Failed to Mill Lane					**NOTE: Left all units within spec.**	**Failed**	
Erin Glenn							
Loop Description or Tag	**Equipment Description**	**Manufacturer**	**Model#**	**Serial #**	**Location (Bldg/Flr/Panel)**	**Calibration Range**	**Freq.**
East Whiteland	Flow Meter / Totalizer x10	Badger	2100	4391	Parking lot (Erin) Freq. 1140	0 to 590.0 GPM	Quarterly
	Transmitter	Quindar	QIPD30	N/A	Parking lot (Erin)	4-20Ma. = Timed Hz	Quarterly
	Receiver	Quindar	QPDI30	N/A	Mill Lane	Timed Hz = 4-20 Ma.	Quarterly
Totalizer x 10	SCADA	Maple System	HM15070	120609618	Mill Lane	0 to 50 GPM	Quarterly
Totalizer tested 2-27-20					**NOTE: Left Flow Meter within spec.**	**4/1/2020**	
Malvern Hunt							
Loop Description or Tag	**Equipment Description**	**Manufacturer**	**Model#**	**Serial #**	**Location (Bldg/Flr/Panel)**	**Calibration Range**	**Freq.**
East Whiteland (Pump St.)	Flow Meter / Totalizer x10	Rosemount	8712	46783	Pump House	0 to 590.0 GPM	Quarterly
East Whiteland (Irrigation.)	Flow Meter / Totalizer x100	Flow Tech	V30CF5	180531-F5A188	Lab Bldg	0 to 500.0 GPM	Quarterly
	Chart Recorder	Chessel	392	950953090C03	Lab Bldg	0 to 500.0 GPM	Quarterly
	Level Meter	Sigma	SDM680	009713/9329-7	Lab Bldg	0 to 20 Feet	Quarterly
Totalizer tested 4-8-20					**NOTE: Left all units within spec.**	**4/8/2020**	
Mill Lane							
Loop Description or Tag	**Equipment Description**	**Manufacturer**	**Model#**	**Serial #**	**Location (Bldg/Flr/Panel)**	**Calibration Range**	**Freq.**
East Whiteland (Pump St.)	Flow Meter / Totalizer x100	Rosemount	8712	2792	Pump House	0 - 1000 GPM= 4-20 Ma.	Quarterly
Totalizer x 100	SCADA	Maple System	HM15070	860128428	Mill Lane	0 to 1000.0 GPM	
Totalizer tested 2-27-20					**NOTE: Left all units within spec.**	**4/8/2020**	
Old Lincoln	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 02-27-20 calbrated 03-26-20**		
Warren Ave.	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 02-27-20 calbrated 03-26-20**		
Lee Blvd.	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 02-27-20 calbrated 03-26-20**		
Matthews Rd	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 04-08-20 calbrated 03-26-20**		
Charlestown Oaks	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 02-27-20 calbrated 01-23-20**		
Charlestown Med.	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 02-27-20 calbrated 02-28-20**		
North Ridge	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 02-27-20 calbrated 03-26-20**		

CALIBRATION TRACKING FORM							
FULL REPORT ON ALL CUSTOMERS FOR EAST WHITELAND TWP.							
Revision Date:	**6/26/2019**				**Quarterly**		
Revised By:	**D. Reilly**	Cell Phone 215-803-6459					
Wood View							
Loop Description or Tag	**Equipment Description**	**Manufacturer**	**Model#**	**Serial #**	**Location (Bldg/Flr/Panel)**	**Calibration Range**	**Freq.**
Korman Corp.	Flow Meter (E Whiland x100)	Badger	2100	2534	Parking lot (Wood View)	0-50 GPM. = 4-20 Ma.	Quarterly
Totalizer x 10	SCADA	Maple System	HM15070	120609618	Mill Lane	4-20 Ma. = 0 - 50 GPM	Quarterly
Totalizer x 10	Chart Recorder / Totalizer	Chessel	392	951052544C03	Gen.room(Woodview) **OUT OF SERVICE**	4-20 Ma. = 0 - 50 GPM	Quarterly
Totalizer x 10	Chart Recorder / Totalizer	Chessel	392	951053863C03	Generator room (Wood View)	4-20 Ma. = 0 - 400 GPM	Quarterly
	Flow Meter (Tredyffrin)	Rosemount	8712	860180575	Meter pit	0-400 GPM = 4-20 Ma.	Quarterly
Totalizer tested 5-13-20					**NOTE: Left all units within spec.**	**6/2/2020**	
Unisys							
Loop Description or Tag	**Equipment Description**	**Manufacturer**	**Model#**	**Serial #**	**Location (Bldg/Flr/Panel)**	**Calibration Range**	**Freq.**
Exeter Prop.Mang.	Flow Meter / Totalizer x100	Badger	2100	2792	Parking lot (Unisys)	0 - .45 MGD = 4-20 Ma.	Quarterly
Totalizer x 100	SCADA	Maple System	HM15070	120609618	Mill Lane	0 to 312.50 GPM	
FAILED					**FAILED**		
Erin Glenn							
Loop Description or Tag	**Equipment Description**	**Manufacturer**	**Model#**	**Serial #**	**Location (Bldg/Flr/Panel)**	**Calibration Range**	**Freq.**
East Whiteland	Flow Meter / Totalizer x10	Badger	2100	4391	Parking lot (Erin) Freq. 1140	0 to 50.0 GPM	Quarterly
Totalizer x 10	SCADA	Maple System	HM15070	120609618	Mill Lane	0 to 50 GPM	Quarterly
Totalizer tested 5-13-20					**NOTE: Left Flow Meter within spec.**	**5/13/2020**	
Malvern Hunt							
Loop Description or Tag	**Equipment Description**	**Manufacturer**	**Model#**	**Serial #**	**Location (Bldg/Flr/Panel)**	**Calibration Range**	**Freq.**
East Whiteland (Pump St.)	Flow Meter / Totalizer x10	Sparling	FM656	M028224500	Pump House	0 to 590.0 GPM	Quarterly
East Whiteland (Irrigation.)	Flow Meter / Totalizer x100	Sparling	FM656	M028223500	Lab Bldg **NOTE Failed to be Replaced**	0 to 500.0 GPM	Quarterly
	Chart Recorder	Chessel	392	950953090C03	Lab Bldg	0 to 500.0 GPM	Quarterly
	Level Meter	Sigma	SDM680	009713/9329-7	Lab Bldg	0 to 20 Feet	Quarterly
					NOTE: Left all units within spec.	**6/3/2020**	
Mill Lane							
Loop Description or Tag	**Equipment Description**	**Manufacturer**	**Model#**	**Serial #**	**Location (Bldg/Flr/Panel)**	**Calibration Range**	**Freq.**
East Whiteland (Pump St.)	Flow Meter / Totalizer x100	Rosemount	8712	2792	Pump House	0 - 1000 GPM= 4-20 Ma.	Quarterly
Totalizer x 100	SCADA	Maple System	HM15070	860128428	Mill Lane	0 to 1000.0 GPM	
Totalizer tested 5-13-20					**NOTE: Left all units within spec.**	**6/3/2020**	
Old Lincoln	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 05-13-20 calbrated 06-23-20**		
Warren Ave.	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 05-13-20 calbrated 06-23-20**		
Lee Blvd.	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 05-13-20 calbrated 06-23-20**		
Matthews Rd	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 05-13-20 calbrated 06-23-20**		
Charlestown Oaks	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 05-13-20 calbrated 05-13-20**		
Charlestown Med.	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 05-13-20 calbrated 05-05-20**		
North Ridge	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 05-13-20 calbrated 06-23-20**		

CALIBRATION TRACKING FORM							
FULL REPORT ON ALL CUSTOMERS FOR EAST WHITELAND TWP.							
Revision Date:	**9/30/2020**				**Quarterly**		
Revised By:	**D. Reilly**	Cell Phone 215-803-6459					
Wood View							
Loop Description or Tag	**Equipment Description**	**Manufacturer**	**Model#**	**Serial #**	**Location (Bldg/Flr/Panel)**	**Calibration Range**	**Freq.**
Korman Corp.	Flow Meter (E Whiland x100)	Badger	2100	2534	Parking lot (Wood View)	0-50 GPM. = 4-20 Ma.	Quarterly
Totalizer x 10	SCADA	Maple System	HM15070	120609618	Mill Lane	4-20 Ma. = 0 - 50 GPM	Quarterly
Totalizer x 10	Chart Recorder / Totalizer	Chessel	392	951052544C03	Gen.room(Woodview) **OUT OF SERVICE**	4-20 Ma. = 0 - 50 GPM	Quarterly
Totalizer x 10	Chart Recorder / Totalizer	Chessel	392	951053863C03	Generator room (Wood View)	4-20 Ma. = 0 - 400 GPM	Quarterly
	Flow Meter (Tredyffrin)	Rosemount	8712	860180575	Meter pit	0-400 GPM = 4-20 Ma.	Quarterly
Totalizer tested 7-29-20					**NOTE: Left all units within spec.**	**9/9/2020**	
Unisys							
Loop Description or Tag	**Equipment Description**	**Manufacturer**	**Model#**	**Serial #**	**Location (Bldg/Flr/Panel)**	**Calibration Range**	**Freq.**
Exeter Prop.Mang.	Flow Meter / Totalizer x100	Badger	2100	2792	Parking lot (Unisys)	0 - .45 MGD = 4-20 Ma.	Quarterly
Totalizer x 100	SCADA	Maple System	HM15070	120609618	Mill Lane	0 to 312.50 GPM	
					No contact for Calb.		
Erin Glenn							
Loop Description or Tag	**Equipment Description**	**Manufacturer**	**Model#**	**Serial #**	**Location (Bldg/Flr/Panel)**	**Calibration Range**	**Freq.**
East Whiteland	Flow Meter / Totalizer x10	Badger	2100	4391	Parking lot (Erin)	0 to 50.0 GPM	Quarterly
Totalizer x 10	SCADA	Maple System	HM15070	120609618	Mill Lane	0 to 50 GPM	Quarterly
Totalizer tested 7-29-20					**NOTE: Left Flow Meter within spec.**	**10/3/2019**	
Uptown Worthington M1							
Loop Description or Tag	**Equipment Description**	**Manufacturer**	**Model#**	**Serial #**	**Location (Bldg/Flr/Panel)**	**Calibration Range**	**Freq.**
East Whiteland	Flow Meter / Totalizer x10	Badger	2100	4391	Parking lot	0 to 50.0 GPM	Quarterly
Totalizer x 10	SCADA	Maple System	HM15070	120609618	Mill Lane	0 to 50 GPM	Quarterly
Totalizer tested 7-29-20					**NOTE: Left Flow Meter within spec.**	**9/8/2020**	
Uptown Worthington M2							
Loop Description or Tag	**Equipment Description**	**Manufacturer**	**Model#**	**Serial #**	**Location (Bldg/Flr/Panel)**	**Calibration Range**	**Freq.**
East Whiteland	Flow Meter / Totalizer x10	Badger	2100	4391		0 to 50.0 GPM	Quarterly
Totalizer x 10	SCADA	Maple System	HM15070	120609618	Mill Lane	0 to 50 GPM	Quarterly
Totalizer tested 7-29-20					**NOTE: Left Flow Meter within spec.**	**9/8/2020**	
Malvern Hunt							
Loop Description or Tag	**Equipment Description**	**Manufacturer**	**Model#**	**Serial #**	**Location (Bldg/Flr/Panel)**	**Calibration Range**	**Freq.**
East Whiteland (Pump St.)	Flow Meter / Totalizer x10	Rosemount	8712	46783	Pump House	0 to 590.0 GPM	Quarterly
East Whiteland (Irrigation.)	Flow Meter / Totalizer x100	Flow Motion	BE6300	180531	Lab Bldg **Replaced under Warranty**	0 to 500.0 GPM	Quarterly
	Chart Recorder	Chessel	392	950953090C03	Lab Bldg	0 to 500.0 GPM	Quarterly
	Level Meter	Sigma	SDM680	009713/9329-7	Lab Bldg	0 to 20 Feet	Quarterly
Totalizer tested 9-09-20					**NOTE: Left all units within spec.**	**9/9/2020**	
Mill Lane							
Loop Description or Tag	**Equipment Description**	**Manufacturer**	**Model#**	**Serial #**	**Location (Bldg/Flr/Panel)**	**Calibration Range**	**Freq.**
East Whiteland (Pump St.)	Flow Meter / Totalizer x100	Rosemount	8712	2792	Pump House	0 - 1000 GPM= 4-20 Ma.	Quarterly
Totalizer x 100	SCADA	Maple System	HM15070	860128428	Mill Lane	0 to 1000.0 GPM	
Totalizer tested 7-29-20					**NOTE: Left all units within spec.**	**9/9/2020**	
Old Lincoln	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 07-29-20 calbrated 09-30-20**		
Warren Ave.	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 07-29-20 calbrated 09-30-20**		
Lee Blvd.	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 07-29-20 calbrated 09-30-20**		
Matthews Rd	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 07-29-20 calbrated 09-30-20**		
Charlestown Oaks	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 07-29-20 calbrated 09-30-20**		
Charlestown Med.	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 07-29-20 calbrated 09-30-20**		
North Ridge	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 07-29-20 calbrated 09-30-20**		

CALIBRATION TRACKING FORM							
FULL REPORT ON ALL CUSTOMERS FOR EAST WHITELAND TWP.							
Revision Date:	**12/29/2019**				**Quarterly**		
Revised By:	**D. Reilly**	Cell Phone 215-803-6459					
Wood View							
Loop Description or Tag	**Equipment Description**	**Manufacturer**	**Model#**	**Serial #**	**Location (Bldg/Flr/Panel)**	**Calibration Range**	**Freq.**
Korman Corp.	Flow Meter (E Whiland x100)	Badger	2100	2534	Parking lot (Wood View)	0-50 GPM. = 4-20 Ma.	Quarterly
Totalizer x 10	SCADA	Maple System	HM15070	120609618	Mill Lane	4-20 Ma. = 0 - 50 GPM	Quarterly
Totalizer x 10	Chart Recorder / Totalizer	Chessel	392	951052544C03	Gen.room(Woodview) **OUT OF SERVICE**	4-20 Ma. = 0 - 50 GPM	Quarterly
Totalizer x 10	Chart Recorder / Totalizer	Chessel	392	951053863C03	Generator room (Wood View)	4-20 Ma. = 0 - 400 GPM	Quarterly
	Flow Meter (Tredyffrin)	Rosemount	8712	860180575	Meter pit	0-400 GPM = 4-20 Ma.	Quarterly
Totalizer tested 12-17-20					**NOTE: Left all units within spec.**	**12/17/2020**	
Unisys							
Loop Description or Tag	**Equipment Description**	**Manufacturer**	**Model#**	**Serial #**	**Location (Bldg/Flr/Panel)**	**Calibration Range**	**Freq.**
Exeter Prop.Mang.	Flow Meter / Totalizer x100	Badger	2100	2792	Parking lot (Unisys)	0 - .45 MGD = 4-20 Ma.	Quarterly
Totalizer x 100	SCADA	Maple System	HM15070	120609618	Mill Lane	0 to 312.50 GPM	
Totalizer tested					**All units have Failed**		
Erin Glenn							
Loop Description or Tag	**Equipment Description**	**Manufacturer**	**Model#**	**Serial #**	**Location (Bldg/Flr/Panel)**	**Calibration Range**	**Freq.**
East Whiteland	Flow Meter / Totalizer x10	Badger	2100	4391	Parking lot (Erin) Freq. 1140	0 to 50.0 GPM	Quarterly
Totalizer x 10	SCADA	Maple System	HM15070	120609618	Mill Lane	0 to 50 GPM	Quarterly
Totalizer tested 12-17-20					**NOTE: Left Flow Meter within spec.**	**12/17/2019**	
Malvern Hunt							
Loop Description or Tag	**Equipment Description**	**Manufacturer**	**Model#**	**Serial #**	**Location (Bldg/Flr/Panel)**	**Calibration Range**	**Freq.**
East Whiteland (Pump St.)	Flow Meter / Totalizer x10	Rosemount	8712	46783	Pump House	0 to 590.0 GPM	Quarterly
East Whiteland (Irrigation.)	Flow Meter / Totalizer x100	Flow Motion	BE6300	180531	Lab Bldg Replaced under Warranty	0 to 500.0 GPM	Quarterly
	Chart Recorder	Chessel	392	950953090C03	Lab Bldg	0 to 500.0 GPM	Quarterly
	Level Meter	Sigma	SDM680	009713/9329-7	Lab Bldg	0 to 20 Feet	Quarterly
					NOTE: Left all units within spec.	**12/29/2020**	
Mill Lane							
Loop Description or Tag	**Equipment Description**	**Manufacturer**	**Model#**	**Serial #**	**Location (Bldg/Flr/Panel)**	**Calibration Range**	**Freq.**
East Whiteland (Pump St.)	Flow Meter / Totalizer x100	Rosemount	8712	2792	Pump House	0 - 1000 GPM= 4-20 Ma.	Quarterly
Totalizer x 100	SCADA	Maple System	HM15070	860128428	Mill Lane	0 to 1000.0 GPM	
Totalizer tested 12-17-20					**NOTE: Left all units within spec.**	**12/17/2020**	
Old Lincoln	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 12-17-19 calbrated 12-22-20**		
Warren Ave.	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 12-17-19 calbrated 12-22-20**		
Lee Blvd.	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 12-17-19 calbrated 12-22-20**		
Matthews Rd	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 12-17-19 calbrated 12-22-20**		
Charlestown Oaks	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 12-17-19 calbrated 10-20-20**		
Charlestown Med.	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 12-17-19 calbrated 10-08-20**		
North Ridge	**Valley Forge Report**	**Found With in spec at Mill Lane**			**NOTE: Totalizer readings test ok 12-17-19 calbrated 12-22-20**		

1900 Market Street
Suite 300
Philadelphia, PA 19103
T: 215-222-3000
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www.pennoni.com

EWTPX 00030 March 15, 2021

Mr. Steve O'Neil, Chief, Operations Section
PA DEP, Clean Water
Southeast Regional Office
Two East Main Street
Norristown PA 19401-4915

RE: Township of East Whiteland
2020 Chapter 94 Report

Dear Mr. O'Neil:

On behalf of the Township of East Whiteland, please find enclosed two (2) copies of the 2020 Chapter 94 Annual Report for the Township's sewerage facilities.

Should you have any questions concerning this, please feel free to contact the undersigned.

Sincerely,

PENNONI

Charles Faulkner

Charles Faulkner, PE
Township Wastewater Engineer

CF/rg

cc: Richard Taylor, Valley Forge Sewer Authority via email
John Neild, Director of Public Works – East Whiteland, via email

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

CHAPTER 94 MUNICIPAL WASTELOAD MANAGEMENT ANNUAL REPORT

For Calendar Year: 2020

☐ 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:	**EAST WHITELAND TOWNSHIP**	Permit No.:	**PA N/A**
Mailing Address:	**209 CONESTOGA ROAD**	Effective Date:	**N/A**
City, State, Zip:	**FRAZER, PA 19355**	Expiration Date:	**N/A**
Contact Person:	**John Nagel**	Renewal Due Date:	**N/A**
Title:	**TOWNSHIP MANAGER**	Municipality:	**EAST WHITELAND**
Phone:	**610-897-4205**	County:	**CHESTER**
Email:	**JNAGEL@EASTWHITELAND.ORG**	Consultant Name:	**PENNONI ASSOCIATES 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**)
   ☐ DEP Chapter 94 Spreadsheet used (**Attachment**)
   ☒ 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**)
   ☐ DEP Chapter 94 Spreadsheet used (**Attachment**)
   ☒ 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))

   Attachment A shows the historic and projected hydraulic demand for the service area of East Whiteland Township. The hydraulic projections were calculated based on the 2020 annual average flow and the proposed connections for the next five years.

   East Whiteland Township owns and operates a wastewater treatment plant associated with the Malvern Hunt subdivision. The WWTP consists of aerated lagoons and land application of effluent. A separate Chapter 94 report will be submitted which addresses this 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 C**)
   ☒ Schedules describing how each project will be completed over time and effects attached (**Attachment C**)

   Comments:

   Attachment B - East Whiteland Sanitary Sewer Collection System has been updated to include all sewer extensions completed in 2020.

   Attachment C provides a list of projects which were constructed in 2020, under construction currently, or will be constructed and connect to the system within the next five years.

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))

   See Attachment D

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:

See Attachment E

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 – **12**)

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

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 G**)

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

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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**)

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**)

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).

John Nagel	John Nagel
Name of Responsible Official	Signature
610-897-4205	3/15/2021
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).

Charles Faulkner, P.E.	Charles Faulkner
Name of Preparer	Signature
215-254-7751	3/15/2021
Telephone No.	Date

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

CHAPTER 94 MUNICIPAL WASTELOAD MANAGEMENT ANNUAL REPORT INSTRUCTIONS

This form has been developed to promote consistency in the development of annual municipal wasteload management reports ("Chapter 94 reports") required by 25 Pa. Code § 94.12. At least two copies of the complete report must be submitted to the appropriate regional office of the Department of Environmental Protection (DEP) by March 31.

Enter the calendar year that the report covers at the top of the form. Check the appropriate box to indicate whether the permittee is the owner/operator of a publicly owned treatment works (POTW) or other sewage treatment facility, or is the owner/operator of a sewage collection system that is tributary to a POTW owned/operated by a different entity.

General Information

Record the name of the permittee, the permittee's full mailing address, the permittee's contact person and this person's title, phone number and email address. Also record the permit number (NPDES or WQM), the effective date of permit coverage, the expiration date of permit coverage (if applicable), the date by which an application or NOI is due for reissuance (renewal) (if applicable), the municipality and county where the sewage treatment facility or collection system is located, and the name of the consultant (company name), if any, who assisted in the preparation of the form.

Chapter 94 Report Components

This section requests responses to 12 questions that, if applicable, must be addressed for a complete Chapter 94 report. Questions 1 – 9 and 12 come directly from the Chapter 94 regulations, i.e., 25 Pa. Code §§ 94.12(a)(1) – 94.12(a)(9) and 94.13(b). Some questions request that you check an appropriate box, attach the information requested, and specify the attachment number, while responses to other questions may be entered directly on the form.

For Questions 1 and 2, permittees may use DEP's Chapter 94 Spreadsheet to satisfy 25 Pa. Code §§ 94.12(a)(1) and 94.12(a)(2), respectively. DEP encourages use of the Chapter 94 Spreadsheet to provide consistency in the format and calculations associated with hydraulic and organic load evaluations (see www.depweb.state.pa.us/chapter94). If the Chapter 94 Spreadsheet was used, check the appropriate box(es) and attach printouts of the data and graphs to the Chapter 94 report. If this report is being used for a collection system only, these graphs are not needed.

For Question 6, if the permittee checks the box that there were capacity-related bypasses or SSOs during the report year, in general the box for existing hydraulic overload in Question 9 should be checked. If the permittee checks the box in Question 6 because surcharging occurred during the report year, in general the box for projected hydraulic overload in Question 9 should be checked.

For Question 8, if the permittee has an EPA-approved pretreatment program, attachment of an annual pretreatment report as required in an NPDES permit will satisfy the requirement for an industrial waste report.

For Question 10, if a permit requires a "Sewage Sludge Management" inventory, check the appropriate box if the inventory is attached to the Chapter 94 report.

For Question 11, if an NPDES permit (individual permit or, for satellite collection systems, PAG-06 General NPDES permit coverage) requires an Annual CSO (Status) report, attach the CSO report to the Chapter 94 report and check the appropriate box.

Certification

In accordance with 25 Pa. Code § 94.12(a), both the individual who prepared the report and (a responsible official of) the permittee must sign the report. The term "responsible official" for a municipality is a principal executive officer or ranking elected official.

Questions on the completion of Chapter 94 reports may be directed to DEP's Bureau of Point and Non-Point Source Management at (717) 787-8184 or to the appropriate DEP regional office (contact information available by visiting DEP's website, www.depweb.state.pa.us, and selecting Regional Resources).

ATTACHMENT A

ATTACHMENT A

East Whiteland Township

Historical Hydraulic Loading

	2016		2017		2018		2019		2020	
	Average Monthly Flow (MGD)	Rainfall (in)	Average Monthly Flow (MGD)	Rainfall (in)	Average Monthly Flow (MGD)	Rainfall (in)	Average Monthly Flow (MGD)	Rainfall (in)	Average Monthly Flow (MGD)	Rainfall (in)
Jan	1.524	3.15	1.665	3.25	1.521	2.43	2.179	4.48	1.477	3.390
Feb	2.155	5.14	1.772	1.57	1.833	6.18	2.111	3.23	1.511	2.650
Mar	1.840	1.83	1.373	5.22	1.992	4.09	2.256	5.22	1.437	4.45
Apr	1.814	2.49	1.587	2.78	1.782	3.76	1.654	3.09	1.508	5.92
May	1.803	4.49	1.600	5.30	1.926	6.36	1.823	6.21	1.265	2.84
Jun	1.678	1.46	1.608	4.81	1.979	6.04	1.834	8.29	1.121	2.87
Jul	1.640	4.63	1.387	5.46	1.852	6.13	1.788	5.66	1.110	8.61
Aug	1.620	3.05	1.569	4.79	2.043	9.82	1.493	1.95	1.446	9.38
Sep	1.720	4.88	1.638	1.84	2.417	9.53	1.391	2.25	1.168	2.47
Oct	1.451	1.29	1.515	4.54	2.041	2.48	1.428	6.05	1.173	4.19
Nov	1.513	3.76	1.538	1.83	2.205	8.32	1.360	1.72	1.272	5.95
Dec	1.659	3.48	1.512	1.96	2.291	5.99	1.448	4.81	1.480	6.50
Annual Average	1.701	39.65	1.564	43.35	1.990	71.13	1.730	52.96	1.331	59.22
Max Month	2.155		1.772		2.417		2.256		1.511	
Max 3 Month	1.936		1.603		1.936		2.221		1.485	
Hydraulic Ratio	1.138		1.025		0.973		1.284		1.116	
									1.107	
								5 - year Hydraulic Annual Average Annual Flow	1.663	

Monthly Rainfall data from recordings taken from USGS 01473169 Valley Creek water information collection station.

East Whiteland Township Projected Hydraulic Loading

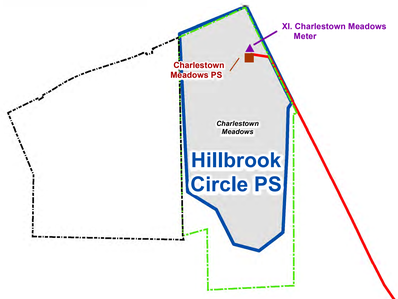
Year	Previous Year's Annual Average Flow	New EDU's	Increased Flow (MGD)	Projected Annual Average Flow (MGD)	Hydraulic Ratio	Projected Max Month (MGD)
2021	1.331	550.4	0.093	1.423	1.107	1.576
2022	1.423	740.5	0.125	1.548	1.107	1.714
2023	1.548	681	0.115	1.662	1.107	1.841
2024	1.662	427.5	0.072	1.734	1.107	1.920
2025	1.734	43	0.007	1.742	1.107	1.928

(1) Calculated Flow Rate Per EDU 168.27 (gal/EDU)

(2) Calculated 5-year Hydrualic Ratio 1.107

ATTACHMENT B

Sanitary Sewer Collection System
East Whiteland Township
Chester County, PA



Pump Stations
1. Deer Run
2. Mill Ln
3. Wilburdale Rd
4. Lee Blvd
5. Meadow View
6. Flat Rd
7. Lapp Rd
8. Westgate
* 9. ~~Church Rd~~
* 10. ~~Frame Ave~~
11. Hillbrook Circle
12. King Rd
13. Malvern Hunt
14. Planebrook Rd

* Decommissioned

Meters
I. Old Lincoln Hwy
II. Warren Ave
III. Lee Blvd
IV. Church Rd
V. Matthews Rd
VI. Unisys
VII. Northridge/Miner Hill
VIII. Erin Glen
IX. Woodview Apt
X. Charlestown Oaks
XI. Charlestown Meadows
XII. Atwater

LEGEND

- Manholes
- Meters
- Pump Stations
- Laterals
- Weston Master Plan Area
- Municipal Boundaries
- Lakes & Ponds
- Streams
- Subdivisions
- Pump Station Drainage Basins
- Parcel Boundaries
- Valley Forge Service Area
- Valley Forge Service Area Proposed
- 8" Force Mains & Size
- 8" Gravity Sewer
- 8" Proposed Gravity Sewer
- 10" Gravity Sewer
- 12" Gravity Sewer
- 15" Gravity Sewer
- 15" Proposed Gravity Sewer
- 16" Gravity Sewer
- 18" Gravity Sewer
- 18" Proposed Gravity Sewer
- 20" Gravity Sewer
- 21" Gravity Sewer
- 24" Gravity Sewer
- 27" Gravity Sewer
- 36" Gravity Sewer
- Unknown Pipe Diameter

N W E S

0 600 1,200
Feet

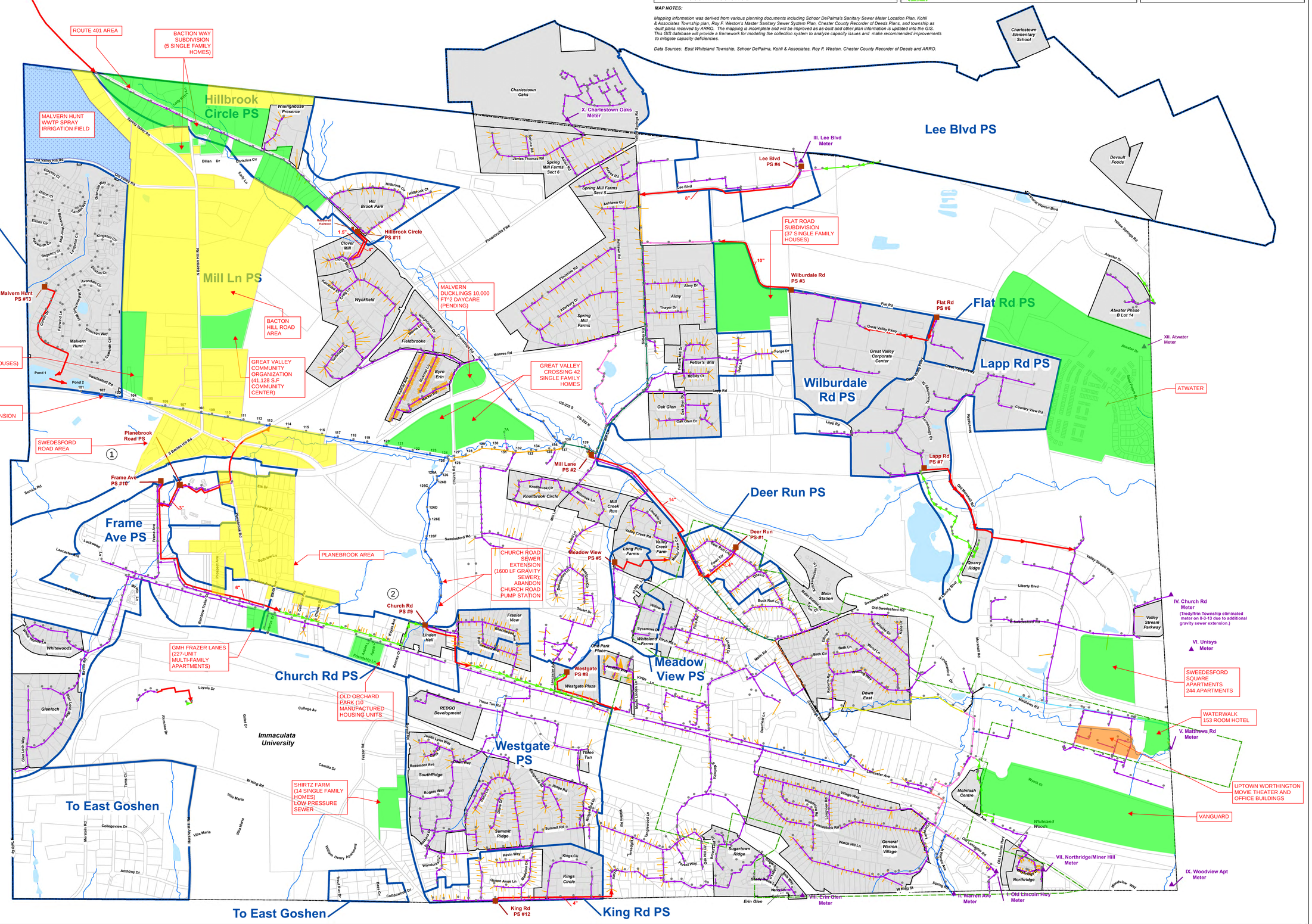
1 inch = 600 feet

REVISION DATE: 3/3/2020

MAP NOTES:

Mapping information was derived from various planning documents including Schoor DePalma's Sanitary Sewer Meter Location Plan, Kohli & Associates Township plan, Roy F. Weston's Master Sanitary Sewer System Plan, Chester County Recorder of Deeds Plans, and township as -built plans received by ARRO. The mapping is incomplete and will be improved as as-built and other plan information is updated into the GIS. This GIS database will provide a framework for modeling the collection system to analyze capacity issues and make recommended improvements to mitigate capacity deficiencies.

Data Sources: East Whiteland Township, Schoor DePalma, Kohli & Associates, Roy F. Weston, Chester County Recorder of Deeds and ARRO.



NOTES:

1. PLANEBROOK ROAD PUMP STATION WAS PLACED IN SERVICE IN NOVEMBER OF 2018 AND THE FRAME AVENUE PUMP STATION WAS DECOMISSIONED
2. CHURCH ROAD PUMP STATION WAS DECOMMISSIONED IN MARCH OF 2020

LEGEND: APPROVED/PENDING DEVELOPMENTS

- APPROVED/UNDER CONSTRUCTION
- PENDING APPROVAL
- PUBLIC SEWER FACILITIES CURRENTLY IN DESIGN

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ATTACHMENT C

ATTACHMENT C

EDU Tracking Summary: 5 Year Proposed EDU Connections

DEVELOPMENT/EXTENSION	TOTAL COMMITMENT	NUMBER BUILT	BALANCE	PROPOSED 2021	2022	2023	2024	2025
McIntosh	40	0.0	40.0	10.0	10.0	10.0	10.0	-
RedGo Development - Lot 1 Site	20.5	20.5	0.0	-	-	-	-	-
Winthrop Corporation	25	0.0	25.0	15.0	10.0	-	-	-
Whiteland Village - Phase I	200	0.0	200.0	-	-	100.0	100.0	-
King/Carol/Summit	250	240.0	10.0	3.0	3.0	3.0	1.0	-
Commitment: Pre-2008 @ 364 EDUs, Post-2008 @ 480	480	281.4	198.6	-	75.0	75.0	48.6	-
Glasgow Tract	23	0.0	23.0	-	8.0	5.0	5.0	5.0
Swedesford/Church Road	24	17.0	7.0	-	4.0	3.0	-	-
Hillbrook Circle	35	33.0	2.0	-	2.0	-	-	-
Shirtz Farm Subdivision	14	0.0	14.0	5.0	9.0	-	-	-
Linden Hall	60	60.0	0.0	-	-	-	-	-
Liberty Property (Quarry Ridge)	144	132.5	11.5	5.0	4.5	2.0	-	-
Quarry Ridge - Additional	15	2.0	13.0	-	5.0	5.0	3.0	-
O'Neill Offices	39.5	13.0	26.5	-	9.0	9.0	8.5	-
O'Neill/Rubino (Deerfield Commons)	40	0.0	40.0	10.0	10.0	10.0	10.0	-
Veterans Life (Aegon)	22	0.0	22.0	-	8.0	8.0	6.0	-
Misc. EDUs from re-rate & agreed 1990 Capacity	76.4	16.0	60.4	15.0	15.0	15.0	15.4	-
Remaining EDUs from Rt. 30 Development	142	92.0	50.0	15.0	15.0	10.0	10.0	-
Poplar Development	29	21.0	8.0	3.0	5.0	-	-	-
Willinghouse Preserve (Tattersall Development)	11	11.0	0.0	-	-	-	-	-
Touchstone Office Complex	1	1.0	0.0	-	-	-	-	-
Trinity Christian Complex	11	0.0	11.0	5.0	6.0	-	-	-
Micron technologies **	33	33.0	0.0	-	-	-	-	-
JMP Malvern (19 Morehall Road)	30	23.0	7.0	-	7.0	-	-	-
EDUs of which 46,393 gpd {168.7 EDUs} are Tredyffrin Twp	380.3	364.3	16.0	16.0	-	-	-	-
Atwater Village - Commercial	77	32.0	45.0	15.0	15.0	15.0	-	-
Atwater Village - The Haven [326 ea. Apartments @ 190 gpd/275 gpd/EDU = 225.2 EDUs]	225.2	225.2	0.0	-	-	-	-	-
Townes at Malvern (Section 1 - Cockerham)	52	51.0	1.0	1.0	-	-	-	-
8 Lee Boulevard - new EDUs (3 existing)	5	3.0	2.0	2.0	-	-	-	-
80 Watch Hill Lane	1	1.0	0.0	-	-	-	-	-
Raymour & Flanigan - 1 Lee Boulevard	6	2.4	3.6	3.6	-	-	-	-
EWT Fire Station #5	1	1.0	0.0	-	-	-	-	-
Swedesford 66	66	8.0	58.0	14.0	14.0	14.0	14.0	10.0
Chester Valley Golf Club	38	0.0	38.0	-	-	-	38.0	-
Ward (Ciorletti) Parcel (634 Lancaster Avenue)	1	1.0	0.0	-	-	-	-	-
Malvern Court Mobile Home Park	110	110.0	0.0	-	-	-	-	-
427 Conestoga Rd	1	1.0	0.0	-	-	-	-	-
Janssen Pharmaceutical - Building M9	0	0.0	0.0	-	-	-	-	-
Aldi	0	0.0	0.0	-	-	-	-	-
Veternary Clinic	1	1.0	0.0	-	-	-	-	-
Cubesmart	20	20.0	0.0	-	-	-	-	-
Public Works Building	1	1.0	0.0	-	-	-	-	-
20 Moores Road (Office Building)	1	1.0	0.0	-	-	-	-	-
Frazer Mennonite (53 & 55 Maple Linden Lane)	2	2.0	0.0	-	-	-	-	-
Covenant Presbyterian Church Land Devel.	1	1.0	0.0	-	-	-	-	-
The Malvern School	3	3.0	0.0	-	-	-	-	-
The Vanguard Group	59	59.0	0.0	-	-	-	-	-
Liberty Property Trust - 6 Great Valley Parkway	16.6	0.0	16.6	7.6	9.0	-	-	-
Townes at Malvern (a.k.a. Section 2 - Malvern Walk)	64	64.0	0.0	-	-	-	-	-
existing flow)	228	0.0	228.0	50.0	50.0	50.0	50.0	28.0
Willets Farm - 99 Church Road	44	33.0	11.0	11.0	-	-	-	-
RedGo Development - Lot 2 Site	7.6	4.0	3.6	3.6	-	-	-	-
RedGo Development - Lot 3 Site	6.6	0.0	6.6	6.6	-	-	-	-
Bacton Hill Subdivision	6	0.0	6.0	3.0	3.0	-	-	-
Exeter 8 Lee L.P.	1	0.0	1.0	1.0	-	-	-	-
Great Valley Corporate Center Redevelopment	650	0.0	650.0	200.0	200.0	200.0	50.0	-
Great Valley Community Organization Rec. Center	1	0.0	1.0	1.0	-	-	-	-
Accolade Properties	1	0.0	1.0	1.0	-	-	-	-
Swedesford Square Land Development	170	170.0	0.0	55.0	19.0	-	-	-
Lincoln Court Shopping Center	11	11.0	0.0	-	-	-	-	-
Aegon/St. Gobain (Office Buildings)	22	0.0	22.0	11.0	11.0		-	-
401 Corridor Extension	25	4.0	21.0	5.0	5.0	11.0	-	-
Planebrook Road Sewer Extension	75	0.0	75.0	-	25.0	25.0	25.0	-

ATTACHMENT C

EDU Tracking Summary: 5 Year Proposed EDU Connections

DEVELOPMENT/EXTENSION	TOTAL COMMITMENT	NUMBER BUILT	BALANCE	PROPOSED 2021	2022	2023	2024	2025
Bacton Hill / Swedesford Road Sewer Extension	100	0.0	100.0	-	34.0	33.0	33.0	-
6 Frame Avenue	1	1.0	0.0	-	-	-	-	-
7 Frame Avenue	1	0.0	1.0	-	-	-	-	-
15 Frame Avenue	1	0.0	1.0	-	-	-	-	-
Flat Road Subdivision	37	11.0	37.0	15.0	15.0	7.0	-	-
473 Conestoga Road	3	1.0	2.0	2.0	-	-	-	-
458 & 476 Lancaster Ave (Eadah)	11	0.0	11.0	11.0	-	-	-	-
Frazer Lanes (548-554 Lancaster Ave)	115	0.0	115.0	20.0	80.0	15.0	-	-
Loch- Aerie (700 Lancaster Ave)	8	0.0	8.0	-	-	-	-	-
East Side of 7 Frame Ave	1	0.0	1.0	1.0	-	-	-	-
2 Frame Ave	1	0.0	1.0	1.0	-	-	-	-
215 South Phoenixville Pike	3	0.0	3.0	-	3.0	-	-	-
Waterwalk Hotel	106	0.0	106.0	-	50.0	56.0	-	-
105 Church Street	3	0.0	3.0	3.0	-	-	-	-
17 Spring Road	2	0.0	2.0	2.0	-	-	-	-
400 Three Tun Road	2	0.0	2.0	-	2.0	-	-	-
4 Charles Street	1	1.0	0.0	-	-	-	-	-
512 Lapp Road	2	0.0	2.0	2.0	-	-	-	-
COMMITTED EDU TOTALS	**4,543.7**	**2,184.3**	**2,370.4**	**550.4**	**740.5**	**681.0**	**427.5**	**43.0**

Total EDUs in 2019 Chapter 94 Report	7,601.6
Total EDUs Connected in 2020	306.3
Total EDUs in 2020	7,907.9
Annual Average Flow (MGD)	1.331
Flow Rate Per EDU	168.27

ATTACHMENT D

Program for Sanitary Sewer Monitoring, Maintenance and Repair

[25 Pa. Code § 94.12(a)(5)]

The Township monitors sewer flow leaving and entering the Township via flow meters on a daily basis. Flow Reports are compiled on a monthly basis. Any irregular patterns are investigated and corrected as soon as possible. Meter pits are checked on a routine basis to determine if the meters are functioning properly and that there is no debris accumulating within the flumes.

The Townships Public Works Department is responsible for normal daily maintenance and preventative maintenance of the sewage collection system including pump stations. The Public Works Department also is responsible for handling emergency conditions on a 24-hour basis. Ongoing visual inspections indicate the sewer is generally in good condition.

The Township Sewer Department uses video inspection equipment to inspect sewer mains for infiltration, roots and grease and locate areas of I/I. The Department is able to determine areas of concern, clean lines and make any necessary repairs as required. As an on-going practice, the Township periodically flushes the sanitary sewer lines throughout the Township.

Manhole covers are adjusted and/or watertight gaskets are being installed in low-lying areas. As part of the township's street resurfacing program, manhole covers and frames are being replaced with new gaskets covers as required and are adjusted to the new pavement grades to help eliminate inflow. Manhole inserts have been added in areas that were experiencing inflow through manhole covers.

By ordinance, all new sewer lines, laterals and building sewer must be inspected and air tested by the Township Sewer Engineer or Code Official before the lines are put into service. This procedure had allowed the Township to detect potential defective workmanship and materials, and/or in the process eliminate any potential for future I/I.

The Township is continuing the corrective measures necessary to prevent unwanted runoff from entering into the system, thus reducing the I/I in the system. The Township has created a numbering system for all manholes in its sanitary sewer system and located each manhole with GPS. A sewer system layer had been developed in its GIS data map with each manhole located and identified. The Township is beginning to televise its system again and is inputting this information onto the new GIS layer to allow the Township to better detect and remedy excessive infiltration and inflow if encountered.

ATTACHMENT E

Condition of the Sewer System

[25 Pa. Code § 94.12(a)(6)]

The Mill Lane Sewer Main Replacement Phase 1 construction project was operational as of November 2013, and the Sidley Road Sewer Main Replacement Phase 2 construction project was operational as of March 2014.the completion of the Phase 1 and 2 projects eliminated the hydraulic restriction in the East Whiteland Township sewer mains in the Mill Land and Sidley Road areas. Consequently, the connection restriction for East Whiteland has also been eliminated for the Mill Lane and Sidley Road areas.

The Improvements to the Mill Lane and Sidley Road sewer system also completed Phase 1 and 2 aspects of the Corrective Action Plan (CAP) currently on file with PaDEP. Phase 3 of the CAP related to improvements to the Lee Boulevard Pump Station are still to be implemented. The conditions of the Connection Management Plan Currently on file with PaDEP are still in effect for the contributory drainage areas from Charlestown that flows through the Mill Lane and Sidley Road Sewer Systems.

In 2016, upgrade improvements were made to the sanitary sewer within Conestoga Road. Approximately 3,780 L.F. of new 18-inch, 20-inch and 24-inch pipe were installed to replace existing deteriorating sewer.

During 2017, the following sanitary sewer system work was done.

- Wilburdale Pump Station and Force main improvements were completed,
- Planebrook Pump Station force main improvements were completed.
- Deer Run Pump Station emergency generator replacement was started and were completed in 2018

During 2018 , the following sanitary sewer system work was done.

- On August 23, 2018, a portion of a 10-inch sewer main collapsed on Warren Avenue. The repair consisted of replacing approximately 100 L.F. of the deteriorated main.
- Construction of Planebrook Pump Station was complete.
- On November 30, 2018, Frame Ave Pump Station was decommissioned and flow was diverted to the Planebrook Pump Station.

During 2019, the following sanitary sewer system work was done.

- Flat Road Pump Station was shut down on January 24, 2019 due to a sinkhole which developed at the station and jeopardized the integrity of the station. A new pump station was built and put into service in October of 2019.
- Construction of the Chester Valley Golf Course Sewer Extension began in December of 2019.

During 2020, the following sanitary sewer system work was done.

- Pump #1 at Westgate Pump Station was replaced on April 14, 2020 with a new pump.

- Church Road Pump Station was turned off on March 14, 2020 and flow was diverted through the new gravity sewer installed line through Chester Valley Golf Course.

There were no Sanitary Sewer Overflows (SSOs) in 2020.

ATTACHMENT F

Sewage Pumping Stations

[25 Pa. Code § 94.12(a)(7)]

There are currently twelve (12) pumping stations in operation that convey sanitary sewage flow within the Township. In 2018 Frame Ave Pump Station was abandoned/demolished and all flow was diverted to the newly constructed Planebrook Pump Station. The twelfth pump station is associated with the Malvern Hunt WWTP, which is covered under its own Chapter 94 Report

All pump stations, except Mill Lane, have two pumps that alternate lead-lag. The Mill Lane Pump Station has three variable speed pumps. Two pumps operate and one pump is standby.

Only the Mill Lane, Wilburdale and newly constructed Planebrook Pump Station are equipped with a magnetic flow meter to measure the pump station flows. Flow at the other eight (8) pump stations are calculated based on the monthly pump run-time data multiplied by the pump design capacity.

Township staff visits all pump stations on a regular basis to determine the condition and document the flow. If a discrepancy is noted during these visits, the Township investigates the cause and takes appropriate action. Heavy maintenance and repairs are handled by outside personnel under contract with the Township. The emergency generators are checked for readiness by exercising the units once a week.

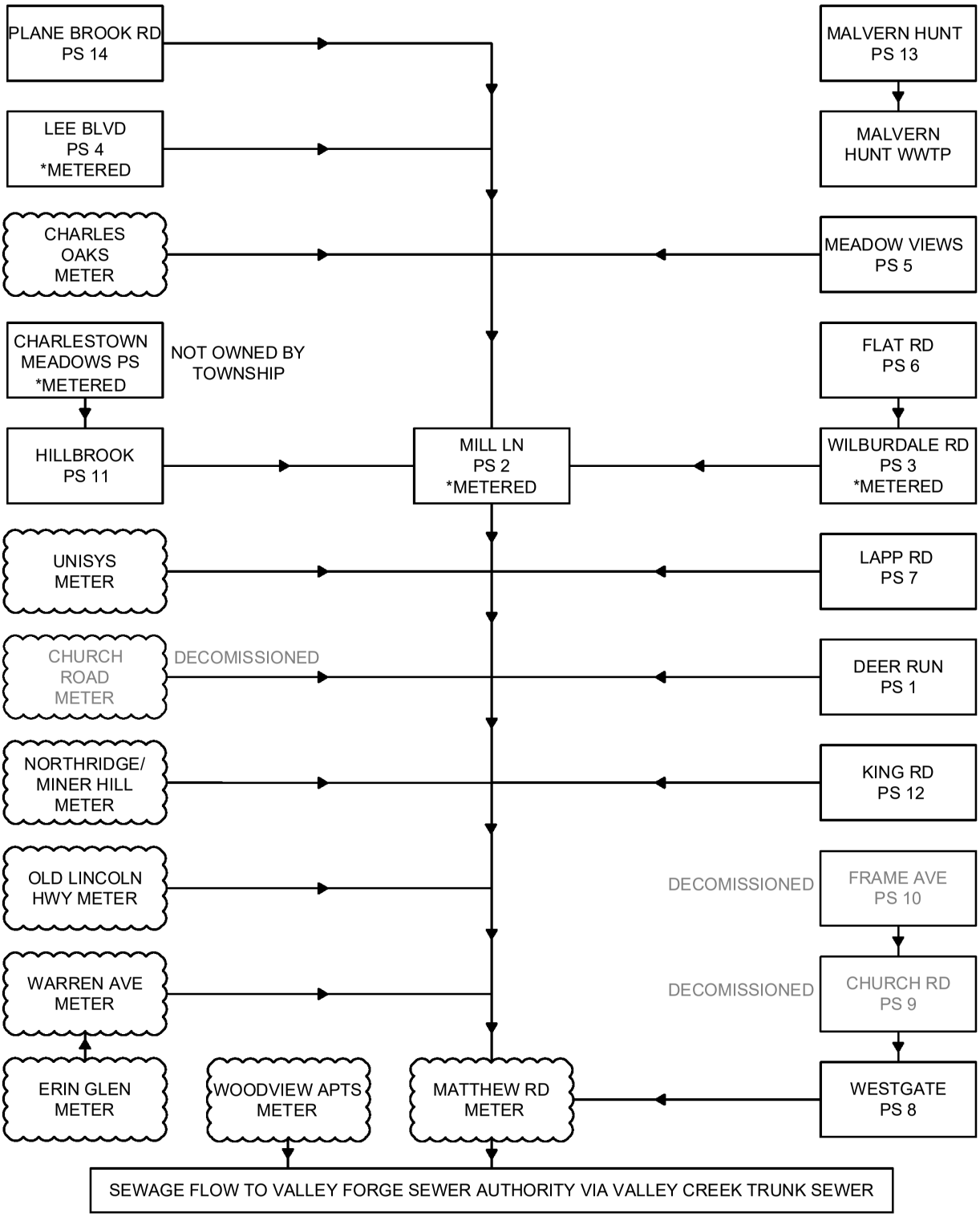
All Township pump stations are equipped with emergency alarms. In the event of an alarm, an automatic dialer contacts Township personnel to alert them of the condition.

ATTACHMENT F

East Whiteland Township Pump Station Hydraulic Performance

PUMP STATION	PUMP STATION NO.	WQM PART 2 PERMIT NUMBER	NO. OF PUMPS [3]	ANNUAL AVERAGE PERMITTED CAPACITY (gpd)	HYDRAULIC DESIGN CAPACITY (excluding capacity of backup pump) (gpm)	STATION CAPACITY (gpd)	PUMP #1		PUMP #2		PUMP #3		PUMP MAX RUN TIME	ANNUAL AVERAGE FLOW (gpd)	MAX DAILY FLOW (gpd) [6][7]	HYDRAULIC RATIO	PEAKING FACTOR	2-YEAR ANNUAL AVERAGE FLOW (gpd)	2-YEAR MAX DAILY FLOW (gpd) [8]
							AVG. RUN TIME	YEARLY RUN TIME (MIN)	AVG. RUN TIME	YEARLY RUN TIME (MIN)	AVG. RUN TIME	YEARLY RUN TIME (MIN)							
Deer Run [5]	P.S. 1		2	23,450	90	129,600	52.7	17,973	55.3	18,929			157	9,099	28,260	1.107	3.11	10,074	31,288
Mill Lane [4]	P.S. 2		3	2,073,600	1754	2,525,760	294.5		283.0		268.5		756	718,197	2,652,048	1.107	3.69	795,157	2,936,234
Wilburdale [4]	P.S. 3		2	623,502	930	1,339,200	74.8		73.1				164	125,767	305,040	1.107	2.43	139,243	337,727
Lee Boulevard [5]	P.S. 4		2	350,000	470	676,800	126.1	45,033	129.8	46,330			284	117,646	266,960	1.107	2.27	130,252	295,567
Meadowview [5]	P.S. 5		2	115,200	80	115,200	119.3	42,159	91.8	32,235			363	16,306	58,080	1.107	3.56	18,053	64,304
Flat Road [5]	P.S. 6		2	427,500	275	396,000	14.5	5,280	14.3	5,238			46	7,925	25,300	1.107	3.19	8,774	28,011
Lapp Road [5]	P.S. 7		2	472,000	315	453,600	77.1	27,485	80.7	28,789			199	48,565	125,370	1.107	2.58	53,769	138,804
Westgate [5]	P.S. 8		2	890,000	700	1,008,000	54.8	21,176	55.1	19,784			199	78,553	278,600	1.107	3.55	86,971	308,454
Church Road [5][9]	P.S. 9		2	700,000	540	777,600	15.4	4,611	12.2	4,389			129	13,315	139,320	1.107	10.46	14,742	154,249
Frame Avenue [1]	P.S. 10		2																
Hillbrook Circle [5]	P.S. 11		2	250,000	295	424,800	120.6	41,346	110.4	37,986			282	64,118	166,380	1.107	2.59	70,988	184,209
King Road [5]	P.S. 12		2	250,000	258	371,520	104.1	36,517	88.3	30,746			397	47,545	204,852	1.107	4.31	52,640	226,803
Malvern Hunt [2]	P.S. 13		2																
Planebrook Road [4][5]	P.S. 14		2	151,325	394	567,360	61.3	22,442	47.1	17,247			121	42,842	95,348	1.107	2.23	47,433	105,565

[1] Pump Station Abandoned November 30, 2018; All flows were diverted to Planebrook Road Pump Station
[2] Pump Station included under MVH Chapter 94 Report
[3] Two pumps alternate lead-lag at each pump station, except Mill Lane Pump Station, which was upgraded to a three-pump system
[4] Annual Average Flow based on meter data
[5] Annual Average Flow based on pump run times
[6] Maximum flow at each pump station with one pump out of service that can handle peak instantaneous flow.
[7] Mill Lane Pump Station upgraded in October 2013 to three-pump system. Maximum flow with two pumps that can handle peak instantaneous flow.
[8] 2-year Annual Average Flow x Peaking Factor (Present Maximum Daily Flow to Annual Average Flow ratio)
[9] Existing Pump Station was taken out of service on March 13, 2020. Data reflects flows from January 1, 2020 through March 13, 2020.



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EAST WHITELAND TOWNSHIP
CHAPTER 94 REPORT

ATTACHMENT F
PUMP STATION FLOW CHART

EAST WHITELAND TOWNSHIP
209 CONESTOGA ROAD
FRAZER, PA 19355

PROJECT	EWPTX00030
DATE	2021-02-19
DRAWING SCALE	N.T.S
DRAWN BY	RG
APPROVED BY	CF
	SK-0001

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PLOTTED: 3/15/2021 11:26:17 AM, BY: RYAN GASPARINI PLOTSTYLE: PENNONI NCS.STB, PROJECT STATUS: —

ATTACHMENT G

Industrial Waste

[25 Pa. Code § 94.12(a)(8)]

A. A copy of the Townships ordinance regulating industrial waste discharges to the sewer system is as follows

§154-107 Exclusion of industrial waste

Industrial wastes may be discharged into the sewer system only pursuant to written agreement with the Township and the Valley Forge Sewer Authority and upon obtaining an industrial waste discharge permit from Valley Forge Sewer Authority; provided that rules, regulations and acceptability standards which may from time to time be adopted by the Township and Valley Forge Sewer Authority prescribed for the pretreatment of Industrial Waste are fully complied with to the satisfaction of the Township and Valley Forge Sewer Authority. Industrial wastes to be acceptable for collection and/or treatment must not exceed the characteristics set forth in Part 2, Sewer Use, of this Chapter 154. Industrial waste surcharges will be imposed and collected by the Valley Forge Sewer Authority and will be in addition to the rentals imposed herein.

B. The Township does not sample or test the discharge from the industrial customers or the sewage leaving the Township. Industrial customers monitor their own systems and send quarterly records to the Valley Forge Sewer Authority (VFSA) to verify compliance with the Authority's effluent guidelines. VFSA and the Township have agreements in place with each industrial customer which establishes their discharge guidelines, responsibilities for maintaining effluent quality and consequences should they fail to comply with the agreement. In addition, both entities have the right to spot check the industrial effluent at any time to verify compliance. VFSA samples the Township's effluent at such time it considers it necessary to check compliance with the inter-community agreement.

C. The Township does not sample or test the discharge from the industrial customers or the sewage leaving the Township.