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EXHIBIT E2

CHAPTER 94 REPORT FOR 2020  
VALLEY FORGE SEWER AUTHORITY

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## 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:   | <b>VALLEY FORGE SEWER<br/>AUTHORITY REGIONAL<br/>TREATMENT PLANT REPORT</b> | Permit No.:       | <b>PA0043974</b>           |
| Mailing Address:  | <b>333 PAWLING ROAD</b>                                                     | Effective Date:   | <b>1/1/20</b>              |
| City, State, Zip: | <b>PHOENIXVILLE, PA 19460</b>                                               | Expiration Date:  | <b>12/31/24</b>            |
| Contact Person:   | <b>Mr. Martin F. Goldberg</b>                                               | Renewal Due Date: | <b>7/4/24</b>              |
| Title:            | <b>Operations Manager</b>                                                   | Municipality:     | <b>Schuylkill Township</b> |
| Phone:            | <b>610-935-1553</b>                                                         | County:           | <b>Chester</b>             |
| Email:            | <b>mgoldberg@vfsa.com</b>                                                   | Consultant Name:  |                            |

### 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 1**)  
☒ DEP Chapter 94 Spreadsheet used (**Attachment 1**)  
☐ 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 1**)  
☒ DEP Chapter 94 Spreadsheet used (**Attachment 1**)  
☐ 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))

**Not applicable**

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** )
- ☒ List summarizing each extension or project attached (**Attachment** )
- ☐ Schedules describing how each project will be completed over time and effects attached (**Attachment** )

**Comments:**

**Please see individual partner reports included as Section 3 of the 2020 VFSA Chapter 94 Municipal Wastewater Management Annual Report.**

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))

**Please see individual partner reports included as Section 3 of the 2020 VFSA Chapter 94 Municipal Wastewater Management Annual Report.**

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:**

**Please see individual partner reports included as Section 3 of the 2020 VFSA Chapter 94 Municipal Wasteload Management Annual Report.**

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

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** )

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 2**)

**RESPONSIBLE OFFICIAL CERTIFICATION**

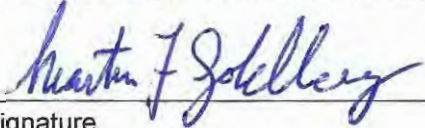
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage 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).

**Martin F. Goldberg**

Name of Responsible Official

**610-935-1553**

Telephone No.

  
Signature

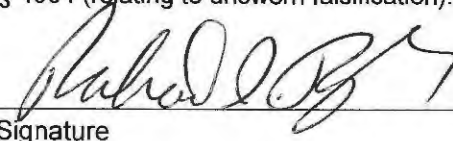
**5/25/21**  
Date

### 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).

**Richard D. Taylor**

Name of Preparer



Signature

**610-935-1553**

Telephone No.



Date



## 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](http://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](http://www.depweb.state.pa.us), and selecting Regional Resources).

**CHAPTER 94**  
**MUNICIPAL WASTELOAD MANAGEMENT**  
**REGIONAL TREATMENT PLANT ANNUAL REPORT**  
(In PADEP Format)

**CALENDAR YEAR 2020**

For: **THE VALLEY FORGE SEWER AUTHORITY**  
**WASTEWATER TREATMENT PLANT**  
**CHESTER COUNTY, PENNSYLVANIA**  
**333 PAWLING ROAD**  
**PHOENIXVILLE, PA 19460**

## **INTRODUCTION**

The Valley Forge Sewer Authority (VFSA) owns and operates an advanced secondary regional publicly owned treatment works permitted by the Pennsylvania Department of Environmental Resources (PADEP), in conjunction with the United States Environmental Protection Agency (USEPA), under Discharge Permit # PA0043974.

The VFSA provides both wastewater conveyance and treatment to its Member Municipalities consisting of Schuylkill, East Pikeland, and Charlestown Townships. Additionally, wastewater treatment (not conveyance) is provided to the Partner Municipalities which include Easttown, East Whiteland, Tredyffrin and Willistown Townships and Malvern Borough. On December 19, 2018, Aqua Resources, Inc. purchased the assets of the Valley Creek Trunk Sewer (VCTS) and took over operations December 20, 2018. Beginning with the 2019 VFSA Regional Chapter 94 Report an additional collection system Chapter 94 report submitted by Aqua Resources for the Valley Creek Trunk Sewer (VCTS) system is included.

The VFSA treatment plant began treatment of wastewater during or about January 1978. The plant receives flow from the municipalities listed above from two force mains. There is one thirty inch diameter force main from the Partner Municipalities, containing wastewater flow from the Wilson Road and Valley Creek pump stations. There is also a twenty inch diameter force main from the Member Municipalities containing wastewater flow from the Pickering and Perkiomen pump stations. Flow from the two force mains combines immediately prior to the raw influent structure. The raw influent structure meters and diverts the flow into one of two primary clarifiers (operated in parallel) for gravity settling to remove heavy inorganic and organic solids, also reducing Biochemical Oxygen Demand (BOD<sub>5</sub>). Following the primary clarifiers, further reduction of BOD<sub>5</sub>, sufficient to also allow Nitrification, occurs biologically in the two activated sludge aeration tanks. Final settling is achieved following the aeration tanks in four final clarifiers also operated in parallel. The final treatment step prior to discharge to the Schuylkill River is ultraviolet light (UV) disinfection. Wastewater solids produced during primary clarification are pumped through cyclone degritters where grit is removed from the wastewater, sent to one of three treatment plant gravity thickeners where it is combined with other plant solids (scum, trucked wastewater and waste activated sludge).

In addition to its connected customers, VFSA also receives regulated and non-regulated (residential) trucked waste at a designated receiving station for preliminary treatment and equalization prior to combination with other plant solids in gravity thickeners. The gravity thickened solids produced in the sludge thickeners are pumped to centrifuges for dewatering. The resulting cake solids produced by the centrifuge dewatering process are alkaline stabilized by mixing dewatered sludge solids with hydrated lime, resulting in a biosolids product registered with the Pennsylvania Department of Agriculture as a fertilizer product. For more than ten years all of the VFSA biosolids have been land applied for beneficial agricultural reuse.

### **Act 537 Sewage Facility Planning**

The long-term wastewater treatment needs for the areas served by the Valley Forge Sewer Authority (VFSA) were described in the Act 537 Plan, which was approved by the PADEP on March 10th of 2009. The basis for the 2009-approved Plan included the expansion of the VFSA treatment plant including the addition of a third aeration tank and a fourth final clarifier,

additional solids handling capacity, and new UV disinfection. UV disinfection was added in the summer of 2011 on an expedited basis in order to provide the required capacity for future disinfection as well as eliminate the risks inherent by the use of liquid chlorine.

In the winter of 2012 after discussions with its partners and the PADEP, VFSA conducted testing which successfully documented the treatment plant's capability to adequately treat wastewater for BOD5 and ammonia removal without the addition of a third aeration tank. With PADEP's concurrence the third aeration tank remains a part of the Act 537 plan, but construction has been deferred to a later date when this capacity may be required. Other items added consist of a third gravity thickener and a new third centrifuge. Final design – consisting of contracts for general construction, mechanical and electrical components - were completed in late 2012 with public bids occurring in January 2013. The three contracts were awarded and construction began in 2013 with substantial completion of the project achieved by October 20, 2016.

Construction of the VFSA influent chamber fine screen for rag and debris removal was substantially completed and placed in operation January 2020. Although this doesn't relate directly to capacity, it will improve upon process stability and reduce O & M costs.

## 1. HYDRAULIC LOADING

The current permitted capacities of the VFSA treatment plant are:

|                           | Post Expansion |
|---------------------------|----------------|
| Annual Average Capacity   | 11.75 mgd      |
| Hydraulic Design Capacity | 11.75 mgd      |
| Organic Design Capacity   | 26,700 lbs/day |

The 2020 VFSA Annual Chapter 94 spreadsheet attached as Attachment A of Section 1 contains the summary of VFSA's treatment plant flows for the years 2016 through 2020. The Annual Average (AA) flow for 2020 was **6.801** MGD, which is fifty-eight percent of the post-expansion permitted AA capacity of **11.75** MGD.

The 2020 VFSA wastewater treatment plant flow was generated by an average of 30,399 EDUs. The year end baseline EDUs used in the projected flow calculations is 30,518.

By PADEP definition in the Chapter 94 Municipal Wasteload Management Annual Report template, a hydraulic overload condition at the WWTP exists when, during any 3 consecutive month period, the average flow exceeds the hydraulic design capacity of the WWTP. This condition did not occur during 2020.

The VFSA treatment plant is not currently in a hydraulic overload condition therefore a Corrective Action Plan (CAP) or Connection Management Plan (CMP) are not applicable.

During 2020 there were ten days on which there were precipitation totals of one inch or greater. There were **no** exceedances of the NPDES permit due to High Flow conditions during 2020.

The annual hydraulic loading from trucked wastes is less than one percent of the total annual plant's influent, is not considered significant in regards to overall plant flow and is not included in the hydraulic projections in the VFSA DEP Chapter 94 spreadsheet.

## 2. ORGANIC LOADING

VFSA's Annual Average (AA) organic loading for 2020, including trucked in waste loading, was **9,994**, LB/day BOD<sub>5</sub>, which is thirty-seven percent of the post-expansion permitted AA capacity of **26,700** LB/day BOD<sub>5</sub>.

By PADEP definition in the Chapter 94 Municipal Wasteload Management Annual Report template an organic overload condition at the WWTP exists when, during any month the average organic loading exceeds the permitted organic design capacity of the WWTP. This condition did not occur during 2020.

Treatment plant influent CBOD<sub>5</sub> and BOD<sub>5</sub> samples are twenty-four hour flow proportioned composite samples collected, preserved and analyzed in accordance with

the Title 40 of the Code of Federal Regulations, Part 136. These CBOD<sub>5</sub> and BOD<sub>5</sub> samples are collected for analysis from the plant's raw influent structure, after initial mixing of the two force mains tributary to the treatment plant and treatment by the influent fine screen, but prior to any treatment units and recycle/return flows from the treatment plant.

VFSA calculates influent organic loadings for each day on which samples are collected for both influent CBOD<sub>5</sub> and BOD<sub>5</sub> utilizing PADEP's recommended method. The results are summarized in the VFSA DEP Chapter 94 spreadsheet.

Trucked waste contributes a BOD<sub>5</sub> load on the plant which should be accounted for and included in the Chapter 94 organic projections. This report maintains that assumption and is confirmed in the 5 year look back table below:

| <b>VALLEY FORGE SEWER AUTHORITY</b><br><b>Chapter 94 Historic Organic Loading</b><br><b>Monthly Organic Loading (ppd) Trucked Wastewater</b> |             |             |             |             |             |                               |
|----------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------------------------|
| <b>MONTH</b>                                                                                                                                 | <b>2016</b> | <b>2017</b> | <b>2018</b> | <b>2019</b> | <b>2020</b> | <b>Five Year<br/>Avg BOD5</b> |
| JANUARY                                                                                                                                      | 2,722       | 488         | 707         | 1,541       | 773         | 1,246                         |
| FEBRUARY                                                                                                                                     | 2,731       | 457         | 343         | 1,393       | 699         | 1,125                         |
| MARCH                                                                                                                                        | 2,176       | 366         | 635         | 1,899       | 796         | 1,174                         |
| APRIL                                                                                                                                        | 2,571       | 442         | 586         | 1,326       | 671         | 1,119                         |
| MAY                                                                                                                                          | 2,452       | 446         | 623         | 1,110       | 557         | 1,038                         |
| JUNE                                                                                                                                         | 1,678       | 390         | 708         | 978         | 625         | 876                           |
| JULY                                                                                                                                         | 679         | 332         | 982         | 1,030       | 527         | 710                           |
| AUGUST                                                                                                                                       | 565         | 386         | 641         | 710         | 425         | 546                           |
| SEPTEMBER                                                                                                                                    | 488         | 335         | 594         | 661         | 512         | 518                           |
| OCTOBER                                                                                                                                      | 632         | 380         | 534         | 1,141       | 743         | 686                           |
| NOVEMBER                                                                                                                                     | 904         | 431         | 890         | 989         | 763         | 795                           |
| DECEMBER                                                                                                                                     | 1,240       | 240         | 1,704       | 1,155       | 538         | 975                           |
| <b>AVERAGE</b>                                                                                                                               | 1,570       | 391         | 746         | 1,161       | 636         | 901                           |
| <b>MAX MONTH</b>                                                                                                                             | 2,731       | 488         | 1,704       | 1,899       | 796         | 2,731                         |

All values are in Lbs/Day BOD<sub>5</sub>

The 2020 monthly average organic loading was calculated by adding the estimated organic loading from trucked in waste to the influent loading and is included in the DEP Chapter 94 spreadsheet monthly organic BOD<sub>5</sub> loads.

All contributing Partners of the regional treatment plant responded to the request for data necessary to compile this report. VFSA coordinates the responses within this submittal. The hydraulic and organic loading projections to establish treatment plant projections were prepared on the basis of wastewater treatment plant flow records and EDU projections supplied by the individual Partner municipalities. Please see Section 3 of the



2020 VFSA Chapter 94 Municipal Wasteload Management Annual Report for copies of the VFSA Member Municipalities and individual Partner Municipality reports.

3. NOT APPLICABLE
4. SEWER EXTENSIONS
5. PROGRAM FOR SANITARY SEWER MONITORING, MAINTENANCE, REPAIR AND REHABILITATION
6. CONDITION OF THE SEWER SYSTEM
7. SEWAGE PUMPING STATIONS

**Information For Components 4 Through 7, Including The Requested Maps, Data And Supporting Information For Those Components, Can Be Found In The Valley Forge Sewer Authority and Partner Municipality Portions Of Section 3 Of The 2020 VFSA Chapter 94 Municipal Wasteload Management Annual Report.**

8. INDUSTRIAL WASTES

The Industrial Pretreatment Program as approved by the United States Environmental Protection Agency (USEPA) is administered by the Valley Forge Sewer Authority on behalf of all partner municipalities. Included in the Industrial Wastes section is a comprehensive report of the activities conducted by the Authority in regards to this program. The VFSA Board of Directors has adopted by resolution a USEPA approved industrial waste pretreatment program as part of the VFSA's rules and regulations. Each Member and Partner municipality has adopted, at a minimum, the VFSA's rules and regulations regarding sewer system use as a part of their local ordinance structure. VFSA's rules and regulations and the tributary municipalities' ordinances are periodically amended to address new or revised federal, state or local rules and regulations. VFSA maintains current copies of Member and Partner municipality ordinances on file at the administrative/laboratory building adjacent to the treatment plant. Please see Section 2 of the 2020 VFSA Chapter 94 Municipal Wasteload Management Annual Report.

## **9. EXISTING OR PROJECTED OVERLOAD**

Per the individual member reports attached the following member municipalities currently either have CAP/CMP plans submitted or approved by PADEP, while Malvern Borough, Tredyffrin Township, Valley Forge Sewer Authority and Willistown are currently not in overload conditions and do not require a CAP/CMP plan:

- 1) Easttown Twp - CAP/CMP approved by PADEP October 25, 2011.
- 2) East Whiteland Twp - CAP/CMP in effect.

(See the individual partner municipality Chapter 94 Municipal Chapter 94 Wasteload Management Annual Reports in Section 3 for more details.)

## **10. SEWAGE SLUDGE MANAGEMENT INVENTORY – NOT APPLICABLE**

## **11. FACILITIES WITH CSOs – NOT APPLICABLE**

## **12. ANNUAL CALIBRATION REPORT**

VFSA has a contract with Allied Control Services, Inc. to check and calibrate the meters serving the WWTP and the municipal collections systems at least annually. (As a matter of course, most meters are calibrated on a quarterly basis). Please see Attachment No. 2 of Section 1 of the 2020 VFSA Chapter 94 Municipal Wasteload Management Regional Treatment Plant Annual Report for a copy of the fourth quarter 2020 calibration reports. Meter calibration reports for the whole year are available for review at the VFSA administration building.

**2020 VFSA CHAPTER 94  
MUNICIPAL WASTELOAD MANAGEMENT  
REGIONAL TREATMENT PLANT ANNUAL REPORT**

**ATTACHMENT NO. 1**

**HISTORICAL HYDRAULIC AND ORGANIC LOADING DATA  
AND FUTURE PROJECTIONS**

**SPREADSHEET AND GRAPHS**

Facility Name: VALLEY FORGE SEWER AUTHORITY

Permit No.: PA0043974

Persons/EDU: 3.5

Existing Hydraulic Design Capacity: 11.75 MGD  
Upgrade Planned in Next 5 Years? NO Year:   
Future Hydraulic Design Capacity: MGD

Existing Organic Design Capacity: 26,700 lbs BOD5/day  
Upgrade Planned in Next 5 Years? NO Year:   
Future Organic Design Capacity: lbs BOD5/day

**Monthly Average Flows for Past Five Years (MGD)**

| Month     | 2016     | 2017  | 2018  | 2019  | 2020  |
|-----------|----------|-------|-------|-------|-------|
| January   | 7.01981  | 5.825 | 5.373 | 9.798 | 6.606 |
| February  | 10.25414 | 5.538 | 7.411 | 8.916 | 7.101 |
| March     | 7.87968  | 5.848 | 8.071 | 9.790 | 6.948 |
| April     | 6.72367  | 6.492 | 7.301 | 7.665 | 8.088 |
| May       | 7.29419  | 5.980 | 7.603 | 8.259 | 7.238 |
| June      | 6.08067  | 5.565 | 8.043 | 8.026 | 6.288 |
| July      | 5.6371   | 5.211 | 7.021 | 7.692 | 6.225 |
| August    | 5.50581  | 5.279 | 8.115 | 6.213 | 6.857 |
| September | 5.51233  | 5.211 | 9.288 | 5.704 | 5.660 |
| October   | 5.272    | 5.520 | 7.874 | 5.611 | 5.688 |
| November  | 5.05633  | 5.927 | 9.773 | 5.805 | 6.444 |
| December  | 5.55548  | 5.908 | 9.313 | 6.707 | 8.466 |

|                   |             |             |             |             |             |
|-------------------|-------------|-------------|-------------|-------------|-------------|
| Annual Avg        | 6.482600204 | 5.691911201 | 7.932132613 | 7.515421967 | 6.800774851 |
| Max 3-Mo Avg      | 8.384540601 | 6.106903226 | 8.988622238 | 9.627785346 | 7.42445119  |
| Max : Avg Ratio   | 1.29        | 1.07        | 1.13        | 1.28        | 1.09        |
| Existing EDUs     | 26,890.0    | 28,434.0    | 28,941.0    | 29,569.9    | 30,517.9    |
| Flow/EDU (GPD)    | 241.1       | 200.2       | 274.1       | 254.2       | 222.8       |
| Flow/Capita (GPD) | 68.9        | 57.2        | 78.3        | 72.6        | 63.7        |
| Exist. Overload?  | NO          | NO          | NO          | NO          | NO          |

**Projected Flows for Next Five Years (MGD)**

|                    | 2021    | 2022    | 2023    | 2024    | 2025    |
|--------------------|---------|---------|---------|---------|---------|
| New EDUs           | 814.9   | 1168.6  | 818.5   | 547.0   | 136.5   |
| New EDU Flow       | 0.1943  | 0.2787  | 0.1952  | 0.1304  | 0.0326  |
| Proj. Annual Avg   | 7.07887 | 7.35757 | 7.55277 | 7.68317 | 7.71577 |
| Proj. Max 3-Mo Avg | 8.31345 | 8.64075 | 8.87    | 9.02314 | 9.06142 |
| Proj. Overload?    | NO      | NO      | NO      | NO      | NO      |

Show Precipitation Data on Hydraulic Graph?

**Total Monthly Precipitation for Past Five Years (inches)**

| Month     | 2016 | 2017 | 2018 | 2019 | 2020 |
|-----------|------|------|------|------|------|
| January   | 0.7  | 3.4  | 2.8  | 4.5  | 3.4  |
| February  | 4.9  | 1.4  | 7.3  | 3.2  | 2.7  |
| March     | 1.9  | 4.2  | 3.9  | 5.2  | 4.5  |
| April     | 2.2  | 3.4  | 3.5  | 3.1  | 5.9  |
| May       | 6.2  | 5.4  | 8.1  | 6.2  | 2.8  |
| June      | 1.4  | 5.0  | 7.0  | 8.3  | 2.8  |
| July      | 4.8  | 4.2  | 6.8  | 5.7  | 8.6  |
| August    | 2.0  | 4.4  | 9.0  | 2.0  | 9.4  |
| September | 3.8  | 2.2  | 7.7  | 2.3  | 2.5  |
| October   | 1.7  | 4.3  | 2.3  | 6.1  | 4.2  |
| November  | 3.9  | 1.7  | 11.0 | 1.7  | 6.0  |
| December  | 3.4  | 2.0  | 6.1  | 4.8  | 6.5  |

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

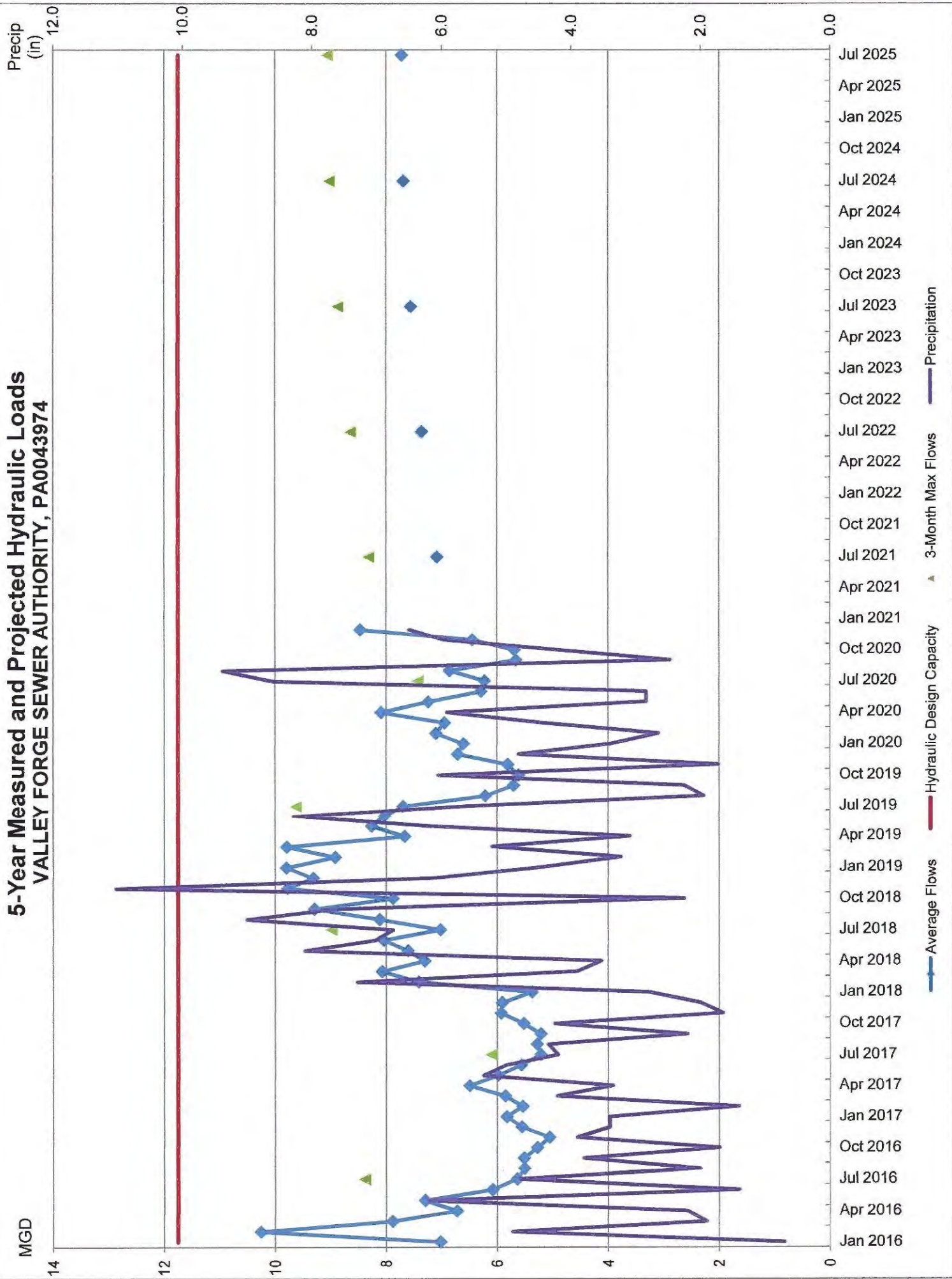
| Month     | 2016   | 2017   | 2018   | 2019   | 2020   |
|-----------|--------|--------|--------|--------|--------|
| January   | 14,599 | 8,569  | 12,512 | 14,779 | 12,830 |
| February  | 16,042 | 8,103  | 12,395 | 11,060 | 11,832 |
| March     | 13,941 | 9,503  | 10,437 | 11,647 | 10,851 |
| April     | 12,207 | 7,742  | 12,160 | 10,374 | 11,052 |
| May       | 11,429 | 8,046  | 9,850  | 9,307  | 9,656  |
| June      | 10,033 | 6,740  | 10,413 | 9,167  | 8,714  |
| July      | 7,581  | 6,365  | 10,817 | 12,094 | 9,812  |
| August    | 7,596  | 6,494  | 8,678  | 8,933  | 8,170  |
| September | 8,600  | 8,092  | 10,371 | 9,685  | 8,783  |
| October   | 8,835  | 8,727  | 10,734 | 12,109 | 8,371  |
| November  | 9,638  | 12,006 | 10,575 | 11,696 | 9,103  |
| December  | 9,543  | 8,447  | 11,600 | 13,362 | 10,752 |

|                  |        |        |        |        |        |
|------------------|--------|--------|--------|--------|--------|
| Annual Avg       | 10,837 | 8,236  | 10,879 | 11,185 | 9,994  |
| Max Mo Avg       | 16,042 | 12,006 | 12,512 | 14,779 | 12,830 |
| Max : Avg Ratio  | 1.48   | 1.46   | 1.15   | 1.32   | 1.28   |
| Existing EDUs    | 26,890 | 28,434 | 28,941 | 29,570 | 30,518 |
| Load/EDU         | 0.403  | 0.290  | 0.376  | 0.378  | 0.327  |
| Load/Capita      | 0.115  | 0.083  | 0.107  | 0.108  | 0.094  |
| Exist. Overload? | NO     | NO     | NO     | NO     | NO     |

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

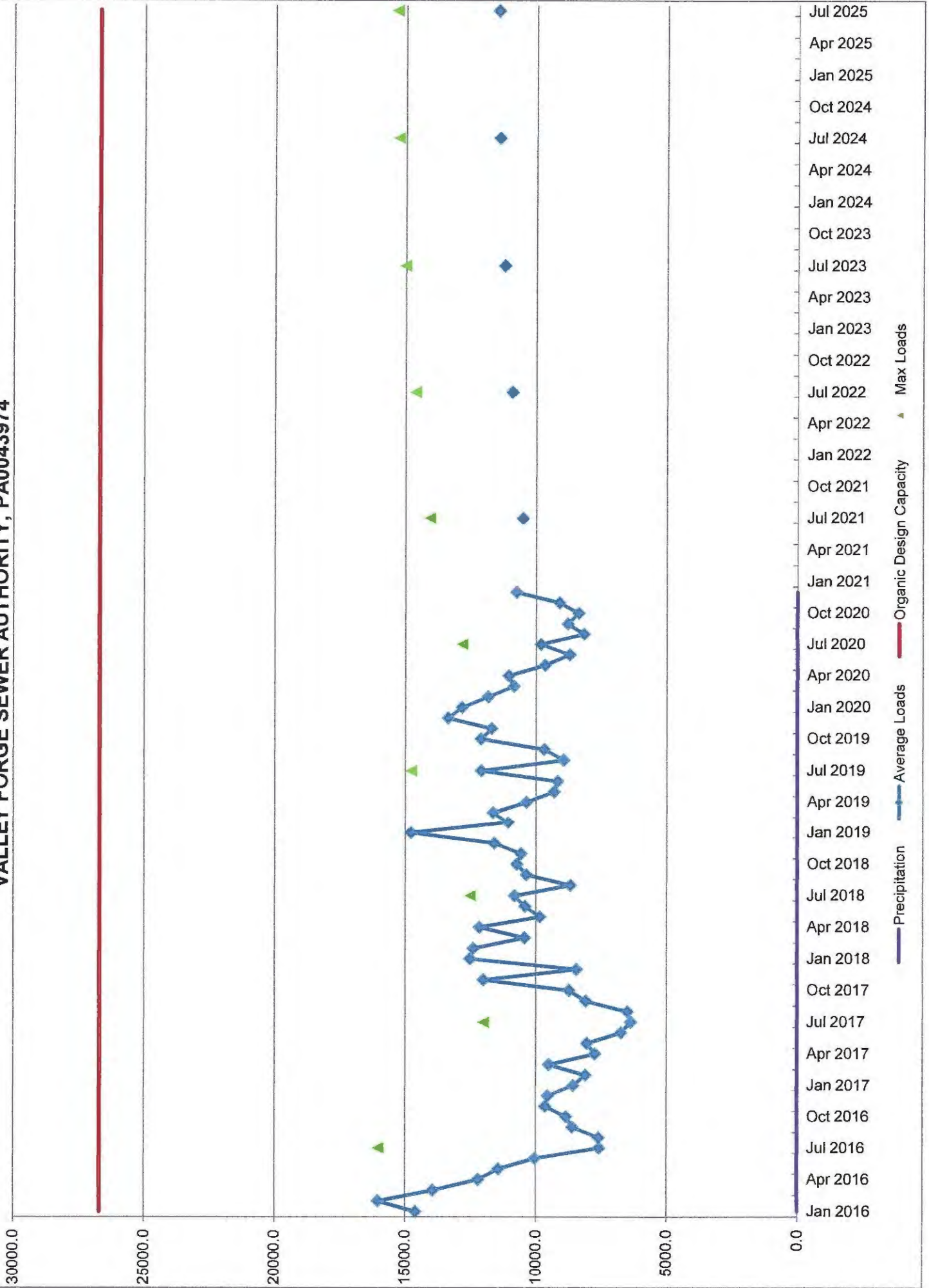
|                  | 2021    | 2022    | 2023    | 2024    | 2025   |
|------------------|---------|---------|---------|---------|--------|
| New EDUs         | 814.9   | 1168.6  | 818.5   | 547     | 136.5  |
| New EDU Load     | 289.170 | 414.681 | 290.447 | 194.105 | 48.438 |
| Proj. Annual Avg | 10,515  | 10,930  | 11,220  | 11,414  | 11,463 |
| Proj. Max Avg    | 14,076  | 14,631  | 15,020  | 15,280  | 15,345 |
| Proj. Overload?  | NO      | NO      | NO      | NO      | NO     |

5-Year Measured and Projected Hydraulic Loads  
VALLEY FORGE SEWER AUTHORITY, PA0043974





5-Year Measured and Projected Organic Loads  
VALLEY FORGE SEWER AUTHORITY, PA0043974



**2020 VFSA CHAPTER 94  
MUNICIPAL WASTELOAD MANAGEMENT  
REGIONAL TREATMENT PLANT ANNUAL REPORT**

**ATTACHMENT NO. 2**

**METER CALIBRATION DOCUMENTATION**

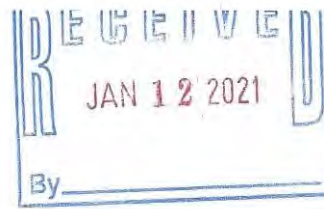


**ALLIED CONTROL SERVICES, INC.**

611 GARFIELD AVE. • P.O. BOX 234 • WEST POINT, PA 19486

Phone: 215-699-2855

Fax: 215-699-9030



## DOCUMENT TRANSMITTAL

TO:  
Valley Forge Sewer Authority  
333 Pawling Road  
Phoenixville, PA 19460

TRANSMITTAL NO.: 4  
PROJECT NO.:  
DATE: 1/6/2021  
CARRIER: USPS  
REF/P.O. NO.:

ATTN: Mr. Martin Goldberg

| ITEM | SIZE | QTY/<br>TYPE | DRAWING<br>NUMBER | REV<br>NO. | TITLE                                | TRANS<br>CODE |
|------|------|--------------|-------------------|------------|--------------------------------------|---------------|
| 1    |      | 1            | Set               |            | Calibration Schedule – 4th Qtr. 2020 | 1             |
|      |      |              |                   |            |                                      |               |
|      |      |              |                   |            |                                      |               |
|      |      |              |                   |            |                                      |               |
|      |      |              |                   |            |                                      |               |
|      |      |              |                   |            |                                      |               |
|      |      |              |                   |            |                                      |               |
|      |      |              |                   |            |                                      |               |
|      |      |              |                   |            |                                      |               |

### REMARKS:

Please find the enclosed Booklets/set per the above list

SUBMITTED BY: J. Dapper via D. Reilly

| TRANSMITTAL CODES    | VENDOR TRANSMITTAL CODES           | SIZE CODES   | TYPE CODES   |
|----------------------|------------------------------------|--------------|--------------|
| 0 – FOR INFO. ONLY   | 9 – WORK MAY PROCEED               | A – 8.5 x 11 | C – COPY     |
| 1 – FOR REVIEW       | 10 – REVISE & RESUBMIT             | B – 11 x 17  | B – BLUELINE |
| 2 – FOR APPROVAL     | Work may proceed subject to        | C – 18 x 24  | S – SEPIA    |
| 3 – FOR DESIGN       | Incorporation of changes indicated | D – 24 x 36  | V – VELLUM   |
| 4 – FOR BID          | 11 – REVISE & RESUBMIT             | E – 36 x 48  | M – MANUAL   |
| 5 – FOR FABRICATION  | Work may not proceed               |              | D – DISK     |
| 6 – FOR CONSTRUCTION | 12 – REVIEW NOT REQUIRED           |              | O – OTHER    |
| 7 – AS BUILT         | Work may proceed                   |              |              |
| 8 – OTHER            |                                    |              |              |

/jlpd:20 #4 210106



# Valley Forge Sewer Auth.

## CALIBRATION SCHEDULE:

Section A: Equipment calibrated quarterly (VFSA Pump Stations)  
Section B: Equipment calibrated quarterly (EASTTOWN Township)  
Section C: Equipment calibrated quarterly (EAST WHITELAND Township)  
Section D: Equipment calibrated quarterly (MALVERN Borough)  
Section E: Equipment calibrated quarterly (TREDYFFRIN Township)  
Section F: Equipment calibrated quarterly (WILLISTOWN Township)

Date: Third Quarterly 2020 Calibration Data

---

### “Section A”

---

Valley Forge Sewer Authority  
Pickering Creek Pump Station  
Phone # 610-993-9475  
Magnetic Flow meters #1  
Instrument Data:

Manufacturer: Rosemount  
Model #: 8712C  
Serial #: 0264549  
Cal: 1002005509795005  
Max Flow: 5000 GPM

|                      |               |
|----------------------|---------------|
| Date of Calibration: | 10-08-20      |
| % of Error:          | Less than .2% |
| Comments:            | none          |
| Corrective Action:   | none          |

---

Valley Forge Sewer Authority  
Pickering Creek Pump Station  
Magnetic Flow meter #3  
Instrument Data:

Manufacturer: Sparling  
Model #: FM656  
Serial #: M156262611  
Max Flow: 5000 GPM

|                      |               |
|----------------------|---------------|
| Date of Calibration: | 10-08-20      |
| % of Error:          | Less than .2% |
| Comments:            | none          |
| Corrective Action:   | none          |

---

Valley Forge Sewer Authority  
Pickering Creek Pump Station  
Magnetic Flow meter #2

Instrument Data:

Manufacture: Sparling  
Model #: FM655-085-110-0  
Serial #: H40050191  
Max Flow: 5000 GPM  
Sign: Minus  
Coil Freq 4  
K factor 31.42 PPG  
Offset 1.06  
D: 7.7500000K Factor:

Date of Calibration: 10-08-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Valley Forge Sewer Authority  
Pickering Pump Station  
O I T  
Instrument Data:

Manufacturer: Allen Bradley  
Model #: Panelview Plus 1000  
Serial #: (21)AWOGEN5VL  
Counter: NONE  
Range: 0-5000GPM

Date of Calibration: 10-08-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Valley Forge Sewer Authority  
Pickering Pump Station  
Mission Control  
Instrument Data:

Manufacturer: Mission Control  
Model #: M110/800

Date of Calibration: 10-08-20  
% of Error: Less than .2%  
Comments: 10-08-20 Ma. = 0 / 5,001/10,000 GPM  
  
Corrective Action: none

---

Valley Forge Sewer Authority  
Perkiomen Pump Station {935-2150}  
Magnetic Flow  
Instrument Data:

Manufacturer: Rosemount  
Model #: 8712C  
Serial #: 0860131213  
Counter: Electronic Totalize X 1  
Cal: #0929605509081011  
Max Flow: 1500 GPM

Date of Calibration: 12-29-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Valley Forge Sewer Authority  
Perkiomen Pump Station  
Mission Control  
Instrument Data:

Manufacturer: Mission Control  
Model #: M110/800

Date of Calibration: 12-29-20  
% of Error: Approx. avg. Low .30%  
Comments: 4-08-20 Ma. = -0 / 748 /1495 GPM

Corrective Action: none

---

Valley Forge Sewer Authority  
Valley Creek Pump Station (phone:#610-291-0587)  
Magnetic Flow meter  
Instrument Data:

Manufacturer: Rosemount  
Model #: 8712C  
Serial #: 0860250715  
Cal#: 115560491152011  
Max Flow: 300 GPM

Date of Calibration: 10-20-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Valley Forge Sewer Authority  
Valley Creek Pump Station  
Recorder  
Instrument Data:

Manufacturer: Chessel  
Model #: 392  
Serial #D8950-001-03-03  
Counter: Electronic Totalize X 10  
Chart: 0-300

Date of Calibration: 10-20-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Valley Forge Sewer Authority  
Valley Creek Pump Station  
Totalize  
Instrument Data:

Manufacturer: AGM  
Model #: 4011-10  
Serial #: 314-553A  
Multiplier X 10

Date of Calibration: 10-20-20  
% of Error: Less than .2%  
Corrective Action: none

Comments: none

---

Valley Forge Sewer Authority  
Valley Creek Pump Station  
Mission Control  
Instrument Data:

Manufacturer: Mission Control  
Model #: M110/800

Date of Calibration: 10-20-20  
% of Error: Approx. avg. Low .26%  
Comments: Ma. = -.6 / 149.8 / 298.7 GPM  
Corrective Action: none

---

Valley Forge Sewer Authority  
Charlestown Meadows Station  
Magnetic Flow meters Instrument Data:  
Manufacturer: Sparling CODE 1563  
Model #: FM656  
Serial #: M078233104  
Max Flow: 500 GPM  
4 inch  
K Factor: 256.01 PPG  
Offset: 2.37

Date of Calibration: 10-08-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Valley Forge Sewer Authority  
Charlestown Meadows Station  
Totalizer transmitter (Thru SCADA)  
Instrument Data:

Manufacturer: Sparling      CODE 1563  
Model #: FM656  
Serial #: M078233104  
Max Flow: 500 GPM

Date of Calibration:              12-17-20  
% of Error:                      Less than .2%  
Comments:                      none  
  
Corrective Action:              none

---

Valley Forge Sewer Authority  
Charlestown Meadows Station  
Mission Control  
Instrument Data:

Manufacturer: Mission Control  
Model #: M110/800

Date of Calibration:              10-08-20  
% of Error:                      Approx. avg. Low .4%  
Comments:                      10-08-20 Ma. = -.4 / 248.7 / 498.6 GPM  
  
Corrective Action:              none

---

Valley Forge Sewer Authority  
Lee Boulevard Pump Station  
Ultrasonic Flow meter  
Instrument Data:

Manufacturer: Miltronics  
Model #: Hydro-Ranger  
Serial #:021805130VU  
Primary Device: 6" Palmer Bowlus Flume  
Max Flow: 130 GPM  
Totalize Multiplier: X 10

Date of Calibration:              12-22-20  
% of Error:                      Less than .2%  
Comments:                      none  
  
Corrective Action:              none

---

Valley Forge Sewer Authority  
Lee Boulevard Pump Station  
Totalizer transmitter (Thru SCADA)  
Instrument Data:

Manufacturer: Miltronics  
Model #: Hydro-Ranger  
Serial #:021805130VU

Date of Calibration: 12-17-20  
% of Error: Less than .2%  
Comments: none  
Corrective Action: none

---

Valley Forge Sewer Authority  
Lee Boulevard Pump Station  
Mission Control  
Instrument Data:

Manufacturer: Mission Control  
Model #: M110/800

Date of Calibration:  
% of Error:  
Comments: Not in Operation  
Corrective Action: none

---

Valley Forge Sewer Authority  
Charlestown Oaks Station  
Ultrasonic Flow meter  
Instrument Data:

Manufacturer: Badger  
Model #: 2100  
Serial #: 1007  
Primary Device: 6" Palmer Bowlus Flume  
Max Flow: 100 GPM  
Totalize Multiplier: X 10

Date of Calibration: 10-20-20  
% of Error: Less than .2%  
Comments: none  
Corrective Action: none

---

Valley Forge Sewer Authority  
Charlestown Oaks Station  
Mission Control  
Instrument Data:

Manufacturer: Mission Control  
Model #: M110/800

Date of Calibration:  
% of Error:  
Comments: Not in Operation  
Corrective Action: none

---

Valley Forge Sewer Authority  
Charlestown Oaks Station  
Totalizer transmitter (Thru SCADA)

Instrument Data:

Manufacturer: Badger  
Model #: 2100  
Serial #: 1007  
Relay output x 100

Date of Calibration: 12-17-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

**"Section B"**

---

Easttown Township (610-687-3000) Garage: 610-495-5841 (Eddie cell) 610-656-2534  
Daylesford Pump Station  
Magnetic Flow meter

Instrument Data:

Manufacturer: Endress Hauser  
Model #: Pro Mag 50  
Serial #: L406F616000  
Cal: 1.0969-9  
Max Flow: 1200GPM

Date of Calibration: 01-05-21  
% of Error: less than .2%  
Comments: none

Corrective Action: none

---

Easttown Township  
Daylesford Pump Station  
Recorder

Instrument Data:

Manufacture: Endress Hauser  
Model #: RSG40  
Serial #: L503EB04267  
Chart: 0-1200GPM  
Tot x 1

Date of Calihration: 01-05-21  
% of Error: less than .2%  
Comments: none

Corrective Action: none



---

Easttown Township  
Berwyn Pump Station  
Magnetic Flow meter  
Instrument Data:

Manufacturer: Endress Hauser  
Model #: Pro Mag 50  
Serial #: HC045B16000  
Cal: 2.627 9+205-26-19  
Max Flow: 2500GPM  
Tot x 1

Date of Calibration: 01-05-21  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Easttown Township  
Berwyn Pump Station  
Recorder  
Instrument Data:

Manufacture: Endress Hauser  
Model #: 6400  
Serial #: 76B4109J4  
Chart: 0-2500GPM

Date of Calibration: 01-05-21  
Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Easttown Township  
Saybrook Road Pump Station  
Magnetic Flow meter  
Instrument Data:

Manufacturer: Rosemount  
Model #: 8712C  
Max Flow: 1000 GPM  
Serial #0860156434  
Output: 4-20 MADC

Date of Calibration: 01-05-21  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Easttown Township  
Saybrook Road Pump Station  
Recorder / Totalizer  
Instrument Data:

Manufacturer: Honeywell  
Model #: DR 4300  
Serial #: 0336Y360322600001  
Counter: Electronic Totalize X 100  
Chart: 0-100  
Max Flow: 0-1000 GPM

|                      |               |
|----------------------|---------------|
| Date of Calibration: | 01-05-21      |
| % of Error:          | Less than .2% |
| Comments:            | none          |
| Corrective Action    | none          |

---

### **“Section C”**

---

East Whiteland Township  
Lee Boulevard Pump Station  
Totalize / Display  
SCADA (LOCATED AT MILL LANE)  
Instrument Data:

Manufacture: Maple System  
Model #: HM15070  
Serial #120609618  
Multiplier X 100

|                      |               |
|----------------------|---------------|
| Date of Calibration: | 10-20-20      |
| % of Error:          | Less than .2% |
| Comments:            | none          |
| Corrective Action:   | none          |

---

East Whiteland Township  
Old Lincoln Meter Pit  
Totalize / Display  
SCADA (LOCATED AT MILL LANE)  
Instrument Data:

Manufacture: Maple System  
Model #: HM15070  
Serial #120609618  
Multiplier X 100

Date of Calibration: 10-20-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

East Whiteland Township  
Warren Avenue Meter Pit  
Totalize / Display  
SCADA (LOCATED AT MILL LANE)  
Instrument Data:

Manufacture: Maple System  
Model #: HM15070  
Serial #120609618  
Multiplier X 100

Date of Calibration: 10-20-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

East Whiteland Township  
Minor Hill  
Totalize / Display  
SCADA (LOCATED AT MILL LANE)  
Instrument Data:

Manufacture: Maple System  
Model #: HM15070  
Serial #120609618  
Multiplier X 100

Date of Calibration: 10-20-20  
% of Error: Less than .2%  
  
Comments: none  
  
Corrective Action: none

---

East Whiteland Township  
Matthews Road Meter Pit  
Ultrasonic Flow meter  
Instrument Data:

Manufacturer: Seimens  
Model #: Hydro Ranger 200  
Serial #: PBD/X7070003  
Max Flow: 10.0 MGD  
Primary: 36" Leopold Lagco Flume  
Output: 4-20 MADC (tot x 1000)

Date of Calibration: 12-22-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

East Whiteland Township  
Matthews Road Meter Pit  
Totalize / Display  
SCADA (LOCATED AT MILL LANE)  
Instrument Data:

Manufacture: Maple System  
Model #: HM15070  
Serial #120609618  
Multiplier X 1eeeeerr00

Date of Calibration: 10-20-20  
% of Error: Less than .2%  
  
Comments: none  
  
Corrective Action: none

---

East Whiteland Township  
Woodveiw Apts  
Ultrasonic Flow meter  
Instrument Data:

Manufacturer: Badger  
Model #: 2100  
Serial #: 2534  
Max Flow: 50 G.P.M.  
Primary:  
Output: 4-20 MADC (tot x 100)

Date of Calibration: 12-17-20  
% of Error: Less than .2%  
  
Comments: none  
  
Corrective Action: none

---

East Whiteland Township  
Woodveiw Apts  
Totalizer transmitter (Thru SCADA)  
Instrument Data:

Manufacturer: Badger  
Model #: 2100  
Serial #: 2534  
Relay output x 100

Date of Calibration: 12-17-20  
% of Error: none  
Comments: none  
  
Corrective Action: none

---

East Whiteland Township  
Woodveiw Apts  
Totalize / Display  
SCADA (LOCATED AT MILL LANE)  
Instrument Data:  
  
Manufacture: Maple System  
Model #: HM15070  
Serial #120609618  
Multiplier X 10

Date of Calibration: 10-20-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

East Whiteland Township  
Erin Glen  
Ultrasonic Flow meter  
Instrument Data:  
  
Manufacturer: Badger  
Model #: 2100  
Serial #: 4391  
Max Flow: 590.0 G.P.M.  
Primary:  
Output: 4-20 MADC (tot x 100)

Date of Calibration: 10-20-20  
% of Error: Less than .2%  
  
Comments: none  
  
Corrective Action: none

---

East Whiteland Township  
Erin Glen  
Totalizer transmitter (Thru SCADA)  
Instrument Data:  
  
Manufacturer: Badger  
Model #: 2100  
Serial #: 4391  
Relay output x 100

Date of Calibration: 10-20-20  
% of Error: none  
Comments: none  
  
Corrective Action: none

---

East Whiteland Township  
Erin Glen  
Totalize / Display  
SCADA (LOCATED AT MILL LANE)  
Instrument Data:  
  
Manufacture: Maple System  
Model #: HM15070  
Serial #120609618  
Multiplier X 10

Date of Calibration: 10-20-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

East Whiteland Township  
Charlestown Oaks Meter Pit  
Totalize / Display  
SCADA (LOCATED AT MILL LANE)  
Instrument Data:  
  
Manufacture: Maple System  
Model #: HM15070  
Serial #120609618  
Multiplier X 10

Date of Calibration: 12-17-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

East Whiteland Township  
Charlestown Meadows Station  
Totalize / Display  
SCADA (LOCATED AT MILL LANE)  
Instrument Data:  
  
Manufacture: Maple System  
Model #: HM15070  
Serial #120609618  
Multiplier X 10

Date of Calibration: 12-17-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

## **"Section D"**

---

Malvern Borough (644-1819)

Tide Water Meter Pit

Ultrasonic Flow meter

Instrument Data:

Manufacturer: Miltronics

Model #: HydroRanger 200

Serial #: PBD/X7070003

Max Flow: 50 GPM

Counter: Electronic Totalize X 10

Primary: 4" Palmer Bowlus Flume

Output: 4-20 MADC

Date of Calibration: 12-22-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Malvern Borough

Tide Water Meter Pit

Totalizer transmitter (Thru SCADA)

Instrument Data:

Manufacturer: Seimens

Model #: Hydro Ranger 200

Serial #: PBD/X7070003

Relay output x 100

Date of Calibration: 12-17-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Malvern Borough

Tide Water Meter Pit

Totalize / Display

SCADA (LOCATED AT MALVERN)

Instrument Data:

Manufacture: Maple System

Model #: HM15070

Serial #120609618

Multiplier X 100

Date of Calibration: 12-17-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Malvern Borough  
Warren Avenue Meter Pit  
Ultrasonic Flow meter  
Instrument Data:  
  
Manufacturer: Miltronics  
Model #: HydroRanger 200  
Serial #: 110904179VU  
Max Flow: 750 GPM  
Primary: 21" Leopold Lagco Flume  
Output: 4-20 MADC

Date of Calibration: 12-22-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Malvern Borough  
Warren Avenue Meter Pit  
Totalizer transmitter (Thru SCADA)  
Instrument Data:  
  
Manufacturer: Seimens  
Model #: Hydro Ranger 200  
Serial #: 110904179VU  
Relay output x 100

10-07-20  
Date of Calibration: 12-17-20  
% of Error: Less than .2%  
Comment 10-07-20s: none  
  
Corrective Action: none

---

Malvern Borough  
Warren Avenue Receiver  
Totalize / Display  
SCADA (LOCATED AT MALVERN)  
Instrument Data:  
  
Manufacture: Maple System  
Model #: HM15070  
Serial #120609618  
Multiplier X 100



Date of Calibration: 12-17-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Malvern Borough  
Old Lincoln  
Ultrasonic Flow meter  
Instrument Data:  
  
Manufacturer: Seimens  
Model #: Hydro Ranger 200  
Serial #: PBD/X65982013  
Max Flow: 0-200 GPM  
Primary: 8" Palmer Bowlus Flume  
Output: 4-20 MA10-07-20DC same

Date of Calibration: 12-27-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Malvern Borough  
Old Lincoln Pit  
Totalizer transmitter (Thru SCADA)  
Instrument Data:  
  
Manufacturer: Seimens  
Model #: Hydro Ranger 200  
Serial #: PBD/X65982013  
Relay output x 100

Date of Calibration: 12-17-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Malvern Borough  
Old Lincoln Meter Pit  
Totalize / Display  
SCADA (LOCATED AT MALVERN)  
Instrument Data:  
  
Manufacture: Maplc System  
Model #: HM15070  
Serial #120609618  
Multiplier X 100

Date of Calibration: 12-17-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Malvern Borough  
Minor Hill  
Ultrasonic Flow meter  
Instrument Data:

Manufacturer: Badger  
Model #: 2100  
Serial #: 4002  
Max Flow: 0-90.0 GPM  
Primary: 8" Palmer Bowlus Flume  
Output: 4-20 MADC same

Date of Calibration: 12-22-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Malvern Borough  
Minor Hill  
Totalizer transmitter (Thru SCADA)  
Instrument Data:

Manufacturer: Badger  
Model #: 2100  
Serial #: 4002  
Relay output x 100

Date of Calibration: 12-17-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Malvern Borough  
Minor Hill  
Totalize / Display  
SCADA (LOCATED AT MALVERN)  
Instrument Data:

Manufacture: Maple System  
Model #: HM15070  
Serial #120609618  
Multiplier X 100

Date of Calibration: 12-17-20  
% of Error: Less than .2%

Comments: none

Corrective Action: none

---

## **“Section E”**

---

Tredyffrin Township  
Wilson Rd. Pump Station  
Magnetic Flow meter/ Totalizer  
Instrument Data:

Manufacturer: Siemens  
Model #: 5100W  
Serial #: 7ME6910-1AA10-1AA0  
Max Flow: 1000 GPM

Date of Calibration: 9-10-20  
% of Error: less than .2%

Comments: none

Corrective Action: none

---

Tredyffrin Township  
Wilson Rd. Pump Station  
SCADA: Display  
Manufacturer: Allen Bradley  
Model #: 1771 P7

Date of Calibration: 9-10-20  
% of Error: Less than .2%  
Comments: none  
Corrective Action: none

---

## **“Section F”**

---

Willistown Township (610-647-5300 Ext.245) Jim cell ( 610-656-2074 )  
Cedar Hollow Road Meter Pit  
Ultrasonic Flow meter  
Instrument Data:

Manufacturer: Mobrey  
Model #: MCU 900  
Serial #: 1780418  
Max Flow: 3.000 MGD  
Primary: 18” Open Flow Nozzle  
Multiplier: X 1000

Date of Calibration: 12-22-19  
% of Error: Less than .5%  
Comments: none  
  
Corrective Action: none

---

Willistown Township (610-647-5300)  
Cedar Hollow Road Meter Pit  
Recorder  
Instrument Data:

Manufacturer: Future Design Controls  
Model #: 5000  
Serial: #: 11-02710FD  
Max Flow: 3.00 MGD  
Chart: 0-100

Date of Calibration: 12-22-19  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

**CHAPTER 94  
MUNICIPAL WASTELOAD MANAGEMENT  
REGIONAL TREATMENT PLANT ANNUAL REPORT**

**CALENDAR YEAR 2020  
VALLEY FORGE SEWER AUTHORITY  
CHESTER COUNTY, PENNSYLVANIA**

**SECTION 2**



Environmental Protection by  
Caring Professionals

## Valley Forge Sewer Authority

333 Pawling Road  
Phoenixville, Pennsylvania 19460  
610-935-1553 Phone  
610-983-9684 Fax

March 18, 2021

CERTIFIED MAIL RETURN RECEIPT REQUESTED  
Parcel Number 7018 1130 0002 0580 9465

U.S. EPA Region 3 NPDES Pretreatment  
Clean Water Branch | Water Division  
U.S. EPA Region 3 (3WD41)  
1650 Arch St., Philadelphia, PA, 19103

RE: Annual Pretreatment Report for Calendar Year 2020

Attention:

Enclosed please find one (1) copy of the required signatory page, SNC publication and analytical data for Valley Forge Sewer Authority's 2020 Annual Pretreatment Report. The report in electronic format has been already sent along with the analytical data summary.

If you have any further questions please contact me at the number listed above.

Very truly yours,

Richard D. Taylor  
Laboratory Supervisor

ENCLOSURES

PHILADELPHIA GROUP

**AFFIDAVIT OF PUBLICATION**  
307 Derstine Avenue • Lansdale, PA 19446

**VALLEY FORGE SEWER AUTHORITY**  
333 PAWLING ROAD  
PHOENIXVILLE, PA 19460  
Attention:

STATE OF PENNSYLVANIA,  
COUNTY OF MONTGOMERY

**PUBLIC NOTIFICATION  
OF SIGNIFICANT  
NONCOMPLIANCE  
OF PRETREATMENT  
REQUIREMENTS**

The undersigned Shaun Dietz, being duly sworn the he/she is the principal clerk of The Mercury, The Mercury Digital, published in the English language for the dissemination of local or transmitted news and intelligence of a general character, which are duly qualified newspapers, and the annexed hereto is a copy of certain order, notice, publication or advertisement of:

Pursuant to the requirements of the federal General Pretreatment Regulations For Existing and New Sources of Pollution, 40 C.F.R. 403.8 (f) (2) (viii), Valley Forge Sewer Authority must publish, at least annually, the names of industrial facilities in significant noncompliance of federal and/or local pretreatment requirements.

During 2020, the following industry was determined to be in Significant Noncompliance:

Devault Foods for violation of the requirements to sample, analyze and report the results of certain process discharge parameters during the 2nd quarter of 2020.  
MERC March 14 -a1

**VALLEY FORGE SEWER AUTHORITY**

**Published in the following edition(s):**

|                     |          |
|---------------------|----------|
| The Mercury         | 03/14/21 |
| The Mercury Digital | 03/14/21 |

Sworn to the subscribed before me this 3/15/21.

Maureen Schmid

Notary Public, State of Pennsylvania  
Acting in County of Montgomery

COMMONWEALTH OF PENNSYLVANIA  
NOTARIAL SEAL  
MAUREEN SCHMID, Notary Public  
Lansdale Boro., Montgomery County  
My Commission Expires March 31, 2021

**Advertisement Information**

Client Id: 890156

Ad Id: 2142739

PO:

Sales Person: 018304

# HEALTHCARE

## HUMAN SERVICES ASSISTANT

Trenton Psychiatric Hospital is seeking applicants who, under the guidance and direction of a registered nurse, will assist in the care of our adult patients who are undergoing treatment for acute and persistent mental illnesses.

All positions are hourly and earn sick leave time. Depending on the needs of our facility at the time of your employment, you may be scheduled to work one of the three shifts: 6:45AM-3:15 PM, 2:45 PM-11:15 PM, or 10:45 PM-7:15 AM. Some weekend and holiday work will be required.

The pay rate is \$16.85 per hour.

Preference will be given to candidates with at least one year of experience in a healthcare related field, or who are currently enrolled in an educational program that is considered to have a healthcare focus.

You must possess a valid driver's license to apply for the position.

Applications can be obtained from the first floor of the Parker Building at the address indicated below or can be requested via e-mail from Deborah.Kidd@phh.gov

Applications cannot be requested via phone call.

Trenton Psychiatric Hospital  
100 Sullivan Way  
West Trenton, NJ 08628

# RESTAURANT

## FIND SERVICE

HOST/HOSTESS, SERVERS  
Part Time - Must be experienced & dependable.  
Call 610-789-7770

ITALIAN DELIGHT-F/P/PT/AL positions. Apply betw 2PM-5PM, 2503 Macdade Blvd., Holmes, PA 19043

# SKILLED LABOR

Competitive wage for full time experienced maintenance mechanic. Plumbing, carpentry, electrical, P&G incl available residency (not required) & medical ins. (vac and sick time). Please apply at Pickering Run Apartments  
680 Charleston Road,  
Phoenixville PA 19360  
610-933-0848

GENERAL LABORER & CARPENTERS. DRIV lic a plus. CALL 610-422-7842.

THIS IS THE PLACE FOR CASH! So if you have merchandise to sell, call the classified department today!

# SKILLED TRADES

30 YR EST LANDSCAPE CO. is seeking Foreman/Laborers. No grasscutting. Driv Lic. & transp. Get start pay for qual insvf. 610-404-5214

EXPERIENCED ONLY HARDWOOD FLOOR INSTALLERS/FINISHERS to join our team full-time with benefits, excellent starting wage. Signing Bonus \$500-\$1000 for experienced installers! If interested please email us your resume at office@mansuetohardwood.com or contact our office at 610-696-0657.

LAWN AND LANDSCAPE POSITIONS AVAILABLE for qualified individuals to operate commercial lawn mowing equipment, string trimming, blowing, raking, insulation of plant material, weeding, mulching, general clean-ups, pruning. Experience preferred, but not necessary. Valid PA drivers license required. Operating hours begin at 7:30 am and end between 4:30 pm and 7:30 pm Monday through Friday. Occasional Sat hours are required. Benefits to qualified individuals include paid vacation time, 50% major medical insurance paid by employer. Contact Jim Baxter at 610-524-9744 or email at baxterlandscapes@comcast.net for interview appointment.

Applications cannot be requested via phone call.

Trenton Psychiatric Hospital  
100 Sullivan Way  
West Trenton, NJ 08628

RESTAURANT  
FIND SERVICE

HOST/HOSTESS, SERVERS  
Part Time - Must be experienced & dependable.  
Call 610-789-7770

ITALIAN DELIGHT-F/P/PT/AL positions. Apply betw 2PM-5PM, 2503 Macdade Blvd., Holmes, PA 19043

SKILLED LABOR  
Competitive wage for full time experienced maintenance mechanic. Plumbing, carpentry, electrical, P&G incl available residency (not required) & medical ins. (vac and sick time). Please apply at Pickering Run Apartments  
680 Charleston Road,  
Phoenixville PA 19360  
610-933-0848

GENERAL LABORER & CARPENTERS. DRIV lic a plus. CALL 610-422-7842.

THIS IS THE PLACE FOR CASH! So if you have merchandise to sell, call the classified department today!

# RESIDENTIAL SALES

30 YR EST LANDSCAPE CO. is seeking Foreman/Laborers. No grasscutting. Driv Lic. & transp. Get start pay for qual insvf. 610-404-5214

EXPERIENCED ONLY HARDWOOD FLOOR INSTALLERS/FINISHERS to join our team full-time with benefits, excellent starting wage. Signing Bonus \$500-\$1000 for experienced installers! If interested please email us your resume at office@mansuetohardwood.com or contact our office at 610-696-0657.

LAWN AND LANDSCAPE POSITIONS AVAILABLE for qualified individuals to operate commercial lawn mowing equipment, string trimming, blowing, raking, insulation of plant material, weeding, mulching, general clean-ups, pruning. Experience preferred, but not necessary. Valid PA drivers license required. Operating hours begin at 7:30 am and end between 4:30 pm and 7:30 pm Monday through Friday. Occasional Sat hours are required. Benefits to qualified individuals include paid vacation time, 50% major medical insurance paid by employer. Contact Jim Baxter at 610-524-9744 or email at baxterlandscapes@comcast.net for interview appointment.

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Trenton Psychiatric Hospital  
100 Sullivan Way  
West Trenton, NJ 08628

RESTAURANT  
FIND SERVICE

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SKILLED LABOR  
Competitive wage for full time experienced maintenance mechanic. Plumbing, carpentry, electrical, P&G incl available residency (not required) & medical ins. (vac and sick time). Please apply at Pickering Run Apartments  
680 Charleston Road,  
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610-933-0848

GENERAL LABORER & CARPENTERS. DRIV lic a plus. CALL 610-422-7842.

THIS IS THE PLACE FOR CASH! So if you have merchandise to sell, call the classified department today!

# APARTMENTS FOR RENT (UNFURNISHED)

LINDEN APARTMENTS (Pottstown, PA) 1 BR \$590/mo & 2 BR \$650/mo. No Pets. HT/ HW incl. (610) 458-5012

MEDIA- 2 BR, 1st flr duplex, \$1150/mo + util. Hd frs, new kitch, micro, new windows, icemaker, the BA, ceiling fans. N/S, No Pets. 610-368-9275

MORCO APARTMENTS (Pottstown, PA) 1 BR- \$300/mo & 2 BR- \$595/mo. No Pets. HT/ HW incl. (610) 458-5012

Ridley Park - Buxtel Hill - Sharon Hill - Glenolden Newly renov 1 & 2 BR's, 700sf, hwy, \$799-\$954. Pets ok. Call 570-703-1057 or 215-964-0069

YONKSHIRE APTS (Pottstown, PA) 1 BR Starting \$550/mo 2 BR \$1050 No pets. Elevator on Premises. HT/HW incl. 610-458-5012

# HOUSES FOR RENT (FURNISHED)

ALL REAL ESTATE advertising in this newspaper is subject to the Federal Fair Housing Act of 1968, which makes it illegal to advertise "any preference, limitation, or discrimination based on race, color, religion, age or familial status, sex or national origin, or on handicap, or an intention to make any such preference, limitation or discrimination."

ROOMS FOR RENT  
CHATEAU - Boyertown area. Clean, secure, private parking. \$100w/k (610) 367-5112

CHESTER - 714 W. 5th St. Room for rent \$400/mo. h/c call Henry 267-297-4466

CEMETERY LOTS  
EDGEWOOD MEMORIAL CEMETERY LOT Section 1 lot 14, unit 4, lots valued \$5,100 each great location call for \$2,500 each Call 610-395-2074 offers accepted

GARAGE RENTAL  
SPRING CITY - Storage Garage \$100/mo + sec. dep. Outdoor drive-up access. Well lit, security cameras 610-462-1068

COMMERCIAL REAL ESTATE  
FOLSOM - 1200 Sq. Ft. SHOP/WAREHOUSE 1 Overhead Dr., 1 Walk in, office w/Pack Rtn. 2nd flr. 400 C.F. 403-5895. Mr+Ulls. 610-451-0503

PASSENGER CARS  
1973 FORD MACH 1 351c rebuild replacement motor less than 200 miles, speed, new clutch, needs paint \$17,500, 404-942-3551

2004 BUICK PARK AVENUE 137,000. Miles Inspected. Clean Car. \$2,000 Contact please: 610-309-6418

HONDA 2002 ACCORD COMPE-EX-L VS. AUTO W/ NAVIGATION, 240K, JUST SVCD & INSP. NICE CHEAP RELIABLE CAR. \$2,000.00 610-566-5904 DAYTIME only.

ANTIQUE & VINTAGE  
61 CHEVROLET BISCAYNE 370 HP 350 Cubic Inch Rebuilt 1971 4 Spd. Rebuilt 173 Pos 12 Bolt Rear, New Front Springs, Bushings & Ball Joints, Front Disc Brake Conversion, Weld Wheels, New Tires, New Gas Tank, 3" Exhaust Asking \$13,500.00 Call 610-793-2958 (Please leave message)

JUNKERS & CLUNKERS  
WE BUY JUNK CARS Free Pickup 609-395-4200

AUTOS WANTED  
#1 AAA BEST CASH DEAL - I Want your Used Car or Truck. Call Me First before you Sell or Trade-In. Cash Paid - Prompt Service 610-532-2054 OR 610-203-7719

ANTHONY'S AUTO SALVAGE \$450-\$1800 for most cars & trucks. (484) 886-1971

AUTOS & TRUCKS \$500-\$3,000 CALL 609-516-3175 OR 609-727-3621

CALL JOHNNY'S JUNK Cash for Junk cars

# LEGAL NOTICES

## LEGAL NOTICE

NOTICE IS HEREBY GIVEN in accordance with the Limerick Township Zoning Ordinance of 1951, as amended, of a hearing before the Limerick Township Zoning Hearing Board on Wednesday, March 24, 2021, at 6:30 p.m., at the Limerick Township Municipal Building, 646 W. Ridge Pike, Limerick Township, Montgomery County, Pennsylvania, on the Application of John R. Maddonni, Jr., 333 River Road, Collegeville, Pennsylvania, 19426.

The Applicant is the owner of property located at 40 Penn Road, Limerick Township, Montgomery County, Pennsylvania, identified as Tax Parcel Number 37-003498-00-2 (hereinafter referred to as "Subject Property"). The Subject Property is located in an O/U - Office/Limited Industrial Zoning District, is approximately 5.33 acres in size and is improved with a 25,200 square foot warehouse. The Applicant proposes to convert a portion of the existing warehouse to an indoor recreation facility and is requesting the following relief from the Limerick Township Zoning Ordinance:

1. A variance from § 184-87 to permit the existing 21 parking spaces to satisfy the requirement of off-street parking.
2. A variance from § 184-155 to permit an indoor recreational facility to occupy 10,800 square feet of the existing 25,200 square foot structure.

At the time of the hearing, any person or party interested will be given full opportunity to be heard. The Board reserves the right to conduct such other business as may come before it.

LIMERICK TOWNSHIP ZONING HEARING BOARD  
Mark J. John, Chairman

Charles D. Garner, Jr., Esquire  
Walt, Baldwin & Associates,  
Solicitors  
March 7, 14 & 21

# PUBLIC NOTICE

## NONCOMPLIANCE OF PRETREATMENT REQUIREMENTS

Pursuant to the requirements of the federal General Pretreatment Regulations for Existing and New Sources of Pollution, 40 C.F.R. 403.6 (2)(viii), Valley Forge Sewer Authority must publish, at least annually, the names of industrial facilities in significant noncompliance of federal and/or local pretreatment requirements.

During 2020, the following industry was determined to be in Significant Noncompliance:

Devaalt Foods for violation of the requirements in samples, analyze and report the results and certain process discharge parameters during the 2nd quarter of 2020.  
MERC March 14 -21

# SHERIFF SALES

## SHERIFF'S SALE

By virtue of a Writ of Execution No. 2019-0474 issued out of the Court of Common Pleas of Montgomery County, Pa., to me directed will be sold at Public on-line auction conducted by Bid4Assets, 8757 Georgia Ave., Suite 520, Silver Springs, MD 20910

WEDNESDAY, MARCH 31, 2021 At 1:00 p.m., prevailing time, by accessing the web address: www.bid4assets.com/MontcoPASheriff the following described Real Estate:

ALL THAT CERTAIN brick dwelling house and the lot or piece of ground on which the same is erected, situated on the Northerly side of Spruce Street, Eastward of Diamond Street, being #847 Spruce Street, in the Borough of Pottstown, County of Montgomery and Commonwealth of Pennsylvania, more fully bounded and described in accordance with a survey there-of made by Ralph E. Shaner and Son on October 24, 1942, as follows, to wit: BEGINNING at a point on the Northern lot line of Spruce Street (50 feet wide) Eastward a distance of 37.42 feet from the intersection of the Northern lot line of Spruce Street with the Northeasterly lot line of Diamond Street (50 feet wide); thence along property

# SHERIFF SALES

## CONVEYED UNTO JULIA J. LAWRENCE

PARCEL NO. 16-00-28272-02-6 LOCATION OF PROPERTY: 847 Spruce Street, Pottstown, PA 19464

IMPROVEMENTS THEREON ARE: A single family residential dwelling.

SEIZED AND TAKEN IN execution as the property of JULIA J. LAWRENCE

REAL DEBT: \$49,017.02 And to be sold by Sheriff of Montgomery County

Down money: Prospective bidder must complete the Bid4Assets on-line registration to participate in the auction. The highest bid shall be paid to them, on their website, as the purchase price for the property sold by the Sheriff's Office, Norristown, PA

To all parties in interest and claimants: Notice is hereby given that a schedule of distribution will be filed by the sheriff 30 days after the date of the Sale. Distribution will be made in accordance with the schedule unless exceptions are filed hereafter within ten (10) days thereafter.

Merc-Mar 7, 14, 21

# SHERIFF'S SALE

By virtue of a Writ of Execution No. 2020-0484 issued out of the Court of Common Pleas of Montgomery County, Pa., to me directed will be sold at a Public on-line auction conducted by Bid4Assets, 8757 Georgia Ave., Suite 520, Silver Springs, MD 20910

Wednesday, March 31, 2021 At 1:00 p.m., prevailing time, by accessing the web address: www.bid4assets.com/MontcoPASheriff the following described Real Estate:

ALL THAT CERTAIN condominium situated in Borough of Schwenksville, Montgomery County, Commonwealth of Pennsylvania, being known and designated as lot 1b, block 1, section 126, edges and bounds property as more fully described in deed book 5636, page 1179, dated 02/07/2007 and recorded 02/22/2007.

Montgomery County records, Commonwealth of Pennsylvania. PARCEL ID # 200000060109

BEING KNOWN AS (for informational purposes only): 4522 Forest Lane a/k/a 4522 Forest Lane Condo B-1, Schwenksville, PA 19473

BEING THE SAME PREMISES which Barry lost by Deed dated February 7, 2007 and recorded February 22, 2007 Book 5636, Page 01179 in the Office of the Recorder of Deeds in and for the County of Montgomery, Pennsylvania granted and conveyed unto Kurt T. Dannerth, in fee.

Parcel no. 10-00-00000-10-9 Location of property: 4522 Forest Lane a/k/a 4522 Forest Lane Condo B-1, Schwenksville, PA 19473

The Improvements thereon are: A RESIDENTIAL DWELLING

Seized and taken in execution as the property of Kurt T. Dannerth.

Real debt: \$135,128.35 And to be sold by the Sheriff of Montgomery County

Down money: Prospective bidder must complete the Bid4Assets on-line registration process to participate in the auction. The highest bid shall be paid to them, on their website, as the purchase price for the property sold by the Sheriff's Office, Norristown, PA

To all parties in interest and claimants: Notice is hereby given that a schedule of distribution will be filed by the Sheriff 30 days after the date of the Sale. Distribution will be made in accordance with the schedule unless exceptions are filed hereafter within ten (10) days thereafter.

Merc-Mar 7, 14, 21

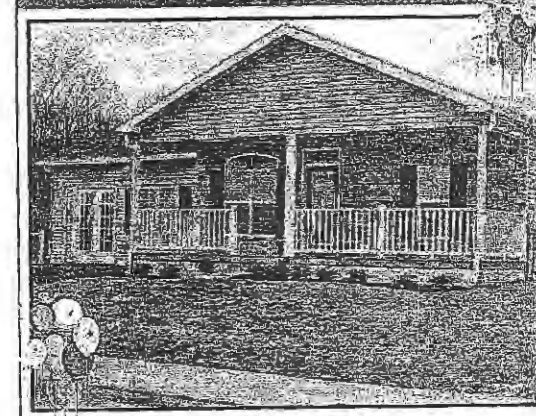
# CLASSIFIEDS WIN!

When it comes to saving time, energy and money, Classifieds are in first place! Place your classified and see how easy it is to be a winner!

# Be Safe.

# FINAL PHASE 30 NEW LOTS

## DOUGLASS VILLAGE



Active Adult Over 55+ Community  
New Construction • Priced from Mid \$100's+  
Over 55 Never Felt So Good!!  
Exciting new floor plans,  
3 car garage now available

# WE BUY JUNK CARS

Free Pickup 609-395-4200

# AUTOS WANTED

#1 AAA BEST CASH DEAL - I Want your Used Car or Truck. Call Me First before you Sell or Trade-In. Cash Paid - Prompt Service 610-532-2054 OR 610-203-7719

ANTHONY'S AUTO SALVAGE \$450-\$1800 for most cars & trucks. (484) 886-1971

AUTOS & TRUCKS \$500-\$3,000 CALL 609-516-3175 OR 609-727-3621

CALL JOHNNY'S JUNK Cash for Junk cars



Facility Name: #N/A  
Permit Number: PA0043974  
Reporting Period: 2020  
POTW Name: VALLEY FORGE SEWER AUTHORITY

[Return to Home](#)

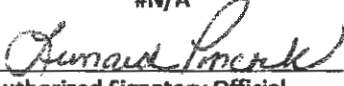


The signature certification page must be printed, signed, and sent in hard copy to US EPA  
Region 3 at the following address:

Pretreatment Coordinator  
US EPA Region 3  
Mail Code 3WD41  
1650 Arch Street  
Philadelphia, PA 19103-2029

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 gather and evaluate 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 knowing violations.

#N/A

  
Authorized Signatory Official

03/18/2021

Date

Leonard Pinchok/General Manager

Print or type name and title

Note: The Signatory Official is the person authorized by the POTW to sign the Annual Report (see 40 CFR Section 403.12(m)).

The following documents may be attached to the email or hard copies can be mailed to US EPA Region 8

1. A copy of the newspaper notice identifying all IUs which were in SNC during the reporting period. The notice must show the name of the paper and the date of publication.
2. The results of all influent monitoring results that were performed as required in the Pretreatment section of your state issued NPDES permit. The results must include the name of the pollutant, measured concentration, analytical method used, detection limit, date
3. The results of all effluent monitoring results from the monitoring required by the Pretreatment section of your state issued NPDES permit. Provide monitoring results for those pollutants that were reported above the detection limit. The results must include the
4. The results of all monitoring results for biosolids (sludge) monitoring for any pollutants listed in 40 CFR Part 122, Appendix D, Table II, III, and V. This is for final sludge to disposal only. This monitoring may have been required by your state issued NPDES permit, or

Time Stamp: 03/18/2021 11:53:43 AM

User Stamp: #N/A

# EPA Region 3

## Industrial Pretreatment Program

### Annual Report of POTW Implementation

Last Updated: 01-08-2021

**Disclaimer**

This model is intended to be used as a tool to submit the Pretreatment Annual Report of the EPA Region 3 Industrial Pretreatment Program. All other uses are strictly prohibited. Unless specified otherwise, enter data for the reporting year.

Accept

Facility Name: #N/A  
Permit Number: PA0043974  
Reporting Period: 2020  
POTW Name: VALLEY FORGE SEWER AUTHORITY

Press Ctrl-h to return to this sheet from any other sheet

POTW

POTW Contacts

POTW Information

Send Copies To

/// End of Sheet

Facility Name: VALLEY FORGE SEWER AUTHORITY  
Permit Number: PA0043974  
Reporting Period: 2020  
POTW Name: VALLEY FORGE SEWER AUTHORITY

[Return to Home](#)

Reporting Period

January 1 to December 31 of year

POTW Contacts

|                        |                              |
|------------------------|------------------------------|
| Control Authority Name | VALLEY FORGE SEWER AUTHORITY |
| NPDES Permit No        | PA0043974                    |
| Permit Issuance Date   | 12/11/2019                   |
| Permit Expiration Date | 12/31/2024                   |
| Facility Name          | VALLEY FORGE SEWER AUTHORITY |
| Facility Address1      | 333 Pawling Road             |
| Facility Address2      |                              |
| Facility City          | Phoenixville                 |
| Facility State         | Pennsylvania                 |
| Facility Zip           | 19460-2656                   |

Pretreatment Contact(s) - List all Pretreatment Personnel

| Name                | Title                 | Email             |
|---------------------|-----------------------|-------------------|
| 1 Richard D. Taylor | Laboratory Supervisor | rtaylor@vfsa.com  |
| 2 Robin D. Heffner  | Compliance Specialist | pretreat@vfsa.com |
| 3 Shelly A. Herman  | Compliance Specialist | pretreat@vfsa.com |
| 4                   |                       |                   |
| 5                   |                       |                   |
| 6                   |                       |                   |

|                        |                                               |
|------------------------|-----------------------------------------------|
| Permit Signatory       | Leonard Pinchok                               |
| Permit Signatory Title | General Manager                               |
| Contact Phone          | 610-935-1553                                  |
| Contact Email          | lpinchok@vfsa.com                             |
| POTW Site Address      | 333 Pawling Road, Phoenixville, PA 19460-2656 |

Additional Information

|  |
|--|
|  |
|--|

Facility Name: VALLEY FORGE SEWER AUTHORITY  
 Permit Number: PA0043974  
 Reporting Period: 2020  
 POTW Name: VALLEY FORGE SEWER AUTHORITY

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POTW Information

|                                   |                                                                                     |              |                |
|-----------------------------------|-------------------------------------------------------------------------------------|--------------|----------------|
| NPDES Effluent Violations?        | Yes                                                                                 | Parameter(s) | Fecal coliform |
| Date of Violations                | June 4, 2020; August 5, 2020; October 30, 2020                                      |              |                |
| Cause of NPDES permit violations? | June 4, 2020: Violations of the Instantaneous Maximum limitation for fecal coliform |              |                |
| Sludge Disposal Method 1          | Land Application Class A                                                            |              |                |
| Sludge Disposal Method 2          | Land Application Class B                                                            |              |                |
| Sludge Disposal Method 3          | Landfill ( only if necessary)                                                       |              |                |
| Highest Treatment Level           | Advanced Secondary                                                                  |              |                |

Treatment Types

|                               |                                                                            |                      |   |
|-------------------------------|----------------------------------------------------------------------------|----------------------|---|
| Primary Clarification?        | X                                                                          | Lagoon?              |   |
| Secondary Clarification?      | X                                                                          | Anaerobic Digestion? |   |
| Activated Sludge?             | X                                                                          | Aerobic Digestion?   |   |
| Trickling Filter?             |                                                                            | Chlorination?        |   |
| Oxidation Ditch?              |                                                                            | Dechlorination?      |   |
| Biotowers?                    |                                                                            | UV Disinfection?     | X |
| Rotating Biological Contacts? |                                                                            |                      |   |
| Other?                        | Influent Fine Screen, Primary Sludge Degrilt, Gravity Sludge Thickening, C |                      |   |

|                                                                     |       |
|---------------------------------------------------------------------|-------|
| POTW Design Flow (mgd)                                              | 11.75 |
| POTW Actual Flow (mgd)                                              | 6.514 |
| Total SIU Flow (mgd)                                                | 0.265 |
| % Industrial Flow                                                   | 4 %   |
| POTW Organic (BOD) Design Capacity (lbs/day)                        | 26700 |
| POTW TSS Design Capacity (lbs/day)                                  | 19599 |
| POTW Ammonia (NH3) Design Capacity (lbs/day)                        |       |
| Actual or Estimated total Flow for Commercial (Non-SIU) Dischargers |       |

Additional Information

|  |
|--|
|  |
|--|

Facility Name: #N/A  
 Permit Number: PA0043974  
 Reporting Period: 2020  
 POTW Name: VALLEY FORGE SEWER AUTHORITY

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Program Implementation

Number of Permitted Industrial Users as of December 31

|                                                               |   |                      |
|---------------------------------------------------------------|---|----------------------|
| CIUs                                                          | 4 |                      |
| Total SIUs                                                    | 8 | includes CIUs + SIUs |
| Other Permitted IUs                                           | 0 |                      |
| Zero-Discharge CIUs                                           | 0 |                      |
| Permitted Zero-Discharge CIUs                                 | 0 |                      |
| Middle-Tier CIUs                                              | 0 |                      |
| Non-Significant CIUs                                          | 0 |                      |
| SIUs with No/Expired Permit as of December 31                 | 0 |                      |
| SIUs with Administratively Extended Permits >180 Days         | 0 |                      |
| Number of SIUs with current control mechanisms                | 8 |                      |
| Number of NSCIUs that have violated any pretreatment standard | 0 |                      |

Number of SIUs in significant non-compliance (SNC) as of December 31

|                               | CIUs | Non Categorical SIUs | Total SIUs |
|-------------------------------|------|----------------------|------------|
| SNC Self-monitoring           |      |                      | 0          |
| SNC Reporting                 |      |                      | 0          |
| SNC PT Standards              |      |                      | 0          |
| SNC Prohibitions              |      |                      | 0          |
| SNC Compliance Schedule       |      |                      | 0          |
| SNC Pass Through/interference |      |                      | 0          |
| SNC Other SNC Violations      |      |                      | 0          |

|                                                                    |   |
|--------------------------------------------------------------------|---|
| Number of SIUs in significant non-compliance (SNC) at any time     | 1 |
| Number of non-SIUs in significant non-compliance (SNC) at any time | 0 |
| Number of SIUs in SNC during the previous calendar year            | 0 |
| SNC during the July to December period                             | 0 |

|                                                             |     |
|-------------------------------------------------------------|-----|
| # Permitted Non-SIUs With Unknown Compliance Status         | 0   |
| # SIUs With Unknown Compliance Status                       | 0   |
| Does the ERP include escalating enforcement actions for SNC | YES |

|                                                           | CIUs | Non Categorical SIUs | Total SIUs |
|-----------------------------------------------------------|------|----------------------|------------|
| Number of SIUs with compliance schedule as of December 31 | 0    | 0                    | 0          |

Additional Information

Two of the CIUs are trucked waste only as they are not connected to the sanitary sewer system.

Facility Name: #N/A  
 Permit Number: PA0043974  
 Reporting Period: 2020  
 POTW Name: VALLEY FORGE SEWER AUTHORITY

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#### Enforcement Actions

|                                                         | Non-SIUs | SIUs | CIUs |
|---------------------------------------------------------|----------|------|------|
| Number of NOVs                                          | 2        | 2    | 0    |
| Number of Formal Enforcement Actions                    | 0        | 0    | 0    |
| Number of different IUs with Formal Enforcement Actions | 0        | 0    | 0    |
| Number of SIUs on formal compliance schedule            | 0        | 0    | 0    |

Formal actions include Administrative Orders, show cause hearings, out-of-court settlements that are formal settlements, termination of service, formal compliance schedules, penalty actions EXCEPT civil or criminal suits.

|                                    | Civil | Criminal | Total |
|------------------------------------|-------|----------|-------|
| Number of suits filed against SIUs | 0     | 0        | 0     |

|                                                            | Non-SIUs | SIUs |
|------------------------------------------------------------|----------|------|
| Number of Different IUs From Whom Penalties Were Collected | 0        | 0    |
| Total Penalties Collected                                  | \$-      | \$-  |

Number of IUs Published As Being In SNC  Please complete Attachment B

#### Additional Information

Devault Foods failed to complete and report results for all 2nd quarter 2020 parameters, as required by the

Facility Name: #N/A  
Permit Number: PA0043974  
Reporting Period: 2020  
POTW Name: VALLEY FORGE SEWER AUTHORITY

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#### Compliance Monitoring

|                                             | Non-SIU | SIU |
|---------------------------------------------|---------|-----|
| Number of individual permits issued         | 0       | 0   |
| Number of general permits issued            | 0       | 0   |
| Number of inspections in the reporting year | 8       | 8   |

#### Overview description of Non-SIU inspections

Not applicable

Number of SIUs not inspected during the reporting year

Number of SIUs that submitted required Self-Monitoring Reports

Number of SIUs not sampled during the reporting year

Number of SIUs in SNC With Self-Monitoring Requirements That Were Not Inspected or Sampled

#### Additional Information

VFSA conducts the monitoring for the trucked CIU's and does not require self-monitoring reports.



Facility Name:  
Permit Number:  
Reporting Period:  
POTW Name:

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Program Implementation - Resources

Number of Pretreatment FTEs

Significant Changes (+/- 20%) to The POTW's Pretreatment Program Budget or Staffing?

Source of Budget

Total Pretreatment Program Budget

Number of Jurisdictions Covered By Pretreatment Program

Adequate delegation in each jurisdiction?

Miscellaneous Developments and Special Initiatives?

One VFSA laboratory employee position is designated as full time for industrial pretreatment, although industrial pretreatment program implementation and enforcement is accomplished through the collaborative efforts of the laboratory staff. As required, other VFSA laboratory and administrative employees are also available to ensure implementation.

Additional Information

VFSA has three full time laboratory/pretreatment employees including the laboratory supervi

#N/A  
PA0043974  
2020  
VALLEY FORGE SEWER AUT

|                             |
|-----------------------------|
| 1                           |
| NA                          |
| Initial, Annual and Re-perm |
| NA                          |

|     |
|-----|
| 8   |
| YES |
| NA  |

sor. VFSA does r

Facility Name: #N/A  
 Permit Number: PA0043974  
 Reporting Period: 2020  
 POTW Name: VALLEY FORGE SEWER AUTHORITY

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Program Implementation - Hauled Waste

Does the POTW receive any discharges of

|                                                    |     |
|----------------------------------------------------|-----|
| Receive Groundwater From Hydrocarbon Cleanup Site? | NO  |
| Receive Hauled Septage (Domestic Only)?            | YES |
| Receive Hauled Waste From Industrial Sources?      | YES |
| Receive Hauled Waste From Commercial Sources?      | YES |
| Receive Hauled Categorical Waste?                  | YES |
| Receive Hauled Grease Interceptor/Trap Waste?      | NO  |
| Receive Landfill Leachate?                         | YES |
| Receive CERCLA Cleanup Wastes?                     | NO  |
| Receive Hazardous (RCRA) Waste?                    | NO  |
| RV Dump Stations in Service Area?                  | NO  |
| Receive Other Unique Waste?                        | NO  |
| Receive Oil & Gas Waste from Stripper wells?       | NO  |

As defined at 40 CFR

If you accept any trucked or hauled waste, indicate all of the following that apply to your POTW

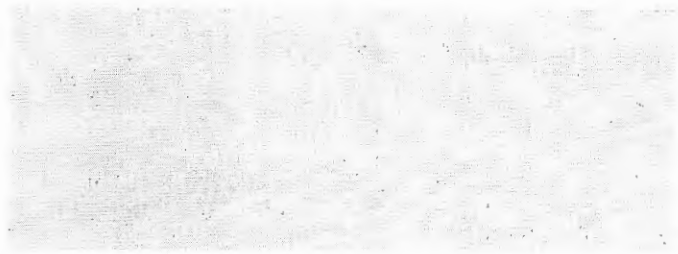
|                                                                          |     |
|--------------------------------------------------------------------------|-----|
| Legal Authority To Control Hauled Waste?                                 | YES |
| POTW Issues Permits For Hauled Wastes?                                   | YES |
| POTW Has A Designated Disposal Site For Hauled Wastes?                   | YES |
| POTW Controls Access At The Designated Disposal Station?                 | YES |
| POTW Uses A Manifest System To Track/Control Hauled Wastes?              | YES |
| POTW Believes That Illegal Dumping May Be Occurring In Its Jurisdiction? | NO  |

What parameter if any do you surcharge

|                                 |     |
|---------------------------------|-----|
| Surcharge for BOD?              | YES |
| Surcharge for TSS?              | YES |
| Surcharge for Oil and Grease?   | NO  |
| Surcharge for Flow?             | NO  |
| Surcharge for Ammonia?          | NO  |
| Surcharge for COD?              | NO  |
| Surcharge for TKN?              | NO  |
| Surcharge for Other Parameters? | NO  |

Additional Information

|  |
|--|
|  |
|--|



{ Part 261 and delivered by truck, rail or dedicated pipeline

Facility Name: #N/A  
Permit Number: PA0043974  
Reporting Period: 2020  
POTW Name: VALLEY FORGE SEWER AUT

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Program Implementation - Pass/INTF

|                                        |    |
|----------------------------------------|----|
| Instances Of Interference At The POTW? | NO |
| Instances Of Pass Through At The POTW? | NO |

|                                                               |    |
|---------------------------------------------------------------|----|
| Receive Notification Of The Discharge Of Any Hazardous Waste? | NO |
|---------------------------------------------------------------|----|

If so, names of IUs

|    |  |
|----|--|
| 1  |  |
| 2  |  |
| 3  |  |
| 4  |  |
| 5  |  |
| 6  |  |
| 7  |  |
| 8  |  |
| 9  |  |
| 10 |  |
| 11 |  |

Additional Information

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|  |
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| PERMIT INFO |           |           |             |
|-------------|-----------|-----------|-------------|
| Issued      | Effective | Expires   | Permit Type |
| 11/1/2018   | 11/1/2018 | 6/30/2021 | IP          |
| 11/1/2018   | 11/1/2018 | 6/30/2021 | IP          |
| 11/1/2018   | 11/1/2018 | 6/30/2021 | IP          |
| 11/1/2018   | 11/1/2018 | 6/30/2021 | IP          |
| 11/1/2018   | 11/1/2018 | 6/30/2021 | IP          |
| 11/1/2018   | 11/1/2018 | 6/30/2021 | IP          |
| 2/18/2021   | 2/1/2021  | 1/31/2024 | IP          |
| 2/18/2021   | 2/1/2021  | 1/31/2024 | IP          |

| SIU Info |           |     |                                          |
|----------|-----------|-----|------------------------------------------|
| Sampled  | Inspected | MRS | # of self-monitorings conducted/required |
| 1        | 1         |     | 54/52                                    |
| 1        | 1         |     | 4/4                                      |
| 1        | 1         |     | 4/4                                      |
| 1        | 1         |     | 12/12                                    |
| 1        | 1         |     | 4/4                                      |
| 1        | 1         |     | 2/2                                      |
| 2        | 1         |     | 0/0                                      |
| 2        | 1         |     | 0/0                                      |

#N/A  
PA0043974  
2020  
VALLEY FORGE SEWER AUTHORITY

| Limits Type         | MWG | Jurisdiction       | SIC Code1 | SIC Code2 | Categorical Standard | Total Average Process Flow (gpd) |
|---------------------|-----|--------------------|-----------|-----------|----------------------|----------------------------------|
| Concentration-based |     | Charlestown Twp    |           |           |                      | 31100                            |
| Concentration-based |     | East Whiteland Twp | 2835      |           |                      | 4000                             |
| Concentration-based |     | Tredyffrin Twp     |           |           |                      | 0                                |
| Concentration-based |     | East Whiteland Twp |           |           | 40 CFR PART 439      | 121115                           |
| Concentration-based |     | East Whiteland Twp | 2834      |           | 40 CFR PART 439      | 1650                             |
| Concentration-based |     | Willistown Twp     |           |           |                      | 0                                |
| Concentration-based |     | Lower Salford Twp  |           |           | 40 CFR PART 439      | 19936                            |
| Concentration-based |     | Upper Gwynedd Twp  |           |           | 40 CFR PART 414      | 10304                            |
|                     |     |                    |           |           |                      |                                  |

| Total Average Facility Flow (gpd) | MTCIU or<br>NSCIU? | Justification | Discharge Status | Description                    | SNC? |
|-----------------------------------|--------------------|---------------|------------------|--------------------------------|------|
| 31100                             |                    |               |                  | Formerly Devault Foods - Beyon | NO   |
| 10296                             |                    |               |                  |                                | NO   |
| 571                               |                    |               |                  | Formerly Infiana USA.          | NO   |
| 121115                            |                    |               |                  |                                | NO   |
| 3242                              |                    |               |                  | Formerly Micron Technologies,  | NO   |
| 68860                             |                    |               |                  |                                | NO   |
| 19936                             |                    |               |                  | VFSA conducts all sampling and | NO   |
| 10304                             |                    |               |                  | VFSA conducts all sampling and | NO   |
|                                   |                    |               |                  |                                |      |



Facility Name: #N/A  
Permit Number: PA0043974  
Reporting Period: 2020  
POTW Name: VALLEY FORGE SEWER AUTHORITY

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**Attachment B: Copy of Newspaper Notice of SNC**

Provide a copy of the newspaper notice identifying all IUs which were in SNC during the reporting period. The notice must show the name of the paper and the date of publication.

**Copy of Newspaper Notice of SNC submitted?**

YES

**Additional Information**

Devault Foods failed to complete and report results for all 2nd quarter 2020

Facility Name: #N/A  
Permit Number: PA0043974  
Reporting Period: 2020  
POTW Name: VALLEY FORGE SEWER AUT

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**Attachment C: Description of Each Incidence of Pass Through or Interference**

Provide a description of each incidence of Pass Through or Interference at the wastewater treatment plant or collection system during the year, the cause if determined, and any actions taken by the POTW in response to the Pass Through or Interference.

**Description of Pass Through/interference**

|    |    |
|----|----|
| 1  | NA |
| 2  |    |
| 3  |    |
| 4  |    |
| 5  |    |
| 6  |    |
| 7  |    |
| 8  |    |
| 9  |    |
| 10 |    |
| 11 |    |

**Additional Information**

NA

Facility Name: #N/A  
Permit Number: PA0043974  
Reporting Period: 2020  
POTW Name: VALLEY FORGE SI

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**Attachment D: Description of Significant Change in Program Funding/Staffing**

An explanation of any significant decrease (20% or greater) in pretreatment funding or staffing of the POTW's Pretreatment Program.

**Description of Significant Change in Program Funding/Staffing**

NA

Facility Name: VALLEY FORGE SEWER AUTHORITY  
Permit Number: PA0043974  
Reporting Period: 2020  
POTW Name: VALLEY FORGE SEWER AUTHORITY

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Attachment E1: Permitted Industrial Users (part 1 of 2)  
Provide a printout or listing of all permitted non-SIUs

| Permitted Non-SIUs | Rationale for permitting these non-SIUs |
|--------------------|-----------------------------------------|
| 1 NA               |                                         |
| 2                  |                                         |
| 3                  |                                         |
| 4                  |                                         |
| 5                  |                                         |
| 6                  |                                         |
| 7                  |                                         |
| 8                  |                                         |
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| 11                 |                                         |
| 12                 |                                         |
| 13                 |                                         |
| 14                 |                                         |
| 15                 |                                         |
| 16                 |                                         |
| 17                 |                                         |
| 18                 |                                         |
| 19                 |                                         |
| 20                 |                                         |

Add more rows

Additional Information

NA

Facility Name: VALLEY FORGE SEWER AUTHORITY  
Permit Number: PA0043974  
Reporting Period: 2020  
POTW Name: VALLEY FORGE SEWER AUTHORITY

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Attachment E2: Permitted Industrial Users (part 2 of 2)  
Provide a printout or listing of all SIUs covered by a General Permit

| SIUs covered by a General Permit |    | Justification Criteria |
|----------------------------------|----|------------------------|
| 1                                | NA |                        |
| 2                                |    |                        |
| 3                                |    |                        |
| 4                                |    |                        |
| 5                                |    |                        |
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| 11                               |    |                        |
| 12                               |    |                        |
| 13                               |    |                        |
| 14                               |    |                        |
| 15                               |    |                        |
| 16                               |    |                        |
| 17                               |    |                        |
| 18                               |    |                        |
| 19                               |    |                        |
| 20                               |    |                        |

Add more rows

**Additional Information**

NA

**CHAPTER 94  
MUNICIPAL WASTELoad MANAGEMENT  
REGIONAL TREATMENT PLANT ANNUAL REPORT**

**CALENDAR YEAR 2020  
VALLEY FORGE SEWER AUTHORITY  
CHESTER COUNTY, PENNSYLVANIA**

**SECTION 3**



**Birdsboro Office**

321 North Furnace Street, Ste. 200

Birdsboro, PA 19508

T 610.374.5285

F 717.560.2778

March 12, 2021

Richard Taylor, Laboratory Manager  
Valley Forge Sewer Authority  
333 Pawling Road  
Phoenixville, PA 19460

RE: Easttown Township  
2020 Chapter 94 Report  
ARRO # 5080.95

Dear Mr. Taylor:

On behalf of our client, Easttown Municipal Authority, please find enclosed the Authority's 2020 Annual Report for inclusion within the 2020 VFSA Chapter 94 Report. We trust that you will find the enclosed information satisfactory.

As always, if you have any questions or require any additional information, please feel free to contact me via email at [brady.flaharty@arroconsulting.com](mailto:brady.flaharty@arroconsulting.com) or telephone at 610.495.2118.

Sincerely,

A handwritten signature in blue ink that reads "Brady L. Flaharty". The signature is stylized with a large, flowing "B" and a cursive "Flaharty".

Brady L. Flaharty, P.E.  
ARRO Consulting, Inc., Easttown Municipal Authority Engineer

BLF:

Enclosure

c: Donald C. Curley, Administrator – Easttown Municipal Authority (w/ encl.)

**CHAPTER 94  
MUNICIPAL WASTELOAD MANAGEMENT  
ANNUAL REPORT**

**2020  
EASTTOWN MUNICIPAL AUTHORITY  
CHESTER COUNTY, PENNSYLVANIA**

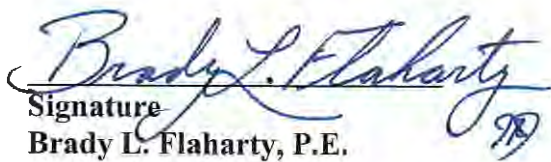
**Prepared by:**

**ARRO CONSULTING, INC.  
1450 East Boot Road  
Building 100-B  
West Chester, Pennsylvania 19380  
(484) 999-6150**

**Prepared for:**

**EASTTOWN MUNICIPAL AUTHORITY  
566 Beaumont Road  
Devon, Pennsylvania 19333  
(610) 687-3000**

**Preparer**

  
Signature  
Brady L. Flaherty, P.E.  
ARRO Consulting, Inc.  
Authority Engineer



**EASTTOWN MUNICIPAL AUTHORITY  
CHESTER COUNTY, PENNSYLVANIA**

**CHAPTER 94  
MUNICIPAL WASTELOAD MANAGEMENT  
ANNUAL REPORT  
OPERATING YEAR 2020**

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EXHIBITS

- A. EMA – Past and Present Hydraulic Loading Data
- B. EMA – Past, Present and Projected EDUs, Flows and Organic Loadings
- C. Easttown Township – Approved and Projected Connections
- D. EMA – Flow Information for Each Pump Station
- E. EMA – Monthly Flow Total to VFSA Versus Rainfall - Graph
- F. EMA – Pump Stations Flow to VFSA Versus Rainfall – Summary and Graphs
- G. EMA – Small Metered Pump Stations Flow Versus Rainfall – Summary and Graphs
- H. EMA – 1-Inch Plus Rainfall Versus Flow at Metered Pump Stations – Summary
- I. EMA – 1-Inch Plus Rainfall Versus Flow at Large Metered Pump Stations – Graphs
- J. EMA – 1-Inch Plus Rainfall Versus Flow at Small Metered Pump Stations – Graphs
- K. EMA – Pump Station Flow Meter Calibration Reports

## 1. **INTRODUCTION**

This Municipal Wasteload Management Annual Report is prepared in accordance with the Pennsylvania Department of Environmental Protection (Department) Chapter 94 for the Easttown Municipal Authority sewerage collection and conveyance system tributary to the Valley Forge Sewer Authority Wastewater Treatment Plant.

Easttown Municipal Authority (Authority) owns the sanitary sewer collection and conveyance systems within Easttown Township under Water Quality Management Permit No. 1503401. Easttown Township operates and maintains the facilities.

The Authority sanitary sewer collection system provides for collection of domestic sewage from Easttown Township, a suburban residential area encompassing several watersheds. Wastewater from each of these watersheds flows by gravity to one of twelve pumping stations, which ultimately convey the wastewater to a wastewater treatment plant operated by the Valley Forge Sewer Authority via the Aqua Resources, Inc.'s Valley Creek Trunk Sewer (VCTS) collection system. There is a small portion of the system, consisting of approximately 50 homes in the Valley Forge Road area, which drains through the Tredyffrin Township collection system into the Radnor-Haverford-Marple Authority system. There is also a small portion of the system, comprised of approximately 176.4 EDUs, that drains through Tredyffrin Township to Upper Merion Township's Trout Run Water Pollution Control Center.

The sanitary sewer collection system is comprised of roughly 319,415 lineal feet of Authority gravity sewer and 15,980 lineal feet of private gravity sewer, with approximately 1,743 manholes, and 8,011 lineal feet of low pressure force main. There are approximately 2,945 residential homes and 317 small businesses connected to the collection system. The conveyance systems are comprised of twelve (12) sewage pump stations with approximately 41,344 lineal feet of force main.

## 2. **HYDRAULIC LOADINGS**

Sewage flow from the Authority system is measured at three pumping stations, Berwyn, Daylesford and Saybrook, which each convey wastewater directly into the Tredyffrin Township collection system.

Exhibit 'A' contains a summary of Easttown total monthly flow to VFSA for 2020 and the previous 4 years, along with the 2020 monthly rainfall. The 2020 monthly flow and rainfall is charted in Exhibit 'E'.

During 2020 the measured sewage flow from the Authority sewer system averaged 1,283,410 gallons-per-day. This represents a decrease of approximately 66,581 gallons-per-day versus 2019 flows.

## 3. **5-YEAR HYDRAULIC AND ORGANIC LOADING PROJECTIONS**

The total number of EDUs connected at the end of 2020 was 3857.4, which produced an average annual flow of 1.283 MGD and 332.7 gpd/EDU.

The number of EDUs and total average daily flow over the next five (5) years are both projected to increase as follows:

|                  |             | <u>Additional # of EDUs</u> | <u>Total # of EDUs</u> | <u>Total Flow (MGD)*</u> |
|------------------|-------------|-----------------------------|------------------------|--------------------------|
| <i>Actual</i>    | <i>2020</i> | 6.7                         | 3,857.4                | 1.283                    |
| <i>Projected</i> | <i>2021</i> | 60.5                        | 3,917.9                | 1.304                    |
| <i>Projected</i> | <i>2022</i> | 60.5                        | 3,978.4                | 1.324                    |
| <i>Projected</i> | <i>2023</i> | 60.5                        | 4,038.9                | 1.344                    |
| <i>Projected</i> | <i>2024</i> | 60.5                        | 4,099.4                | 1.364                    |
| <i>Projected</i> | <i>2025</i> | 60.5                        | 4,159.9                | 1.384                    |

\* Projected flows are based on 2020 average gpd/EDU.

The increase in the number of connections was derived by interpolation of the Year 2040 Easttown Projected Flow, specified as 1.686 MGD, which is contained in the *Act 537 Supplement for Wilson Road Force Main*, Table 3-3, Average Daily Wastewater Flow Projections.

A summary of the EDUs, flows and organic loadings over the last five years and those projected for the next five years, along with graphs depicting the past and projected flows

and loadings, are included in Exhibit 'B'. The 2020 average annual loading was estimated to be 2,408 lbs./day based on an assumed BOD5 concentration of 225 mg/l. The maximum 1-month loading was estimated to be 3,257 lbs./day. The average 5-year ratio organic peaking factor is 1.38.

#### **4. SEWER EXTENSIONS**

There were three sewer extensions constructed in 2020, which were in the Berwyn Pump Station drainage area (Berwyn Village, Phase 1; 200 Church Road; 616 Leopard Road Subdivision).

Exhibit 'C' contains an updated Easttown Township Approved and Projected EDU map and an accompanying tracking list for the sanitary sewer system. EDUs are tracked by both Authority pump station drainage area and unmetered drainage area to the Valley Forge Sewer Authority wastewater treatment plant, by unmetered drainage area to the Radnor-Haverford-Marple Sewer Authority wastewater treatment plant and by unmetered drainage area to the Upper Merion Township Trout Run water pollution control plant. There are currently 4,114.9 EDUs connected to the Easttown Township sanitary sewer system with 4,732 projected to be connected by 2040. The tracking list and map is updated periodically as requests for connections are made and the Department approves EDUs.

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

The sewer system is maintained by the Township Sewer Crew. The basic operation force consists of one (1) Crew Chief, and three (3) Pump Station Operators. This group is responsible for routine sewer and pump station maintenance and repairs. The Sewer Crew personnel on a daily basis check all pump stations with various readings and notations made for each station as well as conditions and status of major operational components. Each pump station is equipped with various alarms and an automatic dialer to notify Sewer Crew personnel in the event of an equipment malfunction or an unusual system condition. The Sewer Crew also has computer software installed at the Municipal

Garage and at the Crew Chief's home that allow real-time monitoring of each pump station. Additionally, a weekly "on-call" rotation is in place whereby two of the four-man crew is available at any given time to handle emergency situations.

The Township contracts with Municipal Maintenance Company (MMC) to provide quarterly detailed inspections of each station within the system. MMC generates a report detailing specific conditions and suggested corrective measures. Township personnel formulate a plan to perform the necessary maintenance and repair, either in-house or contracted services. All necessary repairs are made in a timely manner.

## **6. CONDITION OF THE SEWER SYSTEM**

During 2020, six sanitary sewer overflow events were reported within the Authority's collection system.

- Four (4) overflow events occurred within the Berwyn Pump Station drainage area. The existing WQM permit issued by PADEP prevents the Township from setting the pump variable frequency drives to ultimate station capacity. PADEP directed the Township to submit an Act 537 Special Study, which was submitted and approved in 2020. The resetting of the VFDs to ultimate capacity would likely mitigate the likelihood of future wet weather events.
  - **January 25, 2020:** A total of 2.21 inches of rain fell. The station went into high-water alarm. For approximately 1 ½ hours an unknown amount of sewage leaked from MH #1267 into the adjacent unnamed tributary to the Darby Creek.
  - **July 10, 2020:** A total of 3.21 inches of rain fell. The station went into high-water alarm. For approximately 2 hours an unknown amount of sewage leaked from MH #1267.
  - **August 4, 2020:** A total of 5.86 inches of rain fell. The station went into high-water alarm. For approximately 3 ½ hours an unknown amount of sewage leaked from MH #1267.
  - **December 24, 2020:** A total of 2.65 inches of rain fell. The station went into high-water alarm. For approximately 2 hours an unknown amount of sewage

leaked from MH #1267. After the rain subsided the station was able to maintain incoming flow.

- Two (2) overflow events occurred within the Daylesford Pump Station drainage area. The existing WQM permit issued by PADEP prevents the Township from setting the pump variable frequency drives to ultimate station capacity. The resetting of the VFDs to ultimate capacity would likely mitigate the likelihood of future wet weather events.
  - **August 4, 2020:** A total of 5.86 inches of rain fell. For approximately 2 hours an unknown amount of sewage leaked from MH #1146. After the rain subsided the station was able to maintain incoming flow.
  - **December 24, 2020:** A total of 2.65 inches of rain fell. For approximately 2 hours an unknown amount of sewage leaked from MH #1146.

The Authority has televised certain portions of the sanitary sewer system in the Berwyn, Daylesford, Devon Hunt, Exeter, Millbrook, Newtown, Pinecroft, Saybrook and Spring Knoll Pump Station drainage areas. From 2012 through 2017 approximately 79,369 ft. of sanitary sewer has been televised. The televising found 80 pipe segment defects, 72 lateral defects and 23 manhole defects that were allowing or had potential to allow infiltration into the sanitary sewer system. Inflow/Infiltration (I/I) mitigation repair activities to correct defects found during the televising were started in July 2011 and continued through 2020.

## **7. SEWAGE PUMPING STATIONS**

The Township operates twelve (12) pumping stations owned by the Municipal Authority. All pumping stations are equipped with magnetic flow meters that measure the flows. Exhibit 'D' contains the 2020 flow information for each pump station.

During 2020 no overflow event was reported at any of the Authority pumping stations.

The Daylesford Pump Station's Sharps Woods Gravity and Force Main Replacement project was substantially completed in November 2020.

As a result of completed and planned I/I reduction work it is anticipated that there will be no need to upgrade or expand the Saybrook Pump Station.

## 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 ‘F’ contains a summary of Easttown total monthly flow versus rainfall to VFSA from its three major pump stations – Berwyn, Daylesford and Saybrook – and also the charts of the monthly and average yearly flow for these pump stations.

Exhibit ‘G’ contains a summary of monthly flow versus rainfall at the nine (9) small metered satellite pump stations – Berwyn Estates, Devon Hunt, Exeter, Fox Creek, Millbrook, Newtown, Pinecroft, Spring Knoll, and The Greens – and also the charts of the monthly and average yearly flow for these pump stations.

Exhibit ‘H’ contains a summary of the rainfall and the metered flows at all twelve (12) of the Authority’s pump stations for the ten (10) days in 2020 where rain fell more than 1-inch plus in a 24-hour period. The charts in Exhibits ‘I’ and ‘J’ were developed from this data.

Exhibit ‘I’ contains a chart for the Berwyn, Daylesford, and Saybrook Pump Stations during the ten (10) rain events. As related to yearly average flow, the peaking factors for the three pump station meters during the rain events are as follows:

| Pump Station | Yearly Avg. Flow<br>(MGD) | Rain Events Peaking Factor |                |
|--------------|---------------------------|----------------------------|----------------|
|              |                           | <u>High</u>                | <u>Average</u> |
| Berywn       | 0.8102                    | 2.22                       | 1.34           |
| Daylesford   | 0.2823                    | 1.82                       | 1.19           |
| Saybrook     | 0.1078                    | 1.48                       | 1.08           |

In conclusion, the peaking factors for Berwyn, Daylesford and Saybrook Pump Stations during the high rain event are within the Department’s current peaking factor guidelines. However, as part of its CMP program, the Authority will continue to actively pursue I/I

in the drainage areas of contributing upstream pump stations to Berwyn Pump Station, especially Devon Hunt and Exeter.

Exhibit ‘J’ contains the charts of peak rain event flows at the nine (9) small metered satellite pump stations – Berwyn Estates, Devon Hunt, Exeter, Fox Creek, Millbrook, Newtown, Pinecroft, Spring Knoll, and The Greens. As related to yearly average flow, the peaking factors for the nine (9) pump stations during the rain events are as follows:

| Pump Station   | Yearly Avg. Flow<br>(MGD) | Rain Events Peaking Factor |                |
|----------------|---------------------------|----------------------------|----------------|
|                |                           | <u>High</u>                | <u>Average</u> |
| Berwyn Estates | 0.007                     | 1.44                       | 1.11           |
| Devon Hunt     | 0.072                     | 2.17                       | 1.38           |
| Exeter         | 0.009                     | 2.74                       | 1.39           |
| Fox Creek      | 0.014                     | 1.75                       | 1.17           |
| Millbrook      | 0.003                     | 1.55                       | 1.06           |
| Newtown        | 0.174                     | 2.47                       | 1.41           |
| Pinecroft      | 0.003                     | 1.86                       | 1.15           |
| Spring Knoll   | 0.044                     | 2.42                       | 1.46           |
| The Greens     | 0.021                     | 1.35                       | 1.10           |

## **9. INDUSTRIAL WASTES**

There are no known industrial waste dischargers within Easttown Township.

## **10. CORRECTIVE ACTION PLAN**

The Department mandated the Authority to develop a CMP/CAP in December 2010. ARRO Consulting, Inc. prepared a Capacity Management Plan (CMP) and an associated Strategic I/I Reduction Plan, which collectively makes up the Corrective Action Plan (CAP) that sets forth the actions the Authority would take to reduce overloads and provide additional capacity in its sanitary sewer system. The CAP/CMP that was submitted to PADEP by transmittal letter dated February 10, 2011 and, after minor revisions, was approved by PADEP by letter, dated October 25, 2011.

All of Easttown’s CAP milestone work within the Berwyn Pump Station and Saybrook Pump Station drainage areas is complete. The CAP milestone work at Daylesford Pump Station, including the Sharp’s Woods gravity and force main, is complete. The Valley



Creek Trunk Sewer gravity system upgrade in Tredyffrin Township and the Wilson Road Force Main Rehabilitation, into which flow the effluent from Berwyn Pump Station and Saybrook Pump Station, are also complete.

An Act 537 Special Study was prepared for the Township to establish the average annual capacities for the Township's pump stations. The Act 537 Special Study was submitted in October 2020. PADEP submitted comments in November 2020 and responses to the comments were submitted in December 2020. Final PADEP approval of the study was received by letter, dated January 11, 2021.

ARRO recently submitted Water Quality Management (WQM) Permit Applications for the Berwyn, Daylesford, Devon Hunt, Newtown and Spring Knoll Pumping Stations at the request of the Department relative to the Authority's request to turn each of these pumping stations up to full pumping capability. With the submission of the WQM Permit Applications, completion of CAP milestone work and Department approval of the Act 537 Special Study, and based on the measured flow in 2020 as discussed herein, Easttown respectfully requests to be released from the CAP/CMP requirements for the Daylesford Pumping Station, Saybrook Pumping Station and VFSA Unmetered drainage areas as identified in the Exhibit C *Easttown Township Approved and Projected Connections* map contained in this report. Easttown is embarking on a broad scope I/I project in 2021, and assuming the intended results are achieved, will be requesting to be released from the CAP/CMP in the Berwyn Pumping Station drainage area and its subdrainage areas in the 2021 Chapter 94 Report.

## **11. CALIBRATION REPORTS**

The flow meters at Berwyn, Daylesford and Saybrook Pump Stations were calibrated during 2020. Copies of the calibration reports are included in Exhibit 'K'.

# *EXHIBITS*



**Exhibit A**

**Easttown Municipal Authority**

**Past & Present Hydraulic Loading Data**

**Table 1**

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**TABLE 1**

**EASTTOWN MUNICIPAL AUTHORITY**  
**2020 ANNUAL CHAPTER 94 REPORT**  
**HYDRAULIC LOADING DATA (MGD)**  
**2016 - 2020**

| Month                                                      | 2016            | 2017            | 2018            | 2019            | 2020            | 2020<br>Rainfall (in.) |
|------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------|
| January                                                    | 1.049568        | 0.966575        | 0.869454        | 1.875846        | 1.211785        | 3.23                   |
| February                                                   | 1.554747        | 0.911219        | 1.219988        | 1.687558        | 1.298683        | 2.65                   |
| March                                                      | 1.281880        | 0.966853        | 1.440283        | 1.861268        | 1.284201        | 4.45                   |
| April                                                      | 1.101526        | 1.157713        | 1.301480        | 1.404904        | 1.507989        | 5.92                   |
| May                                                        | 1.175391        | 1.116036        | 1.292485        | 1.435977        | 1.337310        | 2.84                   |
| June                                                       | 0.981711        | 0.974413        | 1.316415        | 1.432152        | 1.204028        | 2.87                   |
| July                                                       | 0.859479        | 0.879162        | 1.066002        | 1.371074        | 1.142099        | 8.61                   |
| August                                                     | 0.810786        | 0.816475        | 1.197483        | 1.101469        | 1.271304        | 9.37                   |
| September                                                  | 0.787647        | 0.760021        | 1.534737        | 0.927255        | 1.045891        | 2.48                   |
| October                                                    | 0.790326        | 0.765258        | 1.309936        | 0.909008        | 1.080144        | 4.19                   |
| November                                                   | 0.799209        | 0.799465        | 1.761154        | 0.988588        | 1.281834        | 5.95                   |
| December                                                   | 0.931850        | 0.796040        | 1.777788        | 1.204795        | 1.735651        | 6.50                   |
| <b>Average Annual Flow (MGD)</b>                           | <b>1.010343</b> | <b>0.909103</b> | <b>1.340600</b> | <b>1.349991</b> | <b>1.283410</b> |                        |
| <b>Max. 3 Month Ave. Flow (MGD)</b>                        | <b>1.312718</b> | <b>1.082721</b> | <b>1.616293</b> | <b>1.808224</b> | <b>1.376500</b> | <b>Total 59.06</b>     |
| <b>PEAKING FACTOR</b>                                      |                 |                 |                 |                 |                 |                        |
| Max. 3 Month Ave. Flow /<br>Ave. Annual Flow               | 1.300           | 1.190           | 1.210           | 1.340           | 1.070           |                        |
| <b>Flow Peaking Factor:<br/>Average 5 Year Ratio 1.222</b> |                 |                 |                 |                 |                 |                        |

Jan - Dec 2020: Rain Data from USGS Site 01473169 Valley Creek near Valley Forge.

**Exhibit B**

**Easttown Municipal Authority**

**Past, Present & Projected**

**EDUs, Flows and Organic Loadings**

**Table 2 & Table 3 and Graph 1 & Graph 2**

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**TABLE 2**

**EASTTOWN MUNICIPAL AUTHORITY**  
**2020 ANNUAL CHAPTER 94 REPORT**  
**ORGANIC LOADING DATA (lbs/Day)**  
**2016 - 2020**

| Month                                      | 2016         | 2017         | 2018         | 2019         | 2020         |
|--------------------------------------------|--------------|--------------|--------------|--------------|--------------|
| January                                    | 1,970        | 1,814        | 1,632        | 3,520        | 2,274        |
| February                                   | 2,917        | 1,710        | 2,289        | 3,167        | 2,437        |
| March                                      | 2,405        | 1,814        | 2,703        | 3,493        | 2,410        |
| April                                      | 2,067        | 2,172        | 2,442        | 2,636        | 2,830        |
| May                                        | 2,206        | 2,094        | 2,425        | 2,695        | 2,509        |
| June                                       | 1,842        | 1,828        | 2,470        | 2,687        | 2,259        |
| July                                       | 1,613        | 1,650        | 2,000        | 2,573        | 2,143        |
| August                                     | 1,521        | 1,532        | 2,247        | 2,067        | 2,386        |
| September                                  | 1,478        | 1,426        | 2,880        | 1,740        | 1,963        |
| October                                    | 1,483        | 1,436        | 2,458        | 1,706        | 2,027        |
| November                                   | 1,500        | 1,500        | 3,305        | 1,855        | 2,405        |
| December                                   | 1,749        | 1,494        | 3,336        | 2,261        | 3,257        |
| <b>Average Annual BOD (lbs/Day)</b>        | <b>1,896</b> | <b>1,706</b> | <b>2,516</b> | <b>2,533</b> | <b>2,408</b> |
| <b>Max. 1 Month BOD5 Loading (lbs/Day)</b> | <b>2,917</b> | <b>2,172</b> | <b>3,336</b> | <b>3,520</b> | <b>3,257</b> |
| <b>RATIO:</b>                              |              |              |              |              |              |
| <b>Max. 1 Month BOD5 /</b>                 |              |              |              |              |              |
| <b>Ave. Annual BOD5</b>                    | <b>1.54</b>  | <b>1.27</b>  | <b>1.33</b>  | <b>1.39</b>  | <b>1.35</b>  |
| <b>Organic Peaking Factor:</b>             |              |              |              |              |              |
| <b>Average 5 Year Ratio</b>                | <b>1.38</b>  |              |              |              |              |

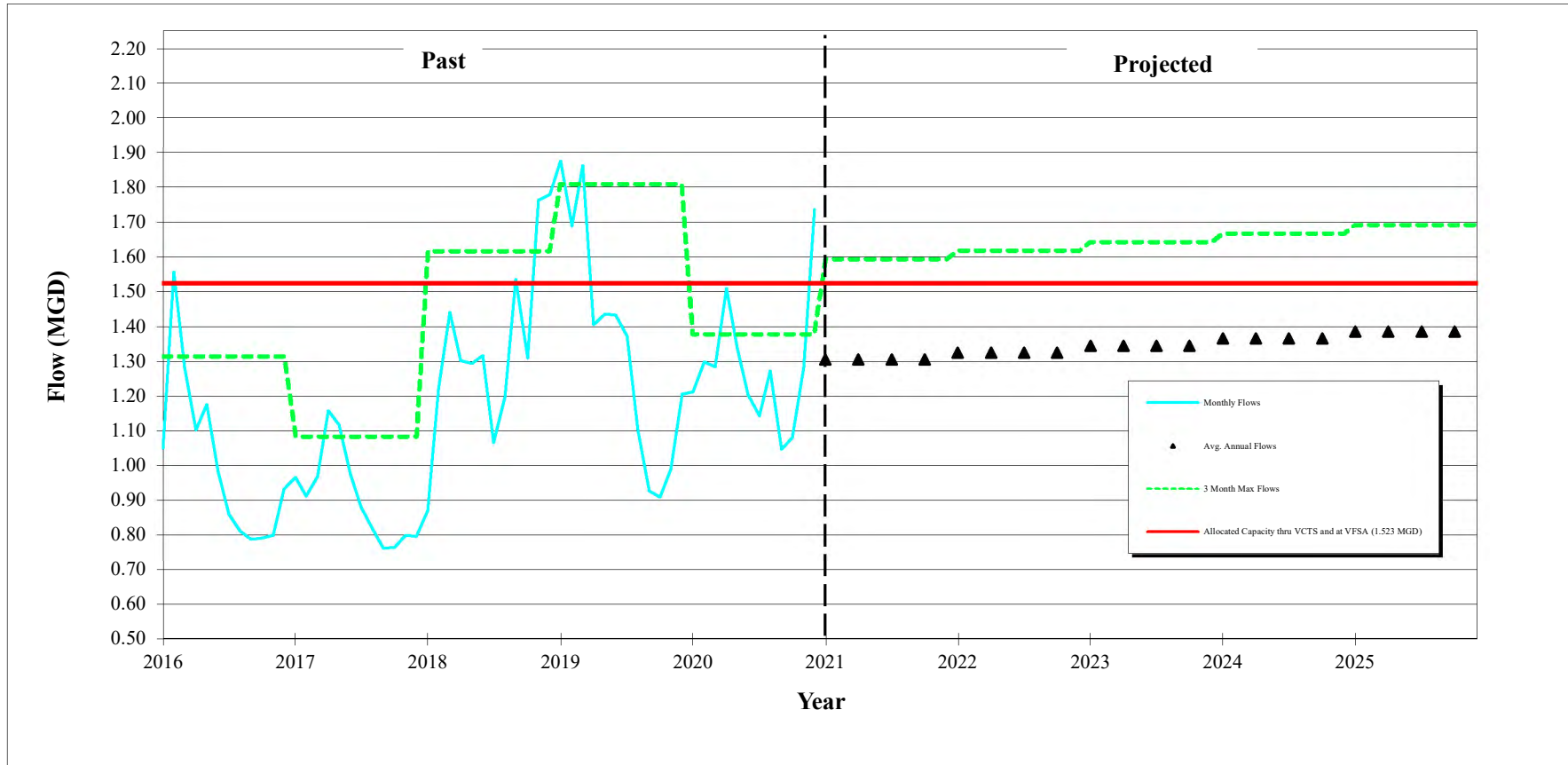
**TABLE 3**

**EASTTOWN MUNICIPAL AUTHORITY**  
**2020 ANNUAL CHAPTER 94 REPORT**  
**PAST AND PROJECTED LOADINGS**

| Year                      | EDUs    | Connected<br>Population | Average Total<br>Flow (mgd) | Max. 3 Month<br>Ave. Flow (mgd) | Per Capita<br>Flow (gpcd) | Average Total<br>BOD5 (lbs/day) | Per Capita<br>BOD5<br>(lbs/day) |
|---------------------------|---------|-------------------------|-----------------------------|---------------------------------|---------------------------|---------------------------------|---------------------------------|
| 2016                      | 3,786.7 | 10,918                  | 1.010                       | 1.31                            | 93                        | 1,896                           | 0.174                           |
| 2017                      | 3,804.7 | 10,959                  | 0.909                       | 1.08                            | 83                        | 1,706                           | 0.156                           |
| 2018                      | 3,841.7 | 10,999                  | 1.341                       | 1.62                            | 122                       | 2,516                           | 0.229                           |
| 2019                      | 3,850.7 | 11,040                  | 1.350                       | 1.81                            | 122                       | 2,533                           | 0.229                           |
| 2020                      | 3,857.4 | 11,040                  | 1.283                       | 1.38                            | 116                       | 2,408                           | 0.218                           |
| <b>Average</b>            |         | <b>10,991</b>           | <b>1.179</b>                |                                 | <b>107</b>                | <b>2,212</b>                    | <b>0.201</b>                    |
| <b>Projected Loadings</b> |         |                         |                             |                                 |                           |                                 |                                 |
| 2021                      | 3,917.9 | 11,213                  | 1.304                       | 1.59                            | 116                       | 2,255                           | 0.201                           |
| 2022                      | 3,978.4 | 11,386                  | 1.324                       | 1.62                            | 116                       | 2,290                           | 0.201                           |
| 2023                      | 4,038.9 | 11,559                  | 1.344                       | 1.64                            | 116                       | 2,325                           | 0.201                           |
| 2024                      | 4,099.4 | 11,732                  | 1.364                       | 1.67                            | 116                       | 2,360                           | 0.201                           |
| 2025                      | 4,159.9 | 11,906                  | 1.384                       | 1.69                            | 116                       | 2,395                           | 0.201                           |

## GRAPH - #1

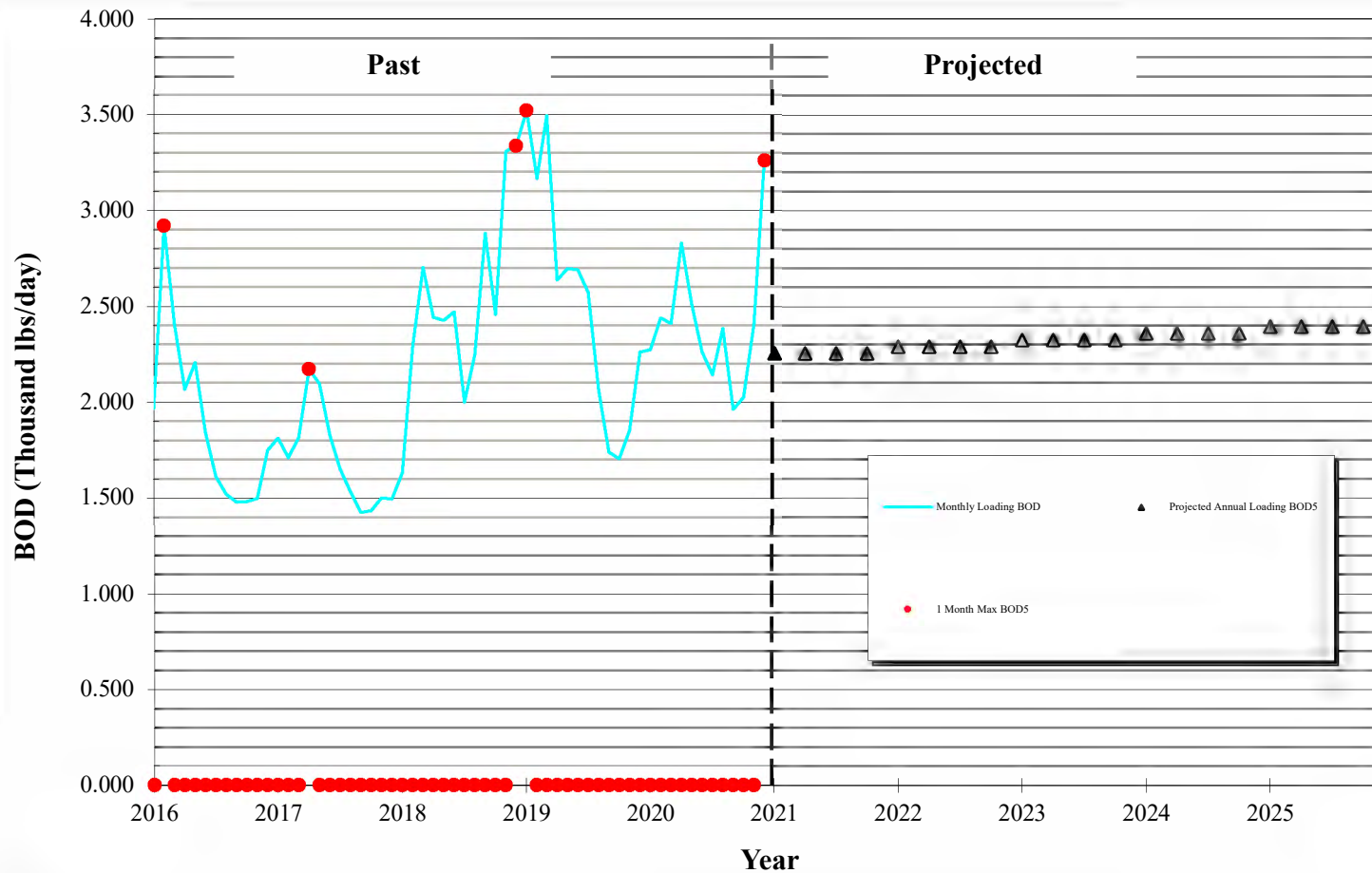
### EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT HYDRAULIC LOADING





## GRAPH - #2

### EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT ORGANIC LOADING



**Exhibit C**

**Easttown Township**

**Approved and Projected Connections**



# EASTTOWN TOWNSHIP

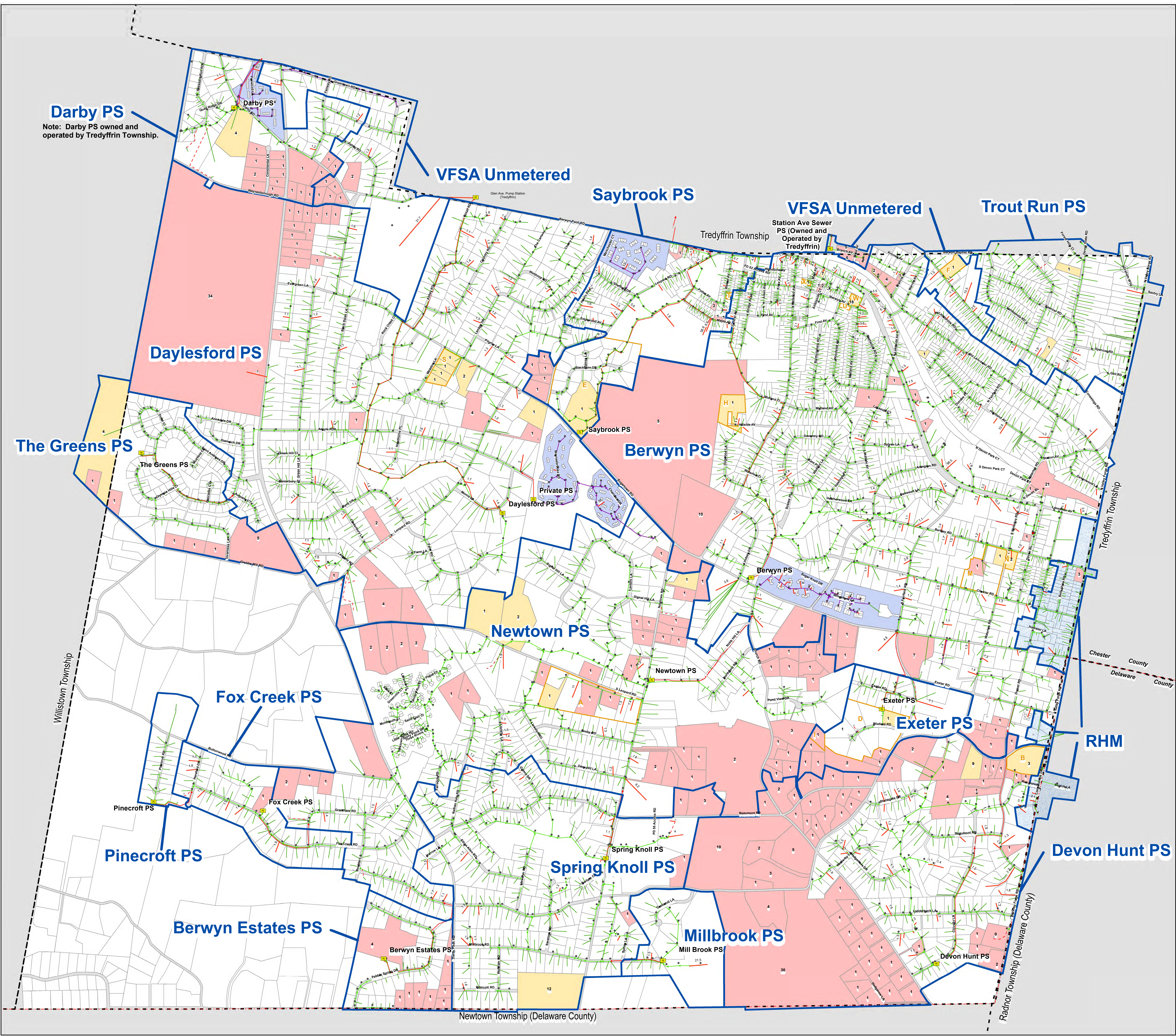
## APPROVED and PROJECTED EDU TRACKING LIST

| Map ID                                           | Development Name                                | Development Address    | Development Tax Parcel | Total EDUs Approved | Total EDUs Connected Thru 2020 | Approved EDUs Already Connected Thru 2020 | Potential EDUs Connected 2020 - 2021 | Potential EDUs Connected 2021 - 2040 | Total Potential EDUs Connected 2020 - 2040 | Total EDUs 2040 |
|--------------------------------------------------|-------------------------------------------------|------------------------|------------------------|---------------------|--------------------------------|-------------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------------|-----------------|
| <b>Berwyn Estates Pump Station Drainage Area</b> |                                                 |                        |                        |                     | <b>42.00</b>                   | <b>0.00</b>                               | <b>0.00</b>                          | <b>11.00</b>                         | <b>11.00</b>                               | <b>53.00</b>    |
| -                                                | Projected/Potential Connections                 |                        |                        |                     |                                | 0.00                                      | 0.00                                 | 11.00                                |                                            |                 |
| -                                                | Miscellaneous EDUs                              |                        |                        |                     |                                |                                           |                                      | 0.00                                 |                                            |                 |
| <b>Berwyn Pump Station Drainage Area</b>         |                                                 |                        |                        |                     | <b>1,524.10</b>                | <b>4.00</b>                               | <b>57.00</b>                         | <b>286.91</b>                        | <b>343.91</b>                              | <b>1,868.01</b> |
| M                                                | Boathouse Realty Assoc. (222 Waterloo Rd)       | 220 Berkley Avenue     | 55-3J-64.4             | 5.00                | 4.00                           | 4.00                                      | 1.00                                 |                                      |                                            |                 |
| M                                                | Boathouse Realty Assoc. (222 Waterloo Rd)       | 216 Waterloo Road      | 55-3J-64.5             | 1.00                | 0.00                           | 0.00                                      | 1.00                                 |                                      |                                            |                 |
| M                                                | Boathouse Realty Assoc. (222 Waterloo Rd)       | 210 Berkley Avenue     | 55-3J-64.6             | 1.00                | 0.00                           | 0.00                                      | 1.00                                 |                                      |                                            |                 |
| N                                                | SD 498/Gersbach                                 | 207 S. Waterloo Road   | 55-3J-70.1             | 1.00                | 0.00                           | 0.00                                      | 1.00                                 |                                      |                                            |                 |
| U                                                | Denise Lehmann & Andrew Holder                  | 13 Woodside Avenue     | 55-2L-179              | 1.00                | 0.00                           | 0.00                                      | 1.00                                 |                                      |                                            |                 |
| W                                                | Midland Ave. Development, LLC                   | 4 Midland Ave.         | 55-2G-43               | 16.00               | 0.00                           | 0.00                                      | 16.00                                |                                      |                                            |                 |
| -                                                | John & Patricia Imbesi 2016 Children's Trust    | 1060 Newtown Road      | 55-5-30                | 12.00               | 0.00                           | 0.00                                      | 12.00                                |                                      |                                            |                 |
| -                                                | Stonehaven Homes (Armstrong)                    | 218 Francis Avenue     | 55-2H-107              | 12.00               | 0.00                           | 0.00                                      | 12.00                                |                                      |                                            |                 |
| -                                                | Ted Bobby                                       | 28 South Fairfield     | 55-3J-23               | 1.00                | 0.00                           | 0.00                                      | 1.00                                 |                                      |                                            |                 |
| -                                                | Bison Head Partners                             | 749 First Avenue       | 55-2L-123              | 1.00                | 0.00                           | 0.00                                      | 1.00                                 |                                      |                                            |                 |
| -                                                | Purdy Investment Partners, L.P.                 | 218 Berkley Avenue     | 55-3J-64.8             | 1.00                | 0.00                           | 0.00                                      | 1.00                                 |                                      |                                            |                 |
| -                                                | Daniel & Susan Schuller                         | 200 Church Road        | 55-5B-73               | 1.00                | 0.00                           | 0.00                                      | 1.00                                 |                                      |                                            |                 |
| -                                                | Keach Property                                  | 501 S. Waterloo Road   | 55-3P-5                | 1.00                | 0.00                           | 0.00                                      | 1.00                                 |                                      |                                            |                 |
| -                                                | Ludin White LLC                                 | 729 First Avenue       | 55-2L-139.1            | 3.00                | 0.00                           | 0.00                                      | 3.00                                 |                                      |                                            |                 |
| -                                                | Daggett Property                                | 500 S. Waterloo Road   | 55-3-54                | 4.00                | 0.00                           | 0.00                                      | 4.00                                 |                                      |                                            |                 |
| -                                                | Projected/Potential: Berwyn Village (Mack Oil)  | 50 Price Avenue        | 55-2G-10               |                     |                                |                                           |                                      | 12.00                                |                                            |                 |
| -                                                | Projected/Potential: Fritz Lumber               | 631 Lancaster Avenue   | 55-2G-5                |                     |                                |                                           |                                      | 75.00                                |                                            |                 |
| -                                                | Projected/Potential: Hande's Redevelopment      | 576 Lancaster Avenue   | 55-2G-42               |                     |                                |                                           |                                      | 29.00                                |                                            |                 |
| -                                                | Projected/Potential: Other Connections          |                        |                        |                     |                                |                                           |                                      | 159.91                               |                                            |                 |
| -                                                | Miscellaneous EDUs                              |                        |                        |                     |                                |                                           |                                      | 11.00                                |                                            |                 |
| <b>Darby Pump Station Drainage Area</b>          |                                                 |                        |                        |                     | <b>139.50</b>                  | <b>0.00</b>                               | <b>4.00</b>                          | <b>17.00</b>                         | <b>21.00</b>                               | <b>160.50</b>   |
| -                                                | Projected/Potential Connections                 |                        |                        | 128.17              | 0.00                           | 4.00                                      | 17.00                                |                                      |                                            |                 |
| -                                                | Miscellaneous EDUs                              |                        |                        |                     |                                |                                           | 0.00                                 |                                      |                                            |                 |
| <b>Daylesford Pump Station Drainage Area</b>     |                                                 |                        |                        |                     | <b>672.20</b>                  | <b>0.00</b>                               | <b>7.00</b>                          | <b>15.37</b>                         | <b>22.37</b>                               | <b>694.57</b>   |
| -                                                | Kelly Group Builders, Inc.                      | 2291 S. Valley Road    | 54-04-0008             | 4.00                | 0.00                           | 0.00                                      | 4.00                                 |                                      |                                            |                 |
| -                                                | Moser Land Development                          | 616 Leopard Road       | 55-4-55                | 1.00                | 0.00                           | 0.00                                      | 1.00                                 |                                      |                                            |                 |
| -                                                | Moser Land Development                          | 616 Leopard Road       | 55-4-55                | 1.00                | 0.00                           | 0.00                                      | 1.00                                 |                                      |                                            |                 |
| -                                                | Rahr Property                                   | 549 Morris Lane        | 55-4-66.7              | 1.00                | 0.00                           | 0.00                                      | 1.00                                 |                                      |                                            |                 |
| -                                                | Projected/Potential Connections                 |                        |                        |                     |                                |                                           |                                      | 15.37                                |                                            |                 |
| -                                                | Miscellaneous EDUs                              |                        |                        |                     |                                |                                           |                                      | 0.00                                 |                                            |                 |
| <b>Devon Hunt Pump Station Drainage Area</b>     |                                                 |                        |                        |                     | <b>173.10</b>                  | <b>0.00</b>                               | <b>3.00</b>                          | <b>55.74</b>                         | <b>58.74</b>                               | <b>231.84</b>   |
| B                                                | Lewis Subdivision                               | 120 South Devon Avenue | 55-3-63.1              | 3.00                | 0.00                           | 3.00                                      |                                      |                                      |                                            |                 |
| -                                                | Projected/Potential Connections                 |                        |                        |                     |                                |                                           |                                      | 55.74                                |                                            |                 |
| -                                                | Miscellaneous EDUs                              |                        |                        |                     |                                |                                           |                                      | 0.00                                 |                                            |                 |
| <b>Exeter Pump Station Drainage Area</b>         |                                                 |                        |                        |                     | <b>32.20</b>                   | <b>4.00</b>                               | <b>5.00</b>                          | <b>3.00</b>                          | <b>8.00</b>                                | <b>40.20</b>    |
| D                                                | Hill Custom Homes                               | 550 Waterloo Avenue    | 55-3-43                | 8.00                | 4.00                           | 4.00                                      |                                      |                                      |                                            |                 |
| I                                                | Keyes                                           | 393 Church Road        | 55-5-55                | 1.00                | 0.00                           | 1.00                                      |                                      |                                      |                                            |                 |
| -                                                | Projected/Potential Connections                 |                        |                        |                     |                                |                                           |                                      | 3.00                                 |                                            |                 |
| -                                                | Miscellaneous EDUs                              |                        |                        |                     |                                |                                           |                                      | 0.00                                 |                                            |                 |
| <b>Fox Creek Pump Station Drainage Area</b>      |                                                 |                        |                        |                     | <b>44.60</b>                   | <b>0.00</b>                               | <b>0.00</b>                          | <b>1.00</b>                          | <b>1.00</b>                                | <b>45.60</b>    |
| -                                                | Projected/Potential Connections                 |                        |                        |                     |                                |                                           | 0.00                                 | 1.00                                 |                                            |                 |
| -                                                | Miscellaneous EDUs                              |                        |                        |                     |                                |                                           |                                      | 0.00                                 |                                            |                 |
| <b>Millbrook Pump Station Drainage Area</b>      |                                                 |                        |                        |                     | <b>36.00</b>                   | <b>0.00</b>                               | <b>0.00</b>                          | <b>0.00</b>                          | <b>0.00</b>                                | <b>36.00</b>    |
| -                                                | Projected/Potential Connections                 |                        |                        |                     |                                | 0.00                                      | 0.00                                 | 0.00                                 |                                            |                 |
| -                                                | Miscellaneous EDUs                              |                        |                        |                     |                                |                                           |                                      | 0.00                                 |                                            |                 |
| <b>Newtown Pump Station Drainage Area</b>        |                                                 |                        |                        |                     | <b>395.60</b>                  | <b>6.00</b>                               | <b>4.00</b>                          | <b>55.00</b>                         | <b>59.00</b>                               | <b>454.60</b>   |
| A                                                | South Leopard Road Associates***                |                        |                        | 9.00                | 5.00                           | 4.00                                      |                                      |                                      |                                            |                 |
| -                                                | Tim and DeDe Vesile                             | 1220 S. Leopard Rd     | 55-4-118.2A            | 1.00                | 1.00                           | 0.00                                      |                                      |                                      |                                            |                 |
| -                                                | Projected/Potential Connections                 |                        |                        |                     |                                |                                           |                                      | 54.00                                |                                            |                 |
| -                                                | Miscellaneous EDUs                              |                        |                        |                     |                                |                                           |                                      | 1.00                                 |                                            |                 |
| <b>Pincroft Pump Station Drainage Area</b>       |                                                 |                        |                        |                     | <b>17.00</b>                   | <b>1.00</b>                               | <b>0.00</b>                          | <b>0.00</b>                          | <b>0.00</b>                                | <b>17.00</b>    |
| -                                                | William & Kathy Crager                          | 2040 Buttonwood Rd     | 55-4-184.1             | 1.00                | 1.00                           | 0.00                                      |                                      |                                      |                                            |                 |
| -                                                | Projected/Potential Connections                 |                        |                        |                     |                                |                                           |                                      | 0.00                                 |                                            |                 |
| -                                                | Miscellaneous EDUs                              |                        |                        |                     |                                |                                           |                                      | 0.00                                 |                                            |                 |
| <b>Saybrook Pump Station Drainage Area</b>       |                                                 |                        |                        |                     | <b>328.10</b>                  | <b>0.00</b>                               | <b>5.00</b>                          | <b>6.00</b>                          | <b>11.00</b>                               | <b>339.10</b>   |
| T                                                | Alessandra Nicolas                              | 49 Walnut Av.          | 55-2L-29               | 2.00                | 0.00                           | 0.00                                      |                                      |                                      |                                            |                 |
| -                                                | Mary Nixon                                      | 1135 Sugartown Road    | 55-2-143               | 3.00                | 0.00                           | 3.00                                      |                                      |                                      |                                            |                 |
| -                                                | Projected/Potential: Benson Homes & Development | 15 Leopard Road        | 55-2L-11               |                     |                                |                                           |                                      | 0.00                                 |                                            |                 |
| -                                                | Projected/Potential Connections                 |                        |                        |                     |                                |                                           |                                      | 6.00                                 |                                            |                 |
| -                                                | Miscellaneous EDUs                              |                        |                        |                     |                                |                                           |                                      | 0.00                                 |                                            |                 |
| <b>Spring Knoll Pump Station Drainage Area</b>   |                                                 |                        |                        |                     | <b>225.00</b>                  | <b>0.00</b>                               | <b>12.00</b>                         | <b>24.00</b>                         | <b>36.00</b>                               | <b>261.00</b>   |
| -                                                | John & Patricia Imbesi                          | 1016 Newtown Rd        | 55-5-30                | 12.00               | 0.00                           | 12.00                                     |                                      |                                      |                                            |                 |
| -                                                | Projected/Potential Connections                 |                        |                        |                     |                                |                                           |                                      | 6.00                                 |                                            |                 |
| -                                                | Miscellaneous EDUs                              |                        |                        |                     |                                |                                           |                                      | 18.00                                |                                            |                 |
| <b>The Greens Pump Station Drainage Area</b>     |                                                 |                        |                        |                     | <b>116.00</b>                  | <b>0.00</b>                               | <b>0.00</b>                          | <b>14.00</b>                         | <b>14.00</b>                               | <b>130.00</b>   |
| -                                                | Projected/Potential Connections                 |                        |                        |                     |                                |                                           | 0.00                                 | 14.00                                |                                            |                 |
| -                                                | Miscellaneous EDUs                              |                        |                        |                     |                                |                                           |                                      | 0.00                                 |                                            |                 |
| <b>VFSA Unmetered Drainage Area</b>              |                                                 |                        |                        |                     | <b>112.00</b>                  | <b>0.00</b>                               | <b>3.00</b>                          | <b>23.00</b>                         | <b>26.00</b>                               | <b>138.00</b>   |
| F                                                | Peter A. Talman                                 | 435 Conestoga Road     | 55-2H-49               | 1.00                | 0.00                           | 1.00                                      |                                      | 0.00                                 |                                            |                 |
| -                                                | YMCA                                            | Berwyn Paoli Road      |                        | 2.00                | 0.00                           | 2.00                                      |                                      | 0.00                                 |                                            |                 |
| -                                                | Projected/Potential Connections                 |                        |                        |                     |                                |                                           |                                      | 23.00                                |                                            |                 |
| -                                                | Miscellaneous EDUs                              |                        |                        |                     |                                |                                           |                                      | 0.00                                 |                                            |                 |
|                                                  | VFSA Total EDUs =                               |                        |                        | 239.17              | 3,857.40                       | 15.00                                     | 100.00                               | 512.02                               | 612.02                                     | 4,469.42        |
|                                                  | VFSA Metered EDUs =                             |                        |                        |                     | 3,605.90                       | 15.00                                     | 93.00                                | 472.02                               | 565.02                                     |                 |
|                                                  | VFSA Unmetered EDUs =                           |                        |                        |                     | 251.50                         | 0.00                                      | 7.00                                 | 40.00                                | 47.00                                      |                 |
| <b>RHM Unmetered Drainage Area</b>               |                                                 |                        |                        |                     | <b>81.10</b>                   | <b>0.00</b>                               | <b>3.00</b>                          | <b>3.00</b>                          | <b>3.00</b>                                | <b>84.10</b>    |
| -                                                | Projected/Potential Connections                 |                        |                        |                     |                                |                                           | 0.00                                 | 3.00                                 |                                            |                 |
| -                                                | Miscellaneous EDUs                              |                        |                        |                     |                                |                                           |                                      | 0.00                                 |                                            |                 |
|                                                  | RHM Unmetered Subtotal EDUs =                   |                        |                        | 0.00                | 81.10                          | 0.00                                      | 0.00                                 | 0.00                                 | 0.00                                       | 84.10           |
| <b>Trout Run Unmetered Drainage Area</b>         |                                                 |                        |                        |                     | <b>176.40</b>                  | <b>0.00</b>                               | <b>2.00</b>                          | <b>2.00</b>                          | <b>2.00</b>                                | <b>178.40</b>   |
| -                                                | Projected/Potential Connections                 |                        |                        |                     |                                |                                           | 0.00                                 | 2.00                                 |                                            |                 |
| -                                                | Miscellaneous EDUs                              |                        |                        |                     |                                |                                           |                                      | 0.00                                 |                                            |                 |
|                                                  | Trout Run Unmetered Subtotal EDUs =             |                        |                        | 0.00                | 176.40                         | 0.00                                      | 0.00                                 | 0.00                                 | 0.00                                       | 178.40          |
|                                                  | Grand Total EDUs =                              |                        |                        | 239.17              | 4,114.90                       |                                           | 100.00                               | 512.02                               | 612.02                                     | 4,731.92        |



# EASTTOWN TOWNSHIP

## APPROVED AND PROJECTED CONNECTIONS





**Exhibit D**

**Easttown Municipal Authority**

**Flow Information for Each Pump Station**

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## EXHIBIT - D

### EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT FLOW INFORMATION FOR EACH PUMPING STATION

|                                     |              | Pump Station Capacities      |                                |                                                  |                                                   |                                     |                                                   | Present Flows                                          | 2-Year Projected Ann. Avg. Daily Flow                     |                                     |                            | Future Projected Ann. Avg. Daily Flow                     |                                     |                            |
|-------------------------------------|--------------|------------------------------|--------------------------------|--------------------------------------------------|---------------------------------------------------|-------------------------------------|---------------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------|-------------------------------------|----------------------------|-----------------------------------------------------------|-------------------------------------|----------------------------|
| Pumping Station Name <sup>(1)</sup> | No. of Pumps | Permit Design Capacity (gpm) | Ultimate Design Capacity (gpm) | Current Permit Peak Flow Capacity <sup>(2)</sup> | Ultimate Permit Peak Flow Capacity <sup>(2)</sup> | PADEP Peaking Factor <sup>(5)</sup> | Current Permit Annual Average Daily Flow Capacity | Actual Annual Average Daily Flow - 2020 <sup>(3)</sup> | Projected Annual Average Daily Flow - 2022 <sup>(4)</sup> | PADEP Peaking Factor <sup>(5)</sup> | Projected Peak Flow - 2022 | Projected Annual Average Daily Flow - 2040 <sup>(4)</sup> | PADEP Peaking Factor <sup>(5)</sup> | Projected Peak Flow - 2040 |
| <b>Berwyn</b>                       | 3            | <b>920</b>                   | <b>1,019</b>                   | 2,649,600                                        | 2,936,000                                         | 2.50                                | 1,059,840                                         | 810,205                                                | 827,051                                                   | 3.00                                | 2,481,154                  | 978,667                                                   | 3.00                                | 2,936,000                  |
| Berwyn Estates                      | 2            | 73                           | 73                             | 105,120                                          | 105,120                                           | 2.50                                | 42,048                                            | 7,058                                                  | 7,243                                                     | 4.20                                | 30,420                     | 8,907                                                     | 4.20                                | 37,407                     |
| Devon Hunt                          | 2            | <b>220</b>                   | <b>252</b>                     | 316,800                                          | 362,880                                           | 2.50                                | 126,720                                           | 71,850                                                 | 74,288                                                    | 3.77                                | 280,067                    | 96,233                                                    | 3.77                                | 362,800                    |
| Exeter                              | 2            | 100                          | 100                            | 144,000                                          | 144,000                                           | 2.50                                | 57,600                                            | 8,579                                                  | 8,792                                                     | 4.19                                | 36,865                     | 10,710                                                    | 4.19                                | 44,909                     |
| Fox Creek                           | 2            | 50                           | 50                             | 72,000                                           | 72,000                                            | 2.50                                | 28,800                                            | 13,857                                                 | 13,879                                                    | 4.16                                | 57,725                     | 14,082                                                    | 4.16                                | 58,567                     |
| Millbrook                           | 2            | 40                           | 40                             | 57,600                                           | 57,600                                            | 2.50                                | 23,040                                            | 3,477                                                  | 3,477                                                     | 4.20                                | 14,603                     | 3,477                                                     | 4.20                                | 14,603                     |
| Newtown                             | 2            | <b>550</b>                   | <b>690</b>                     | 792,000                                          | 994,000                                           | 2.50                                | 316,800                                           | 168,606                                                | 170,979                                                   | 3.66                                | 626,468                    | 192,338                                                   | 3.66                                | 704,725                    |
| Pinecroft                           | 2            | 32                           | 32                             | 46,080                                           | 46,080                                            | 2.50                                | 18,432                                            | 3,359                                                  | 3,359                                                     | 4.20                                | 14,108                     | 3,359                                                     | 4.20                                | 14,108                     |
| Spring Knoll                        | 2            | <b>100</b>                   | <b>270</b>                     | 144,000                                          | 388,800                                           | 2.50                                | 57,600                                            | 43,619                                                 | 44,221                                                    | 3.93                                | 173,610                    | 49,635                                                    | 3.93                                | 194,869                    |
| <b>Daylesford</b>                   | 2            | <b>590</b>                   | <b>718</b>                     | 849,600                                          | 1,033,620                                         | 2.50                                | 339,840                                           | 282,294                                                | 283,597                                                   | 3.50                                | 992,588                    | 295,320                                                   | 3.50                                | 1,033,620                  |
| The Greens                          | 2            | 200                          | 200                            | 288,000                                          | 288,000                                           | 2.50                                | 115,200                                           | 20,904                                                 | 21,156                                                    | 4.07                                | 86,021                     | 23,427                                                    | 4.07                                | 95,254                     |
| <b>Saybrook</b>                     | 2            | <b>275</b>                   | <b>275</b>                     | 396,000                                          | 396,000                                           | 2.50                                | 158,400                                           | 107,828                                                | 108,190                                                   | 3.55                                | 384,439                    | 111,443                                                   | 3.55                                | 396,000                    |

**Notes:**

- (1) Berwyn, Daylesford and Saybrook pumping stations convey flow to the Vally Creek Trunk Sewer. The stations listed directly under those whose names are in bold type are tributary to that station whose name is in bold type.
- (2) Current and Ultimate Permit Peak Flow Capacity based on one pump always on stand-by.
- (3) Actual Annual Average Daily Flows are as per flow meter readings for all pumping stations.
- (4) Projected Annual Average Daily flow in 2022 and at buildout (2040) is based on an interpolation of the Year 2040 Easttown Projected Flow, specified as 1.686 MGD, which is contained in the *Act 537 Supplement for Wilson Road Force Main*, Table 3-3, Average D
- (5) PADEP Peaking Factor is interpolated from PADEP Southeast Regional Office's "Sewage Pumping Station Guidance (Rev. 3/24/99)".
- (6) All flow rates above are in gallons per day (gpd).

**Exhibit E**

**Easttown Municipal Authority**

**Monthly Flow Total to VFSA**

**Versus Rainfall - Graph**

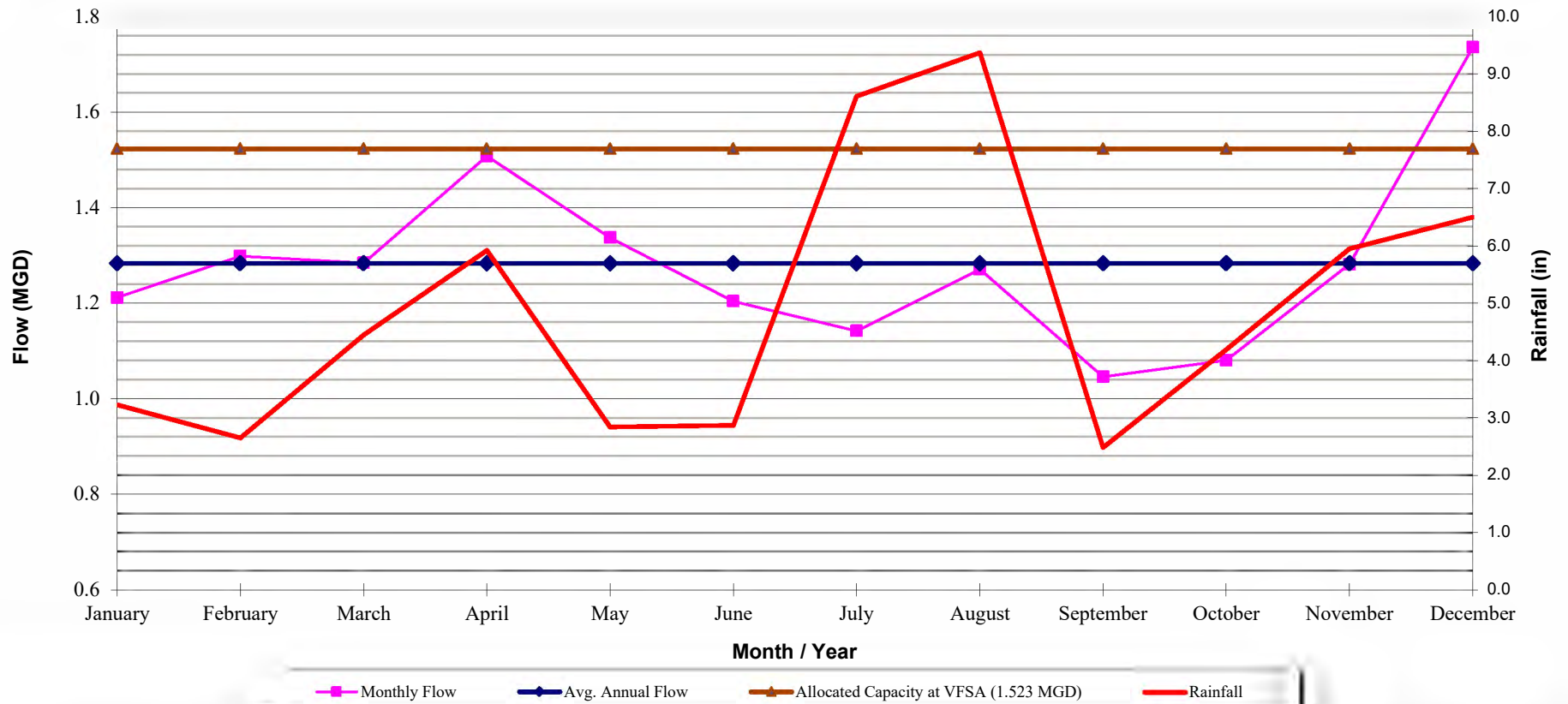
**Graph 3**

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### GRAPH - #3

## EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT MONTHLY TOTAL FLOW TO VFSA VERSUS RAINFALL





**Exhibit F**

**Easttown Municipal Authority**

**Pump Stations Flow to VFSA**

**Versus Rainfall - Summary and Graphs**

***Berwyn Pump Station  
Daylesford Pump Station  
Saybrook Pump Station***

**Table 4A, Graphs 4A, 4B and 4C**

**Table 4A**

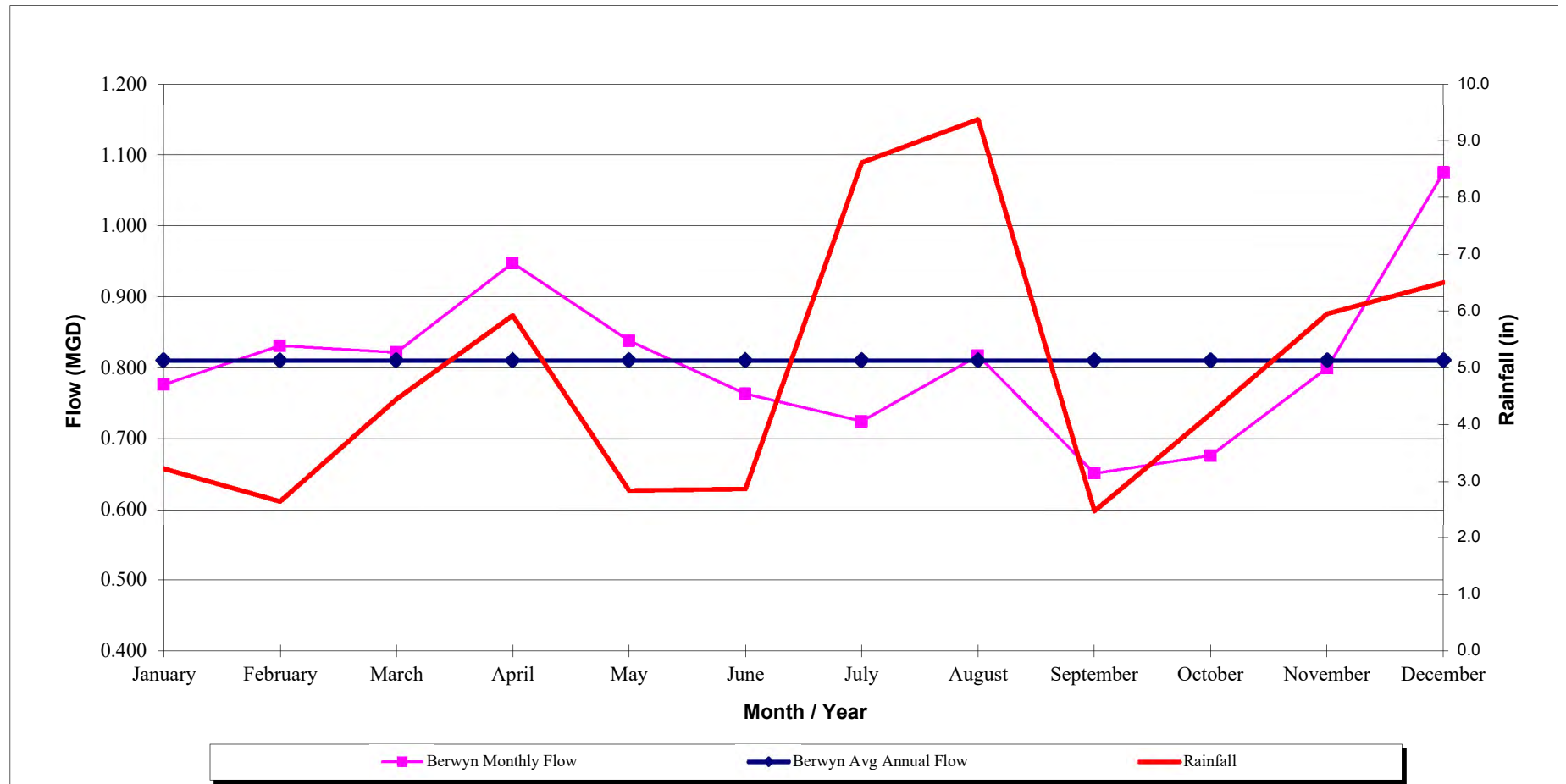
**EASTTOWN MUNICIPAL AUTHORITY  
2020 ANNUAL CHAPTER 94 REPORT  
MONTHLY PUMP STATION FLOW TO VFSA**

**BERWYN, DAYLESFORD and SAYBROOK PUMP STATIONS**

| Year                    | Month     | Monthly Flow, MGD |            |          | Rainfall |
|-------------------------|-----------|-------------------|------------|----------|----------|
|                         |           | Berwyn            | Daylesford | Saybrook |          |
| 2020                    | January   | 0.7762            | 0.2582     | 0.0995   | 3.23     |
|                         | February  | 0.8311            | 0.2826     | 0.1015   | 2.65     |
|                         | March     | 0.8216            | 0.2804     | 0.0997   | 4.45     |
|                         | April     | 0.9475            | 0.3409     | 0.1226   | 5.92     |
|                         | May       | 0.8380            | 0.3049     | 0.1085   | 2.84     |
|                         | June      | 0.7634            | 0.2604     | 0.1029   | 2.87     |
|                         | July      | 0.7247            | 0.2421     | 0.1008   | 8.61     |
|                         | August    | 0.8172            | 0.2566     | 0.1147   | 9.37     |
|                         | September | 0.6515            | 0.2327     | 0.0935   | 2.48     |
|                         | October   | 0.6765            | 0.2378     | 0.0953   | 4.19     |
|                         | November  | 0.7997            | 0.2910     | 0.1075   | 5.95     |
|                         | December  | 1.0750            | 0.4000     | 0.1475   | 6.50     |
| Avg Annual Flow (MGD) = |           | 0.8102            | 0.2823     | 0.1078   |          |

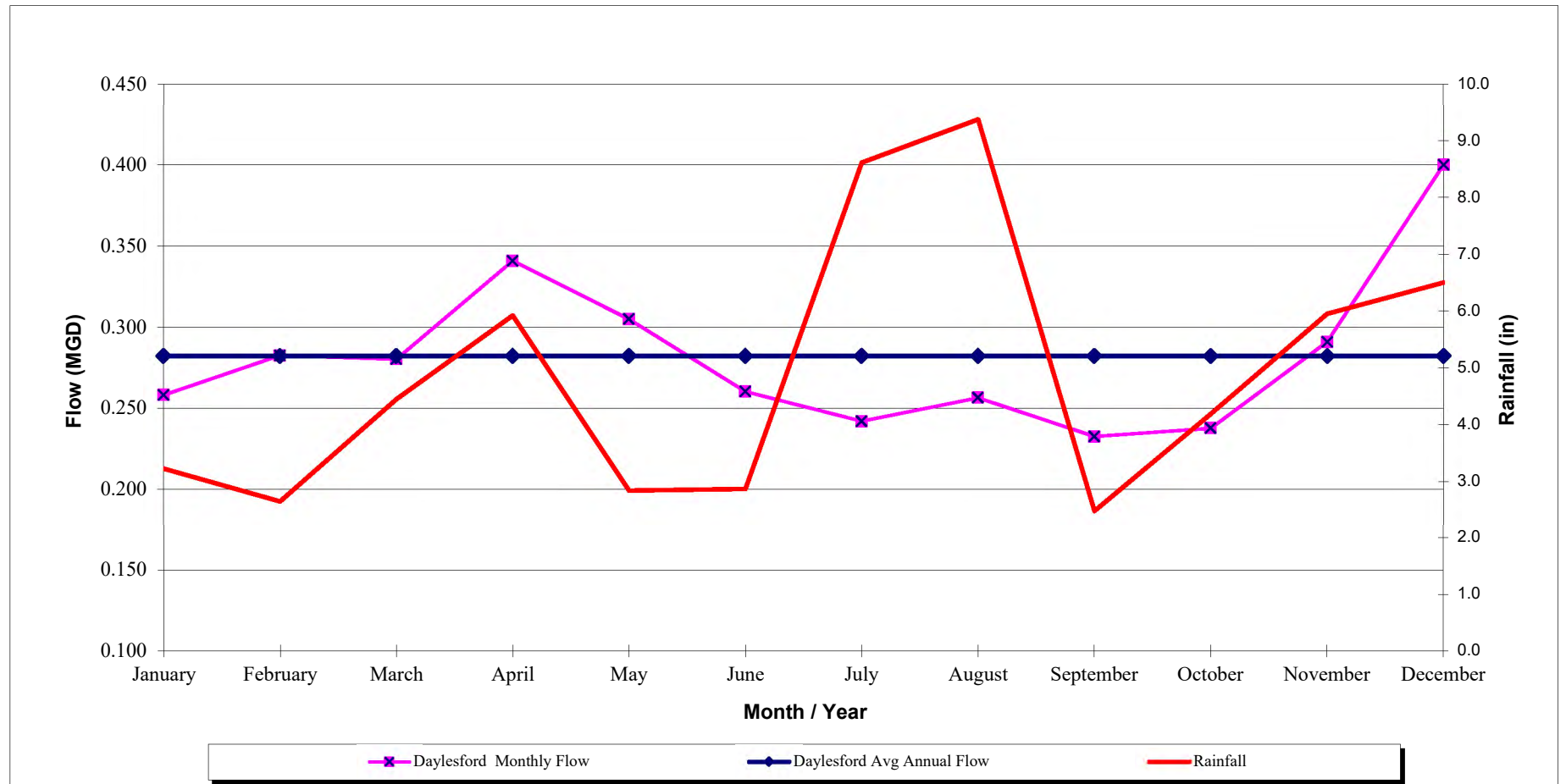
## GRAPH - #4A

### EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT MONTHLY FLOW FROM METERED PUMP STATIONS TO VFSA VERSUS RAINFALL BERWYN PUMP STATION



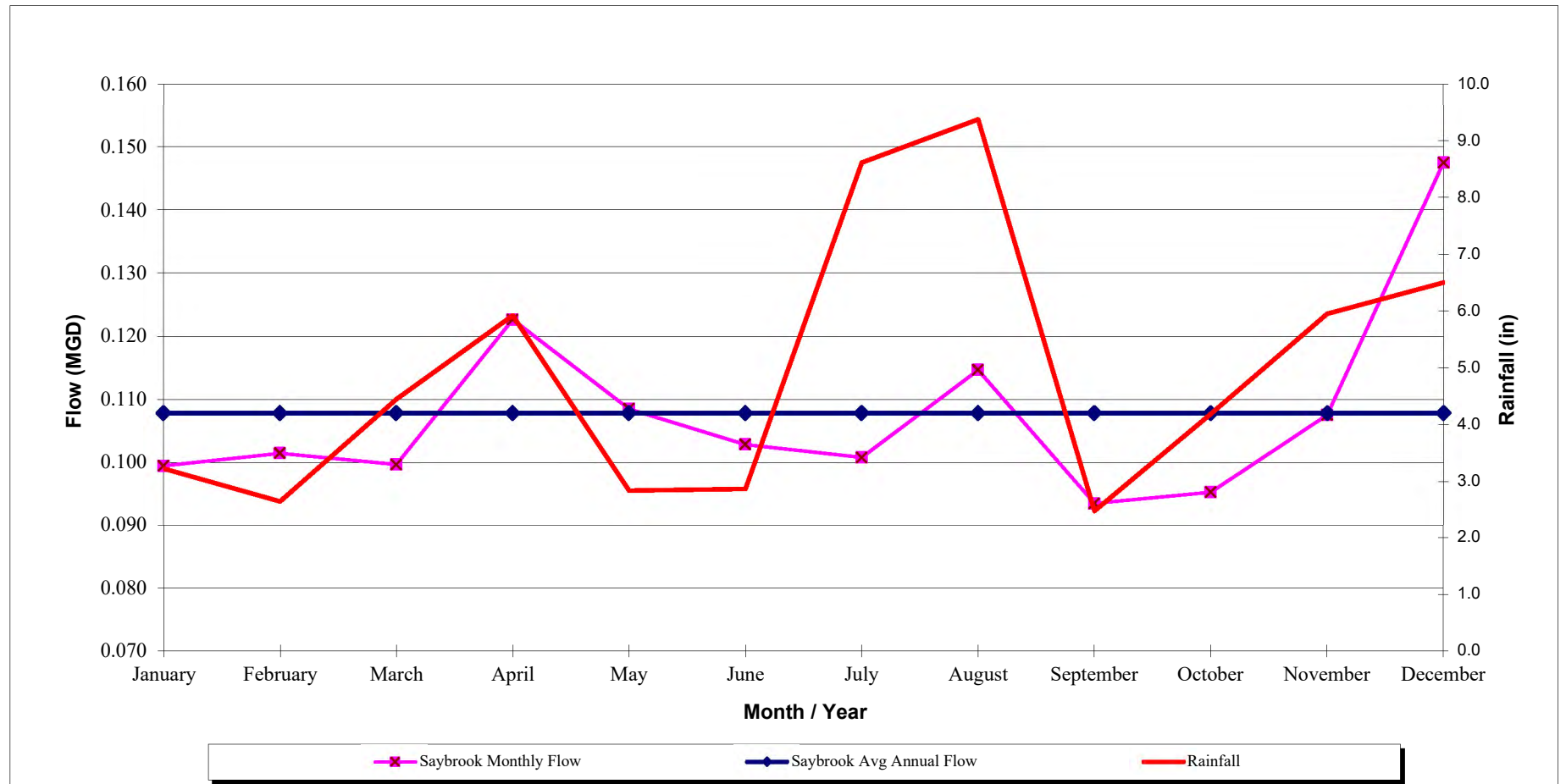
## GRAPH - #4B

### EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT MONTHLY FLOW FROM METERED PUMP STATIONS TO VFSA VERSUS RAINFALL DAYLESFORD PUMP STATION



## GRAPH - #4C

### EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT MONTHLY FLOW FROM METERED PUMP STATIONS TO VFSA VERSUS RAINFALL SAYBROOK PUMP STATION





## **Exhibit G**

### **Easttown Municipal Authority**

### **Small Metered Pump Stations Flow Versus Rainfall - Summary and Graphs**

*Berwyn Estates Pump Station*

*Devon Hunt Pump Station*

*Exeter Pump Station*

*Fox Creek Pump Station*

*Millbrook Pump Station*

*Newtown Pump Station*

*Pinecroft Pump Station*

*Spring Knoll Pump Station*

*The Greens Pump Station*

**Table 4B, Graphs 4D to 4L**

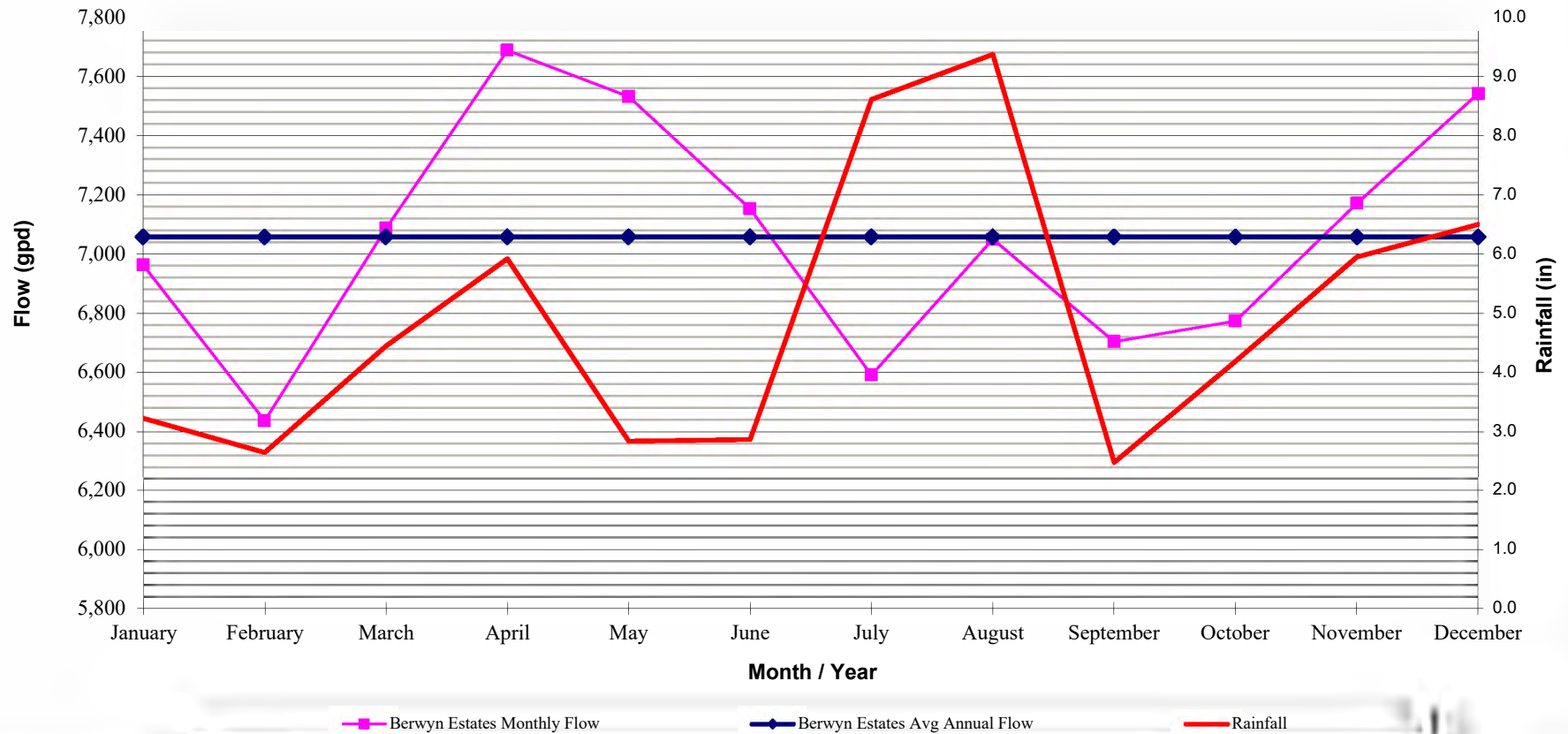
**Table 4B**

**EASTTOWN MUNICIPAL AUTHORITY**  
**2020 ANNUAL CHAPTER 94 REPORT**  
**MONTHLY SATELLITE PUMP STATION FLOWS**

| Year                           | Month     | Monthly Flow, GPD |               |              |               |              |                |              |               |               | Rainfall |
|--------------------------------|-----------|-------------------|---------------|--------------|---------------|--------------|----------------|--------------|---------------|---------------|----------|
|                                |           | Berwyn Estates    | Devon Hunt    | Exeter       | Fox Creek     | Millbrook    | Newtown        | Pinecroft    | Spring Knoll  | The Greens    |          |
| 2020                           | January   | 6,963             | 67,456        | 7,681        | 13,390        | 3,343        | 156,288        | 3,698        | 39,399        | 17,545        | 3.23     |
|                                | February  | 6,437             | 69,816        | 8,399        | 12,231        | 3,216        | 156,667        | 3,046        | 38,123        | 17,904        | 2.65     |
|                                | March     | 7,087             | 74,152        | 8,827        | 13,208        | 3,414        | 167,553        | 3,317        | 42,486        | 20,688        | 4.45     |
|                                | April     | 7,688             | 82,773        | 9,833        | 14,413        | 3,812        | 195,559        | 3,316        | 49,138        | 22,216        | 5.92     |
|                                | May       | 7,532             | 76,294        | 8,823        | 13,760        | 3,543        | 174,662        | 3,246        | 44,641        | 22,327        | 2.84     |
|                                | June      | 7,153             | 70,820        | 8,733        | 12,432        | 3,515        | 161,187        | 2,881        | 42,497        | 21,520        | 2.87     |
|                                | July      | 6,591             | 66,213        | 7,516        | 13,131        | 3,289        | 150,782        | 3,317        | 41,303        | 21,687        | 8.61     |
|                                | August    | 7,050             | 71,510        | 8,773        | 14,893        | 2,883        | 173,387        | 3,844        | 45,270        | 20,459        | 9.37     |
|                                | September | 6,704             | 62,170        | 7,382        | 13,003        | 3,951        | 138,719        | 3,511        | 38,221        | 20,358        | 2.48     |
|                                | October   | 6,774             | 64,441        | 6,773        | 13,386        | 3,723        | 146,623        | 3,561        | 39,900        | 21,093        | 4.19     |
|                                | November  | 7,171             | 71,256        | 8,756        | 14,757        | 3,375        | 173,898        | 3,206        | 45,051        | 23,048        | 5.95     |
|                                | December  | 7,542             | 85,295        | 11,455       | 17,685        | 3,663        | 227,943        | 3,369        | 57,398        | 22,005        | 6.50     |
| <b>Avg Annual Flow (GPD) =</b> |           | <b>7,058</b>      | <b>71,850</b> | <b>8,579</b> | <b>13,857</b> | <b>3,477</b> | <b>168,606</b> | <b>3,359</b> | <b>43,619</b> | <b>20,904</b> |          |

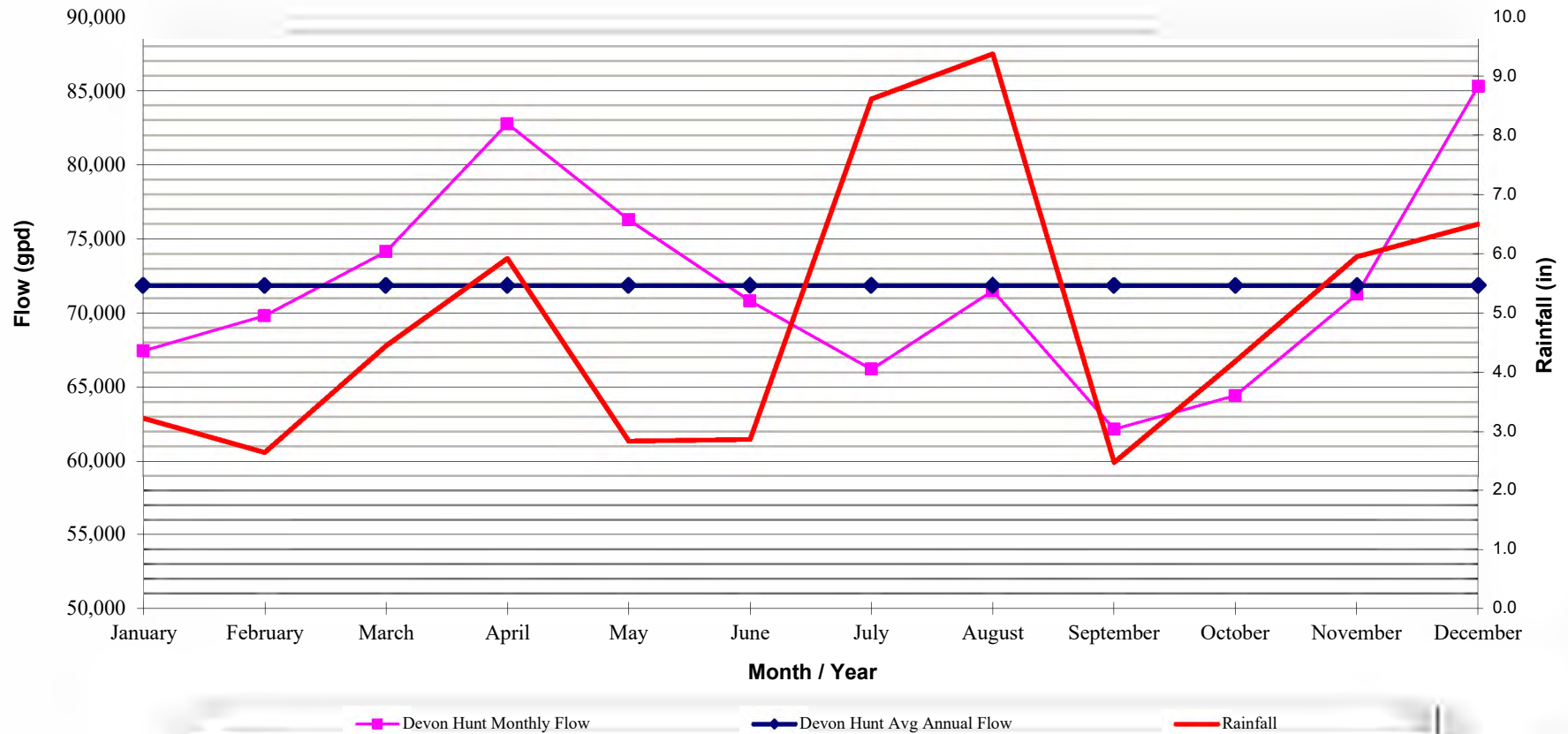
## GRAPH - #4D

### EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT MONTHLY SATELLITE PUMP STATION FLOWS BERWYN ESTATES PUMP STATION



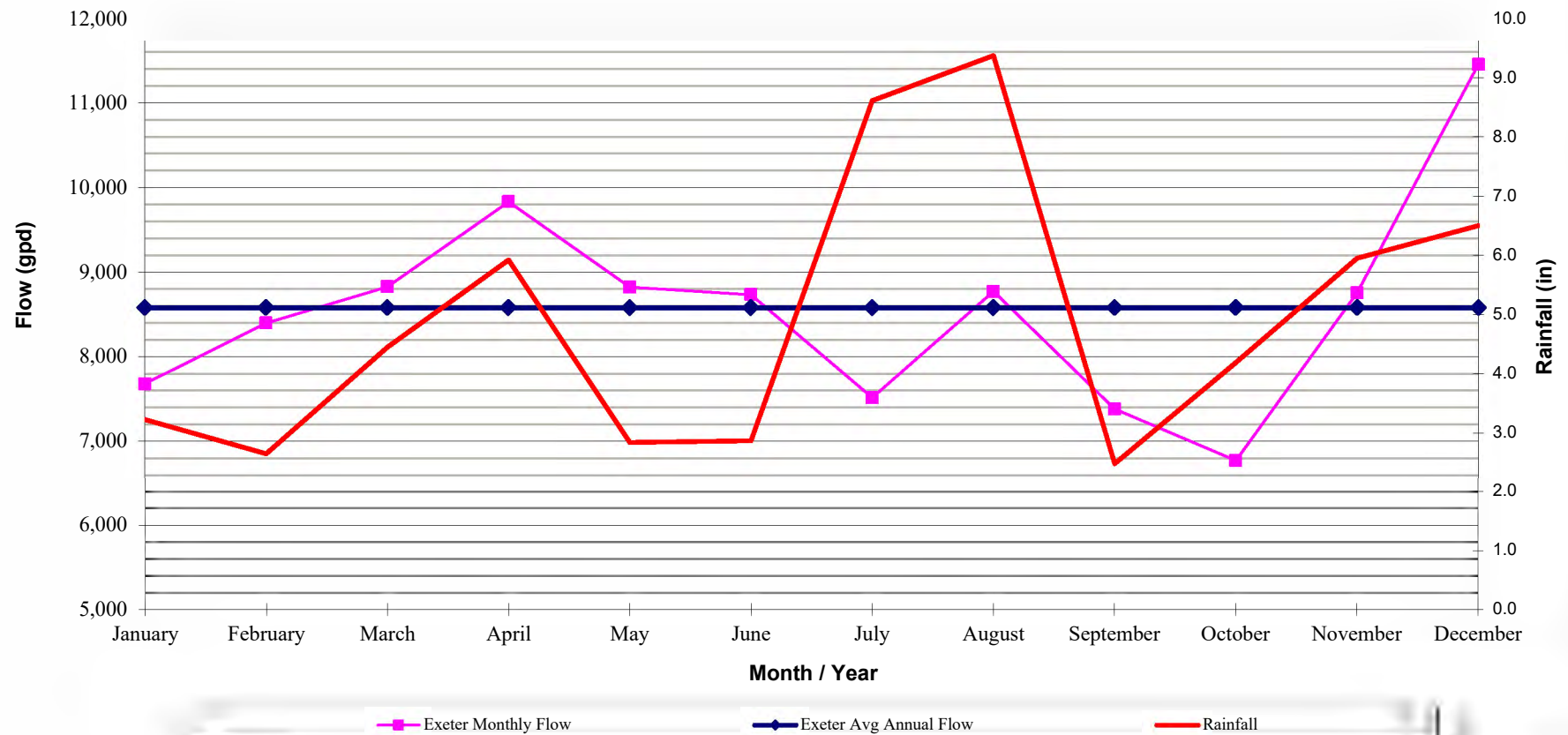
## GRAPH - #4E

### EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT MONTHLY SATELLITE PUMP STATION FLOWS DEVON HUNT PUMP STATION



## GRAPH - #4F

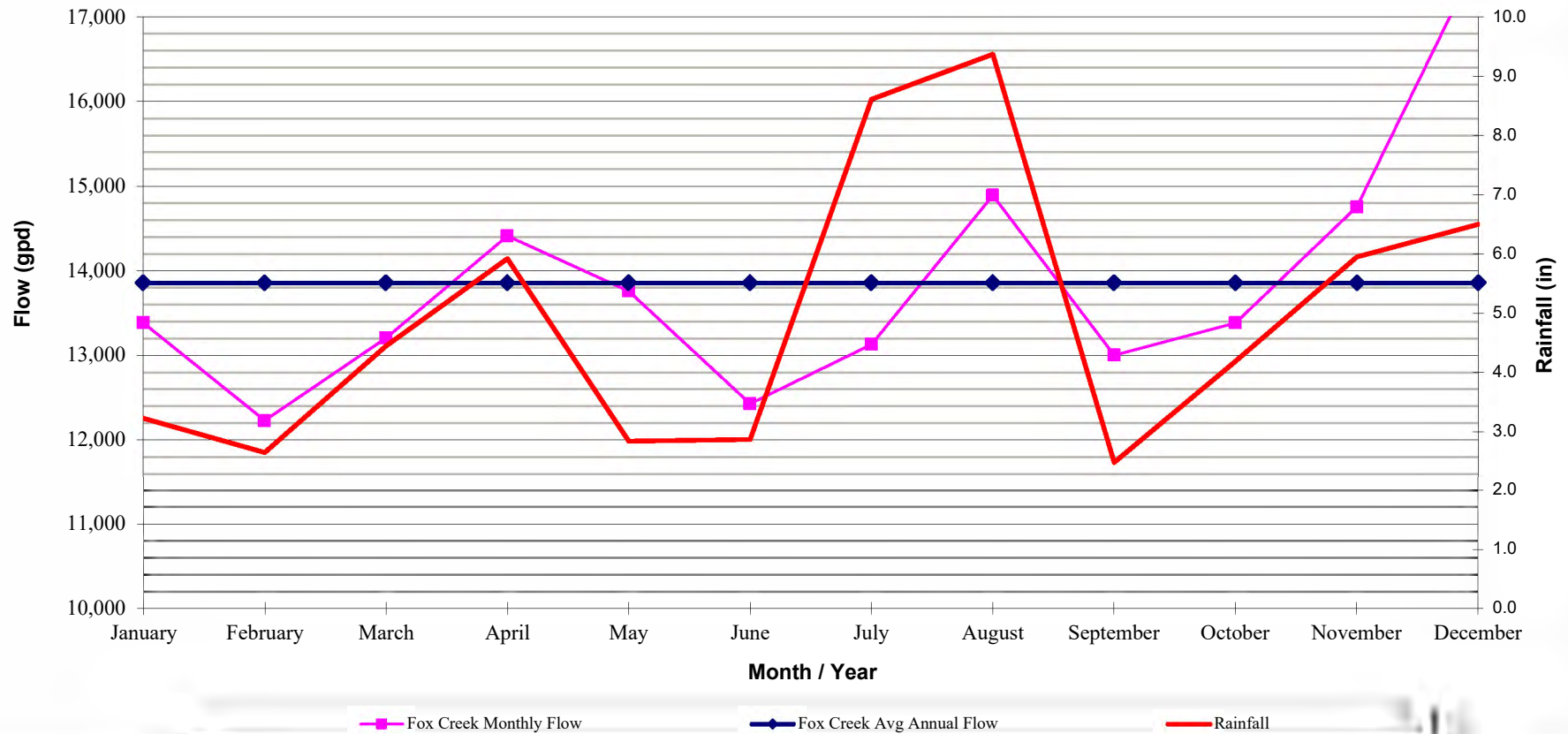
### EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT MONTHLY SATELLITE PUMP STATION FLOWS EXETER PUMP STATION





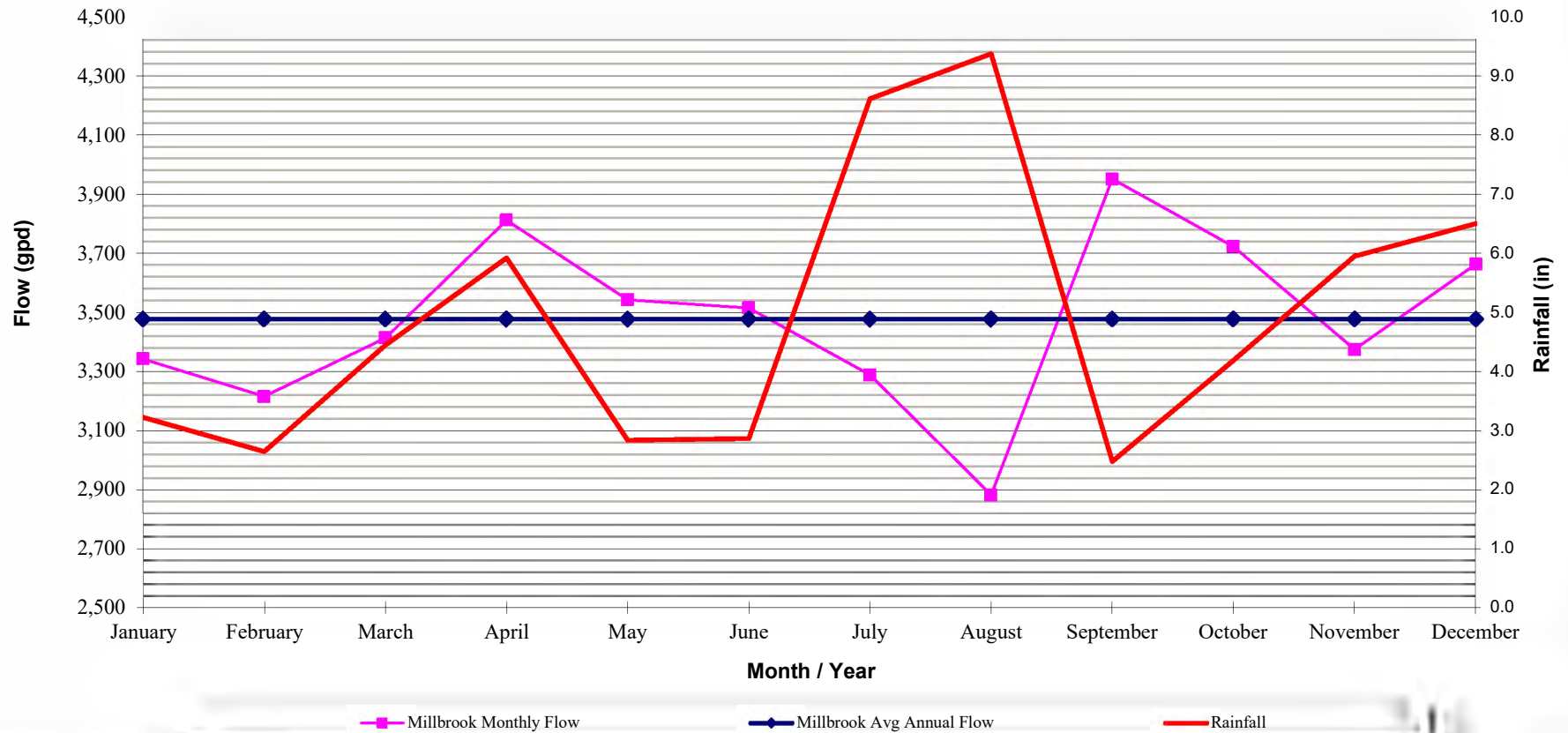
## GRAPH - #4G

### EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT MONTHLY SATELLITE PUMP STATION FLOWS FOX CREEK PUMP STATION



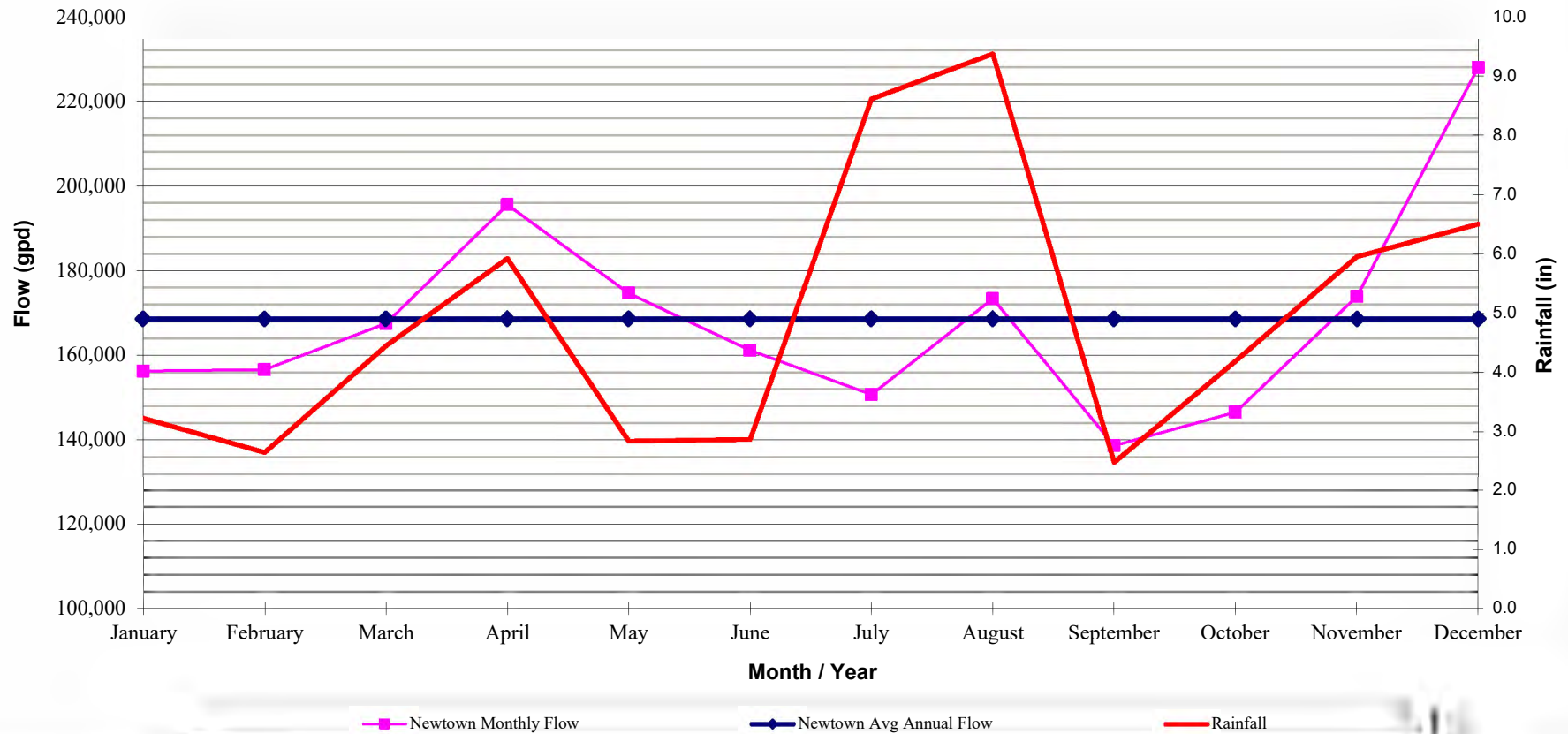
## GRAPH - #4H

### EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT MONTHLY SATELLITE PUMP STATION FLOWS MILLBROOK PUMP STATION



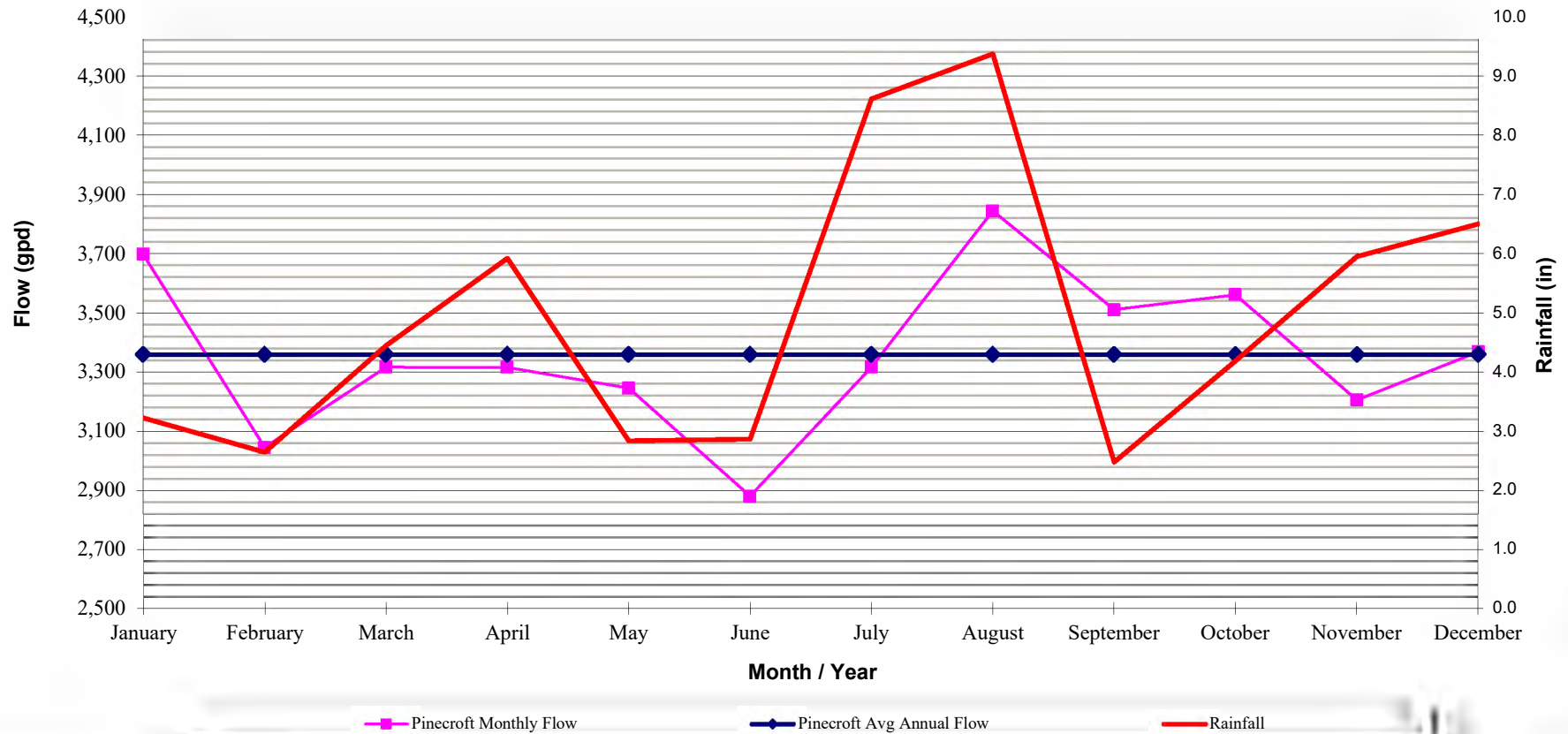
## GRAPH - #4I

### EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT MONTHLY SATELLITE PUMP STATION FLOWS NEWTOWN PUMP STATION



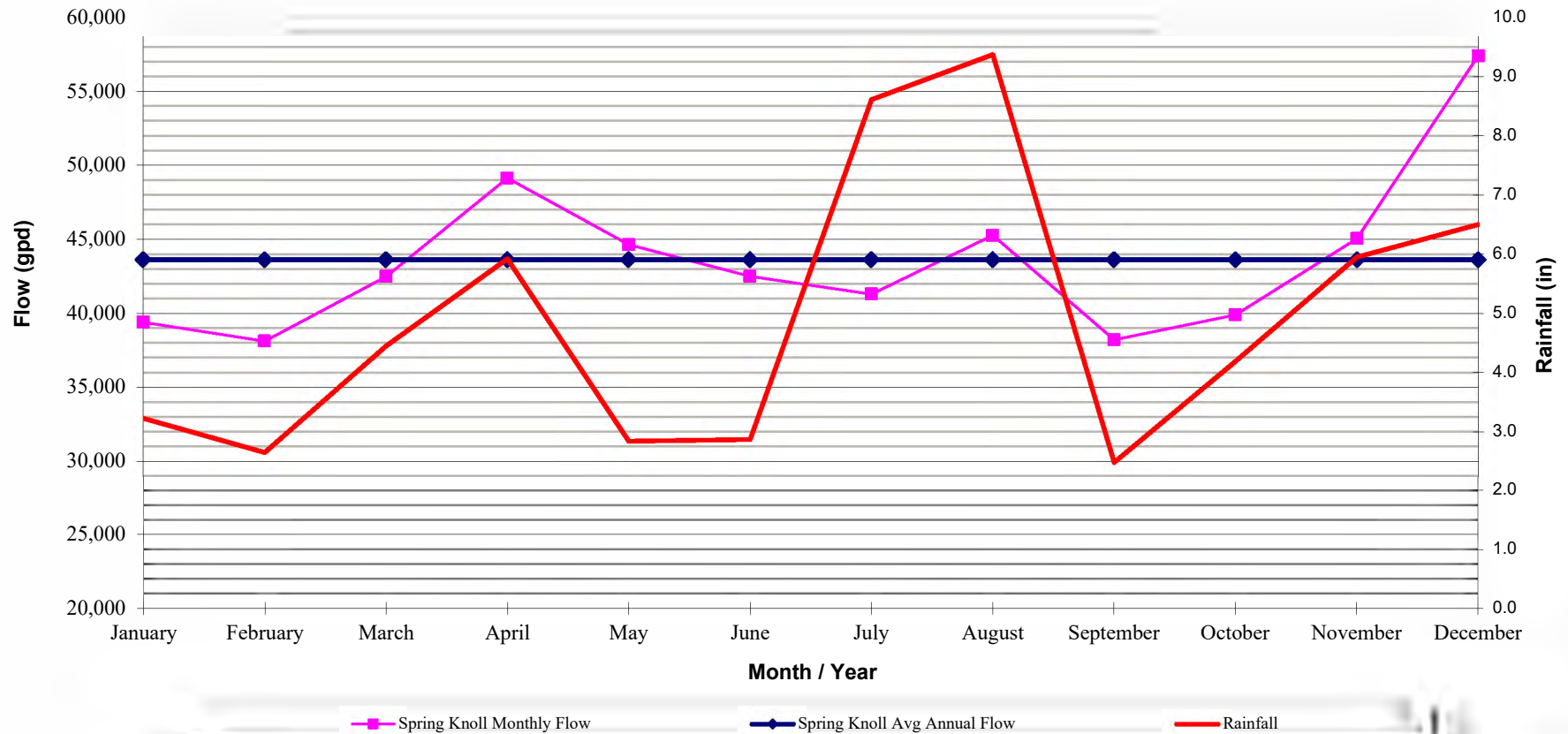
## GRAPH - #4J

### EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT MONTHLY SATELLITE PUMP STATION FLOWS PINECROFT PUMP STATION



## GRAPH - #4K

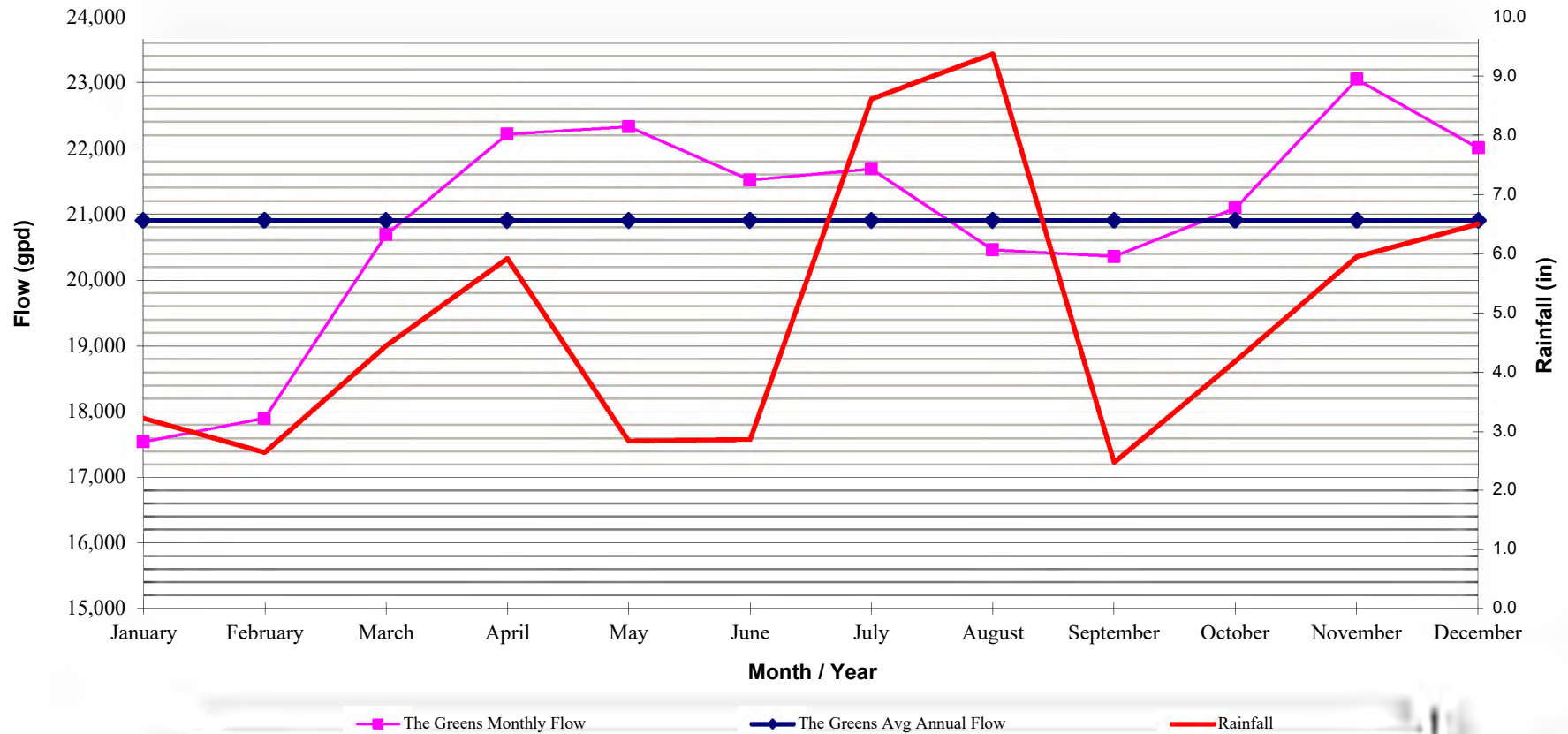
### EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT MONTHLY SATELLITE PUMP STATION FLOWS SPRING KNOLL PUMP STATION





## GRAPH - #4L

### EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT MONTHLY SATELLITE PUMP STATION FLOWS THE GREENS PUMP STATION



## **Exhibit H**

### **Easttown Municipal Authority**

#### **1-Inch Plus Rainfall Versus Flow**

#### **At Metered Pump Stations – Summary**

*Berwyn Pump Station*  
*Berwyn Estates Pump Station*  
*Daylesford Pump Station*  
*Devon Hunt Pump Station*  
*Exeter Pump Station*  
*Fox Creek Pump Station*  
*Millbrook Pump Station*  
*Newtown Pump Station*  
*Pinecroft Pump Station*  
*Saybrook Pump Station*  
*Spring Knoll Pump Station*  
*The Greens Pump Station*

#### **Table 5**

**Table 5**

**EASTTOWN MUNICIPAL AUTHORITY**  
**2020 ANNUAL CHAPTER 94 REPORT**  
**SUMMARY OF MAXIMUM DAILY FLOW (MGD) AT METERED PUMP STATIONS**  
**DURING DAYS WHEN RAINFALL > 1.0 INCH PER DAY**

| Rain Date                       | Rain (in.) | Berwyn PS    |                | Berwyn Estates PS |                | Daylesford PS |                | Devon Hunt PS |                | Exeter PS    |                | Fox Creek PS |                |
|---------------------------------|------------|--------------|----------------|-------------------|----------------|---------------|----------------|---------------|----------------|--------------|----------------|--------------|----------------|
|                                 |            | Peak (MGD)   | Peaking Factor | Peak (MGD)        | Peaking Factor | Peak (MGD)    | Peaking Factor | Peak (MGD)    | Peaking Factor | Peak (MGD)   | Peaking Factor | Peak (MGD)   | Peaking Factor |
| 01/25/20                        | 2.21       | 0.689        | 0.85           | 0.010             | 1.44           | 0.216         | 0.76           | 0.071         | 0.98           | 0.010        | 1.15           | 0.012        | 0.88           |
| 03/28/20                        | 1.31       | 1.398        | 1.73           | 0.010             | 1.39           | 0.359         | 1.27           | 0.122         | 1.70           | 0.015        | 1.74           | 0.023        | 1.69           |
| 04/13/20                        | 2.49       | 1.310        | 1.62           | 0.006             | 0.87           | 0.409         | 1.45           | 0.118         | 1.64           | 0.014        | 1.60           | 0.020        | 1.43           |
| 04/30/20                        | 1.09       | 1.492        | 1.84           | 0.008             | 1.17           | 0.468         | 1.66           | 0.146         | 2.03           | 0.017        | 1.98           | 0.024        | 1.75           |
| 07/06/20                        | 3.43       | 0.732        | 0.90           | 0.008             | 1.07           | 0.274         | 0.97           | 0.067         | 0.93           | 0.008        | 0.89           | 0.012        | 0.87           |
| 07/10/20                        | 3.21       | 0.907        | 1.12           | 0.006             | 0.88           | 0.318         | 1.13           | 0.083         | 1.15           | 0.009        | 1.09           | 0.012        | 0.83           |
| 08/04/20                        | 5.86       | 0.816        | 1.01           | 0.009             | 1.23           | 0.292         | 1.03           | 0.081         | 1.13           | 0.008        | 0.89           | 0.012        | 0.88           |
| 10/29/20                        | 2.07       | 1.801        | 2.22           | 0.009             | 1.32           | 0.513         | 1.82           | 0.156         | 2.17           | 0.024        | 2.74           | 0.022        | 1.55           |
| 11/30/20                        | 2.52       | 0.828        | 1.02           | 0.006             | 0.89           | 0.251         | 0.89           | 0.069         | 0.96           | 0.007        | 0.82           | 0.013        | 0.93           |
| 12/24/20                        | 2.65       | 0.924        | 1.14           | 0.006             | 0.86           | 0.271         | 0.96           | 0.076         | 1.06           | 0.008        | 0.97           | 0.012        | 0.84           |
| <b>Yearly Avg Flow (MGD) =</b>  |            | <b>0.810</b> |                | <b>0.007</b>      |                | <b>0.282</b>  |                | <b>0.072</b>  |                | <b>0.009</b> |                | <b>0.014</b> |                |
| <b>Meter Max (MGD) =</b>        |            | <b>5.000</b> |                | <b>0.140</b>      |                | <b>1.400</b>  |                | <b>0.560</b>  |                | <b>0.280</b> |                | <b>0.140</b> |                |
| <b>High Peaking Factor =</b>    |            |              | <b>2.22</b>    |                   | <b>1.44</b>    |               | <b>1.82</b>    |               | <b>2.17</b>    |              | <b>2.74</b>    |              | <b>1.75</b>    |
| <b>Average Peaking Factor =</b> |            |              | <b>1.34</b>    |                   | <b>1.11</b>    |               | <b>1.19</b>    |               | <b>1.38</b>    |              | <b>1.39</b>    |              | <b>1.17</b>    |

| Rain Date                       | Rain (in.) | Millbrook PS |                | Newtown PS   |                | Pinecroft PS |                | Saybrook PS  |                | Spring Knoll PS |                | The Greens PS |                |
|---------------------------------|------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|-----------------|----------------|---------------|----------------|
|                                 |            | Peak (MGD)   | Peaking Factor | Peak (MGD)   | Peaking Factor | Peak (MGD)   | Peaking Factor | Peak (MGD)   | Peaking Factor | Peak (MGD)      | Peaking Factor | Peak (MGD)    | Peaking Factor |
| 01/25/20                        | 2.21       | 0.003        | 0.94           | 0.159        | 0.94           | 0.004        | 1.05           | 0.094        | 0.87           | 0.049           | 1.13           | 0.023         | 1.09           |
| 03/28/20                        | 1.31       | 0.004        | 1.09           | 0.356        | 2.11           | 0.006        | 1.86           | 0.116        | 1.07           | 0.106           | 2.42           | 0.026         | 1.24           |
| 04/13/20                        | 2.49       | 0.004        | 1.02           | 0.291        | 1.73           | 0.004        | 1.25           | 0.122        | 1.13           | 0.076           | 1.75           | 0.018         | 0.88           |
| 04/30/20                        | 1.09       | 0.005        | 1.55           | 0.368        | 2.18           | 0.006        | 1.75           | 0.131        | 1.21           | 0.095           | 2.18           | 0.028         | 1.35           |
| 07/06/20                        | 3.43       | 0.004        | 1.15           | 0.150        | 0.89           | 0.003        | 1.02           | 0.095        | 0.88           | 0.044           | 1.00           | 0.022         | 1.04           |
| 07/10/20                        | 3.21       | 0.003        | 0.77           | 0.147        | 0.87           | 0.003        | 0.78           | 0.111        | 1.03           | 0.036           | 0.84           | 0.017         | 0.79           |
| 08/04/20                        | 5.86       | 0.004        | 1.17           | 0.151        | 0.90           | 0.003        | 0.96           | 0.114        | 1.06           | 0.045           | 1.04           | 0.023         | 1.10           |
| 10/29/20                        | 2.07       | 0.004        | 1.21           | 0.416        | 2.47           | 0.004        | 1.17           | 0.160        | 1.48           | 0.094           | 2.15           | 0.026         | 1.24           |
| 11/30/20                        | 2.52       | 0.003        | 0.86           | 0.165        | 0.98           | 0.003        | 0.93           | 0.108        | 1.01           | 0.046           | 1.05           | 0.023         | 1.10           |
| 12/24/20                        | 2.65       | 0.003        | 0.88           | 0.170        | 1.01           | 0.002        | 0.70           | 0.113        | 1.05           | 0.047           | 1.07           | 0.024         | 1.15           |
| <b>Yearly Avg Flow (MGD) =</b>  |            | <b>0.003</b> |                | <b>0.169</b> |                | <b>0.003</b> |                | <b>0.108</b> |                | <b>0.044</b>    |                | <b>0.021</b>  |                |
| <b>Meter Max (MGD) =</b>        |            | <b>0.140</b> |                | <b>2.100</b> |                | <b>0.140</b> |                | <b>1.400</b> |                | <b>0.490</b>    |                | <b>0.560</b>  |                |
| <b>High Peaking Factor =</b>    |            |              | <b>1.55</b>    |              | <b>2.47</b>    |              | <b>1.86</b>    |              | <b>1.48</b>    |                 | <b>2.42</b>    |               | <b>1.35</b>    |
| <b>Average Peaking Factor =</b> |            |              | <b>1.06</b>    |              | <b>1.41</b>    |              | <b>1.15</b>    |              | <b>1.08</b>    |                 | <b>1.46</b>    |               | <b>1.10</b>    |

**Exhibit I**

**Easttown Municipal Authority**

**1-Inch Plus Rainfall Versus Flow**

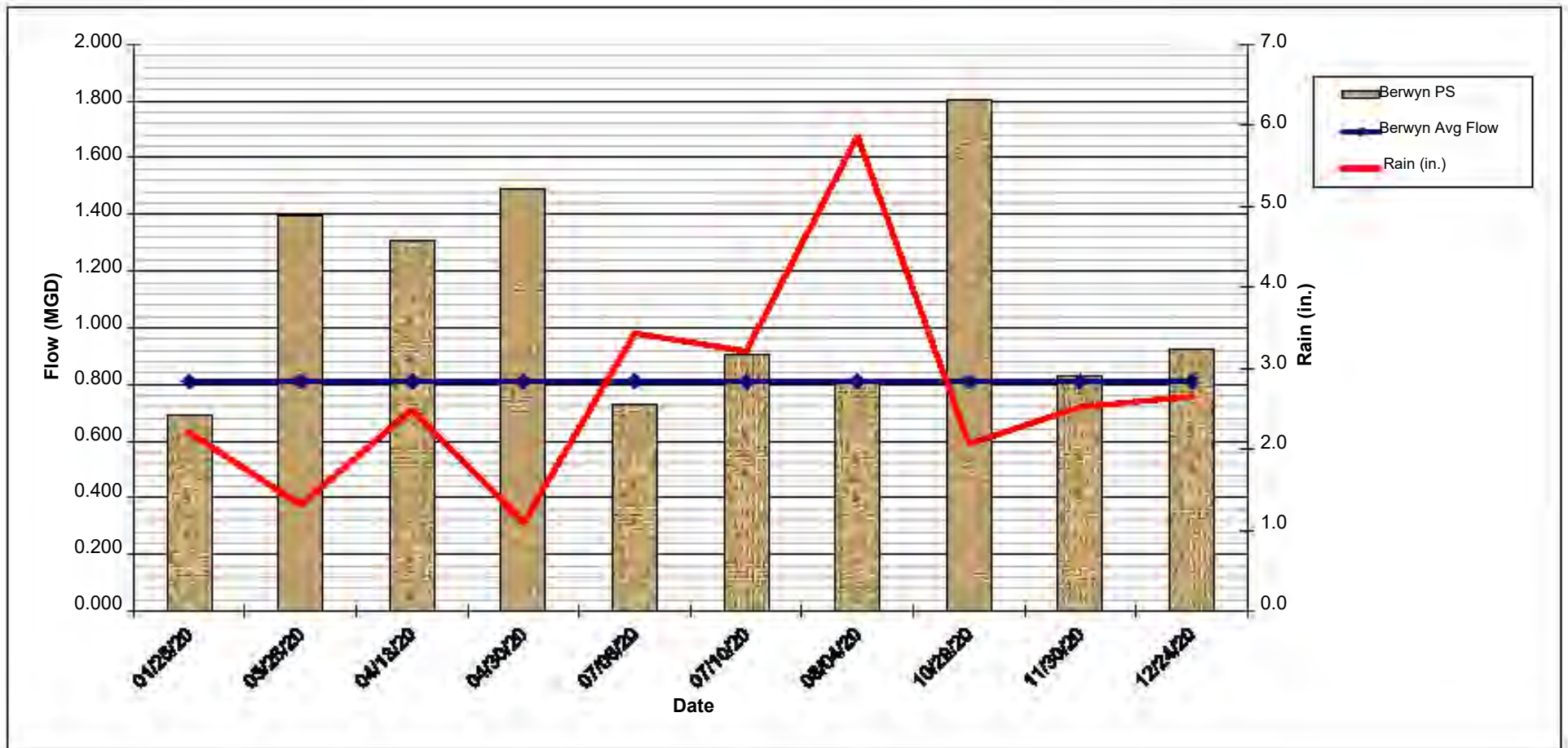
**At Large Metered Pump Stations - Graphs**

***Berwyn Pump Station  
Daylesford Pump Station  
Saybrook Pump Station***

**Graphs 5A, 5B and 5C**

## GRAPH - #5A

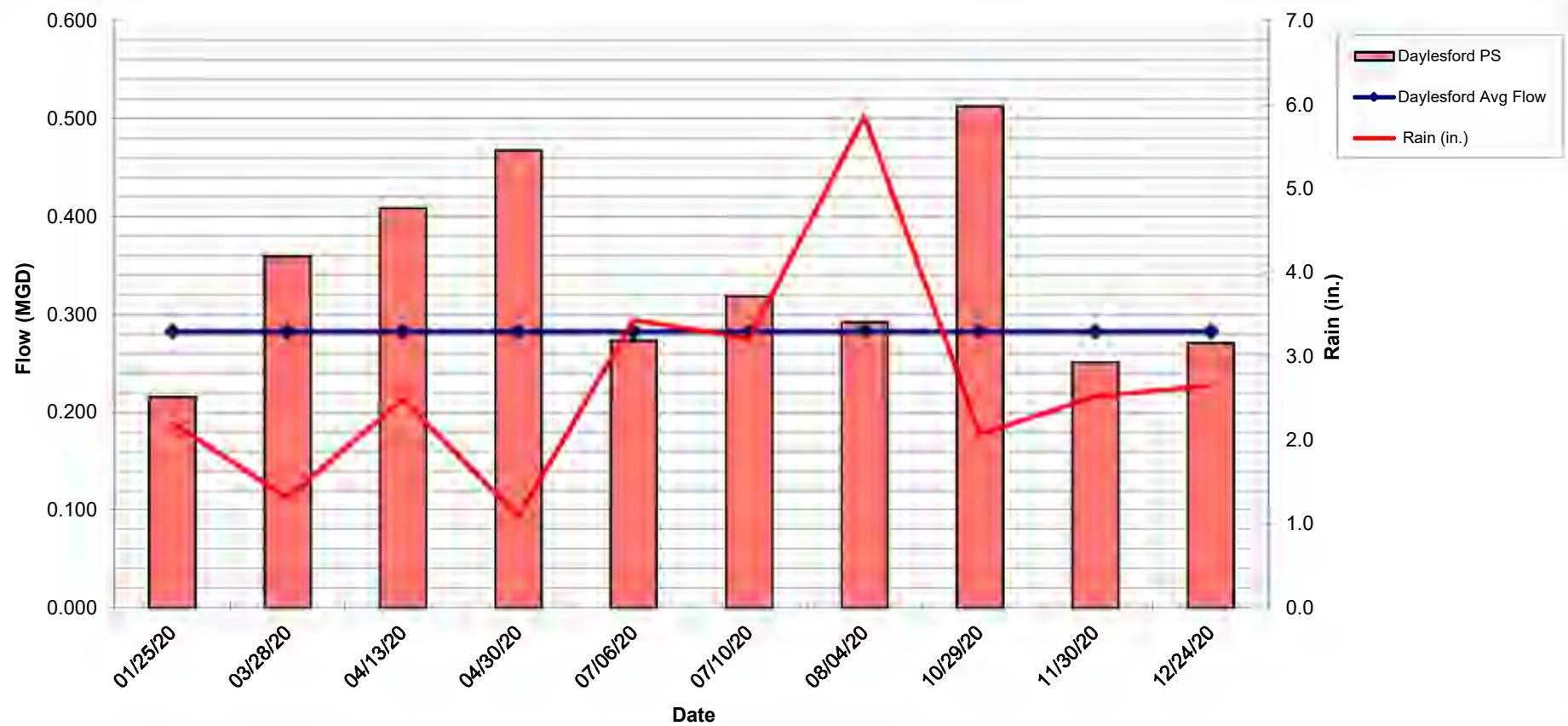
### EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT 1 INCH PLUS RAINFALL VERSUS FLOW BERWYN PUMP STATION





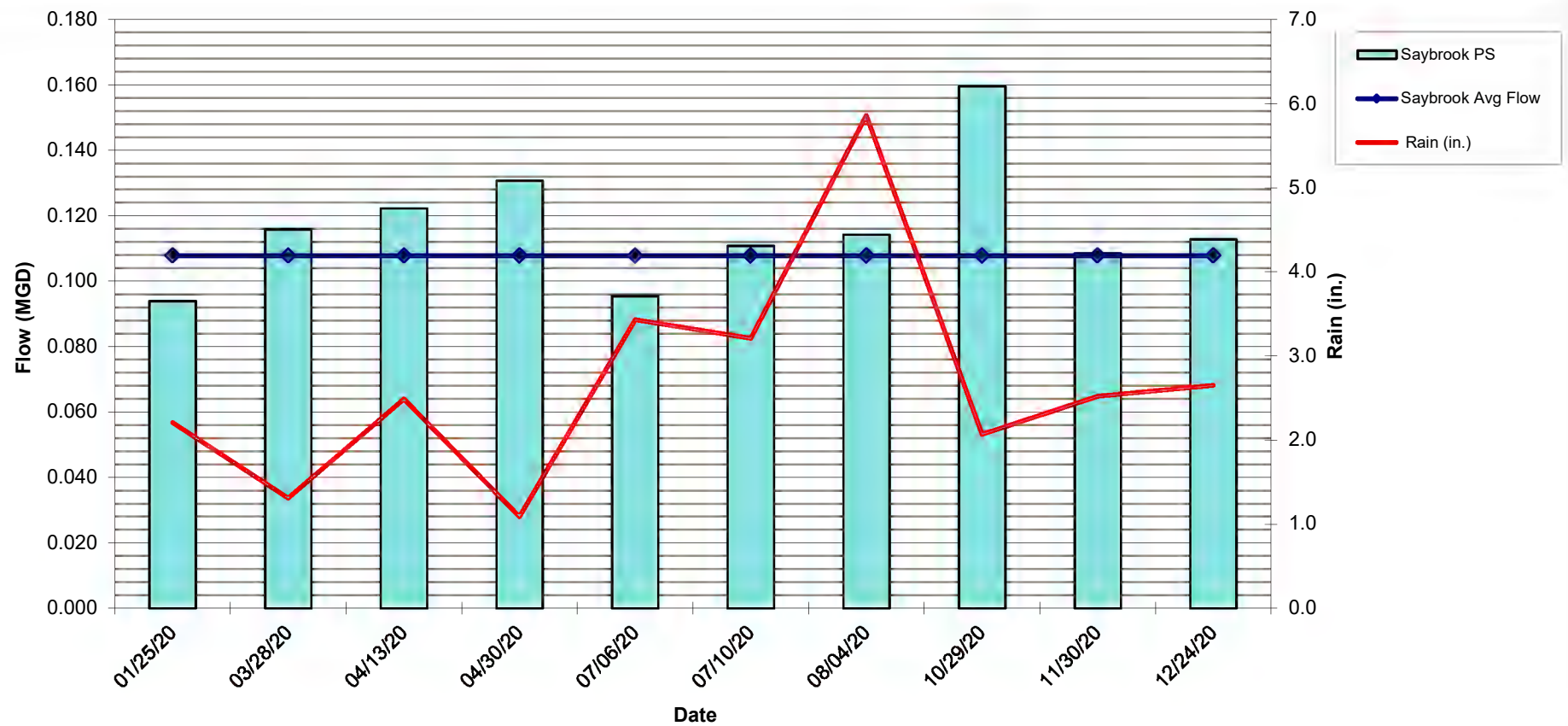
## GRAPH - #5B

### EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT 1 INCH PLUS RAINFALL VERSUS FLOW DAYLESFORD PUMP STATION



**GRAPH - #5C**

**EASTTOWN MUNICIPAL AUTHORITY  
2020 ANNUAL CHAPTER 94 REPORT  
1 INCH PLUS RAINFALL VERSUS FLOW  
SAYBROOK PUMP STATION**



**Exhibit J**

**Easttown Municipal Authority**

**1-Inch Plus Rainfall Versus Flow**

**At Small Metered Pump Stations - Graphs**

*Berwyn Estates Pump Station*

*Devon Hunt Pump Station*

*Exeter Pump Station*

*Fox Creek Pump Station*

*Millbrook Pump Station*

*Newtown Pump Station*

*Pinecroft Pump Station*

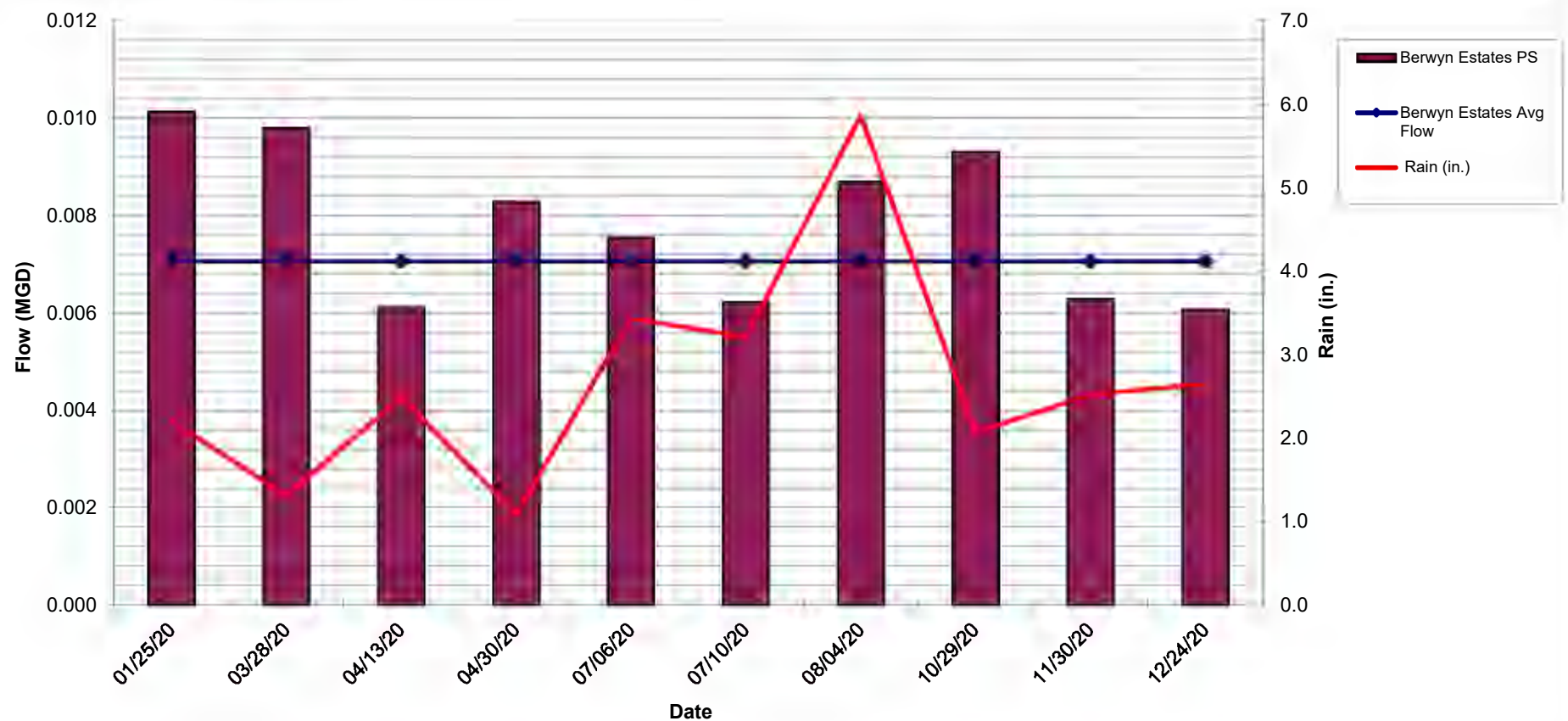
*Spring Knoll Pump Station*

*The Greens Pump Station*

**Graphs 6A to 6I**

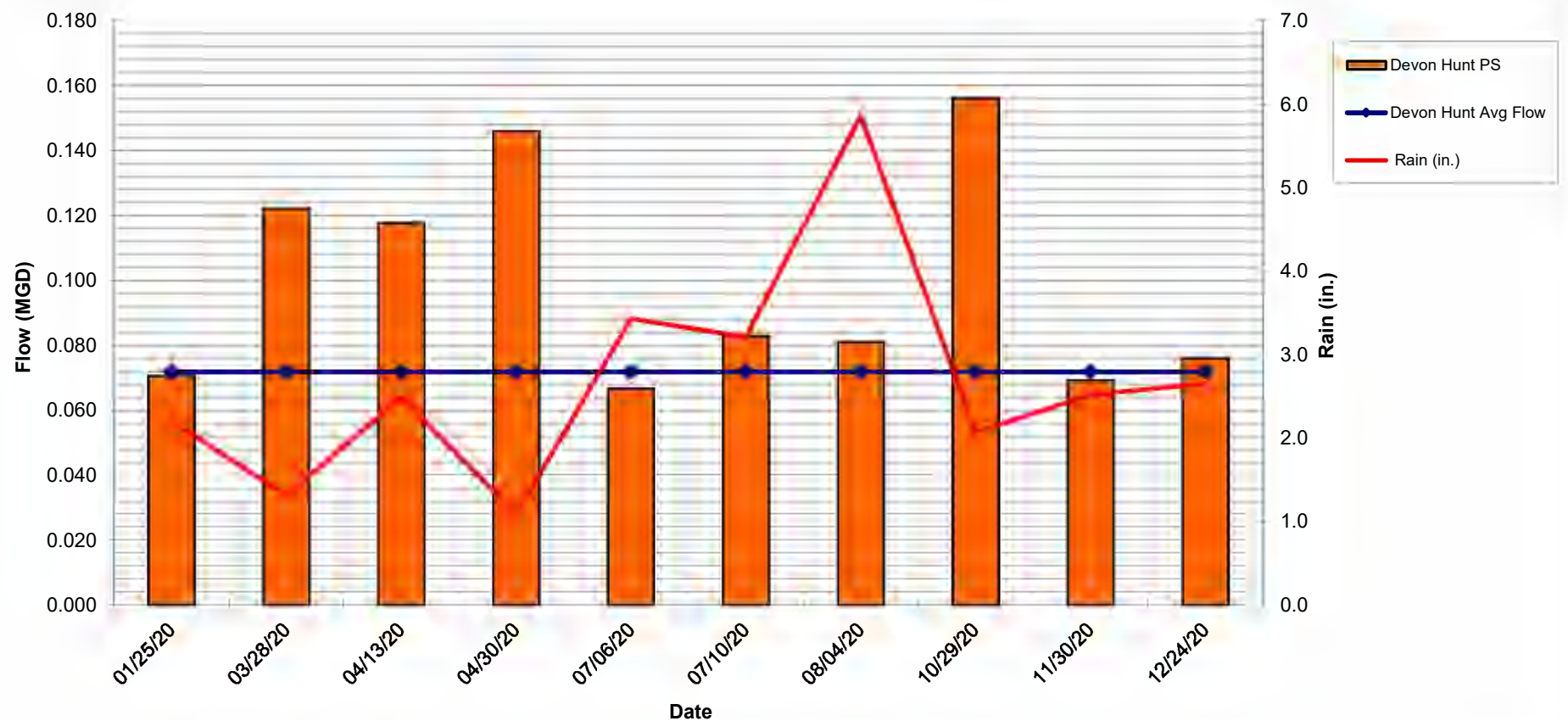
## GRAPH - #6A

### EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT 1 INCH PLUS RAINFALL VERSUS FLOW BERYWN ESTATES PUMP STATION



## GRAPH - #6B

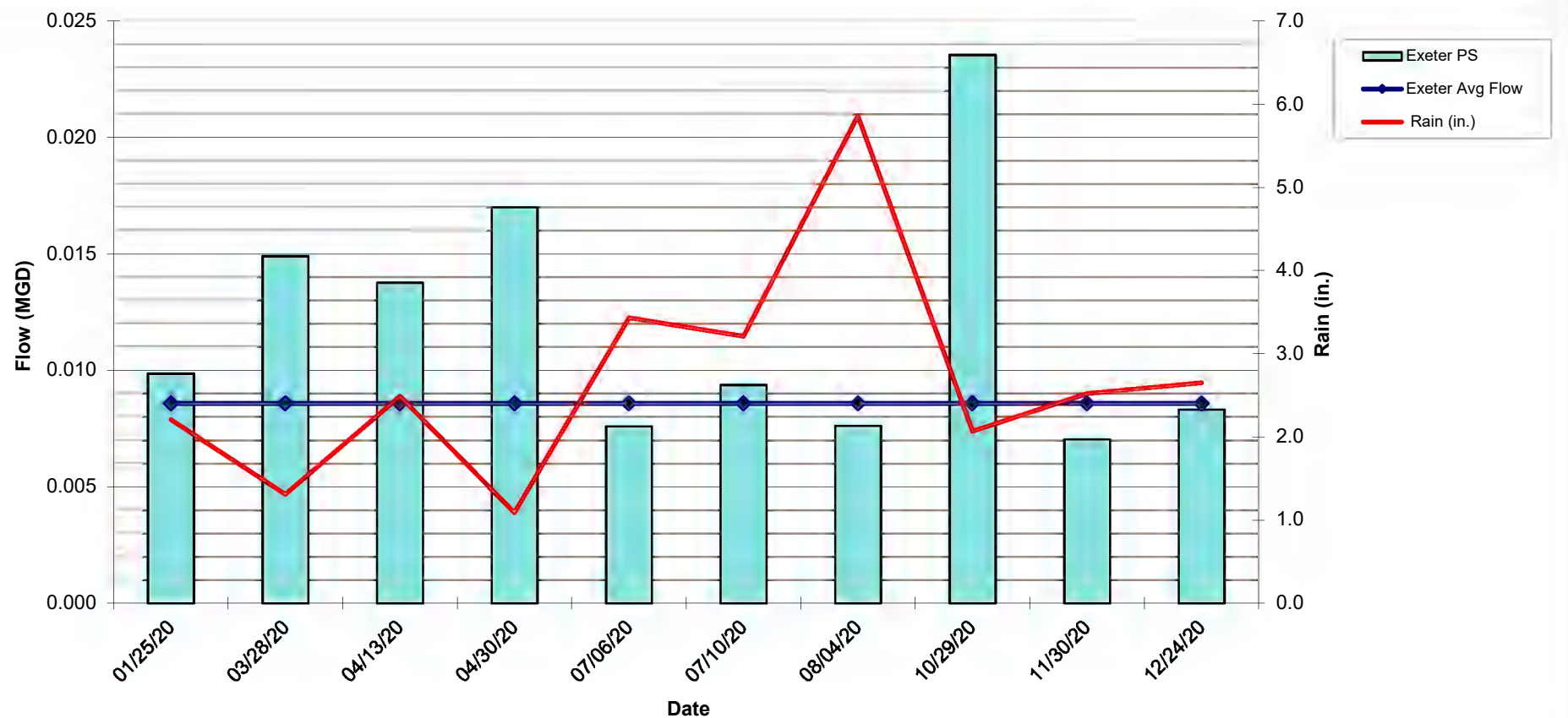
### EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT 1 INCH PLUS RAINFALL VERSUS FLOW DEVON HUNT PUMP STATION





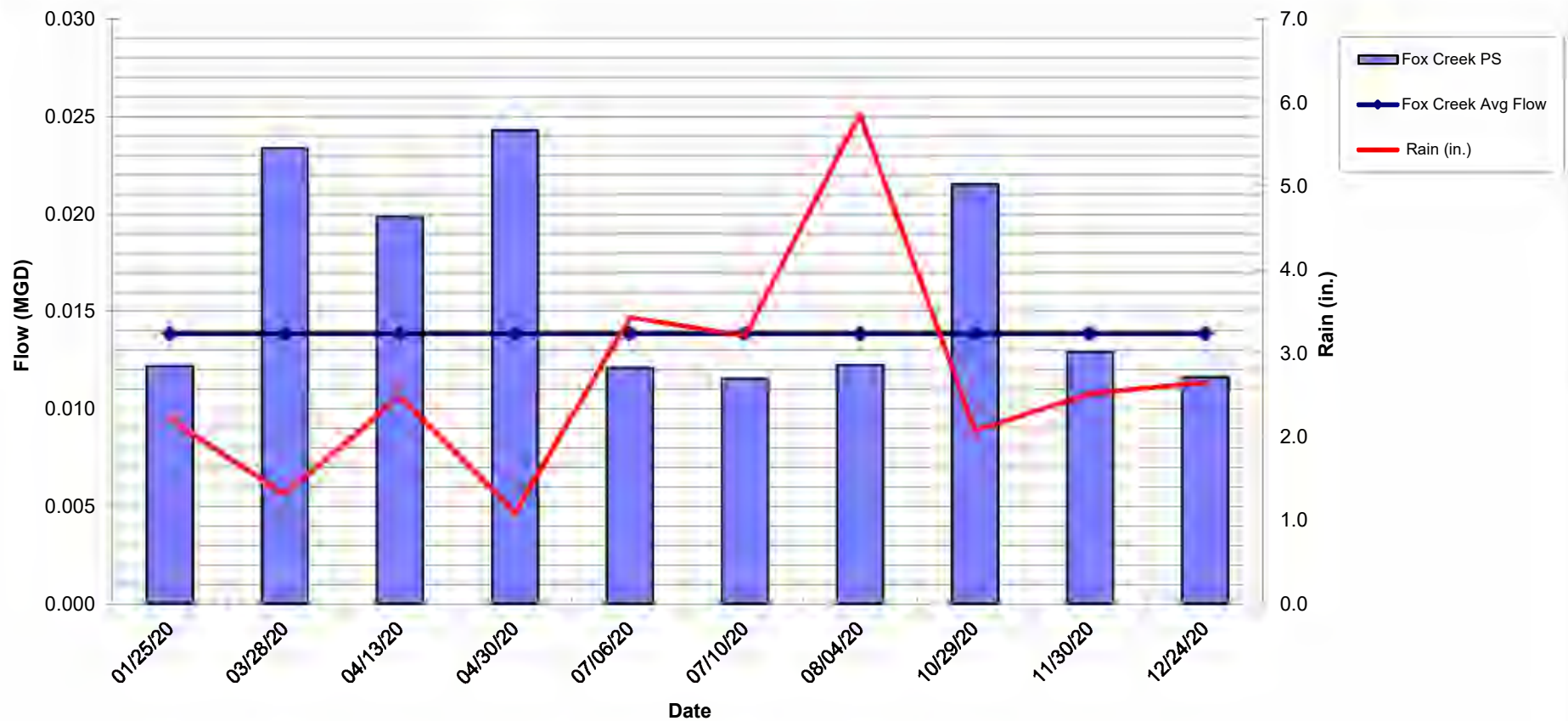
**GRAPH - #6C**

**EASTTOWN MUNICIPAL AUTHORITY  
2020 ANNUAL CHAPTER 94 REPORT  
1 INCH PLUS RAINFALL VERSUS FLOW  
EXETER PUMP STATION**



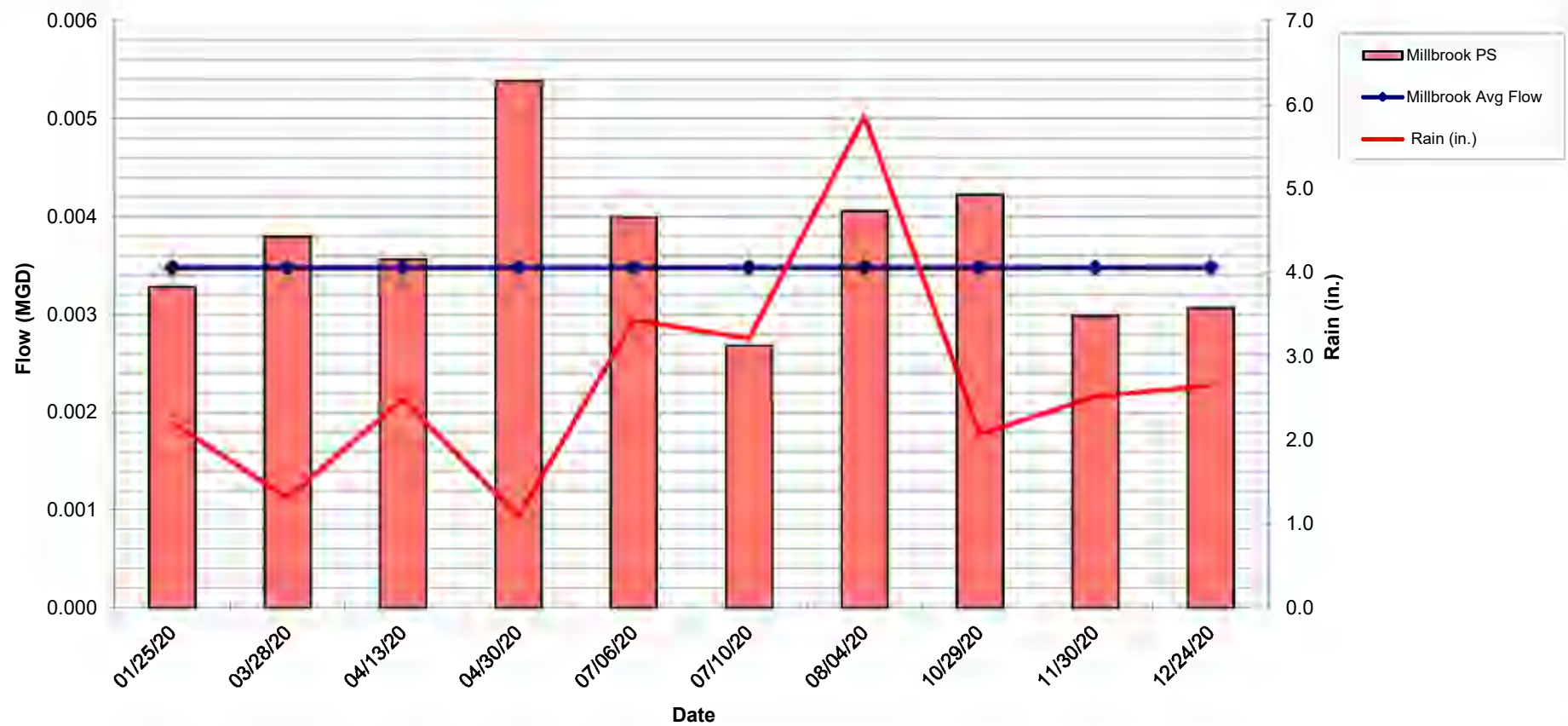
## GRAPH - #6D

### EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT 1 INCH PLUS RAINFALL VERSUS FLOW FOX CREEK PUMP STATION



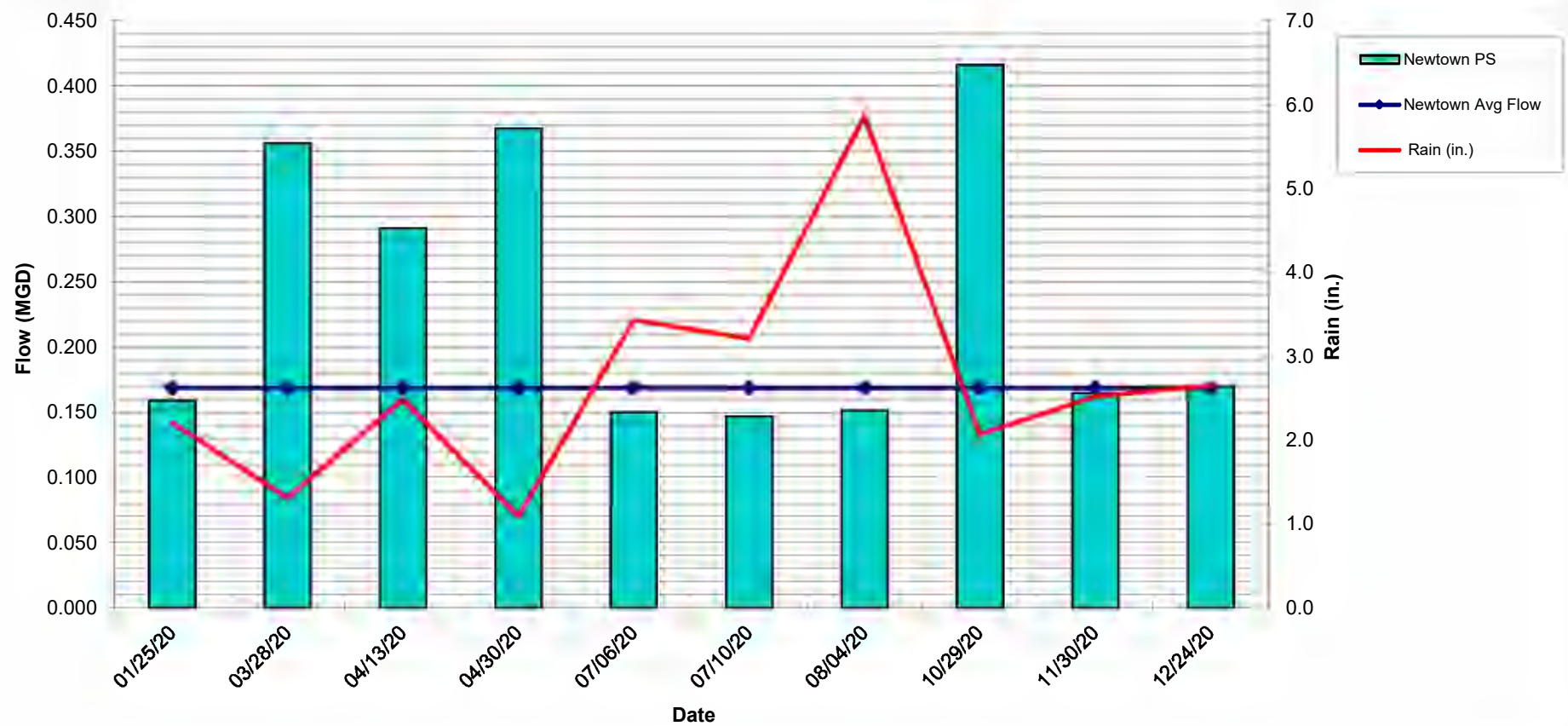
## GRAPH - #6E

### EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT 1 INCH PLUS RAINFALL VERSUS FLOW MILLBROOK PUMP STATION



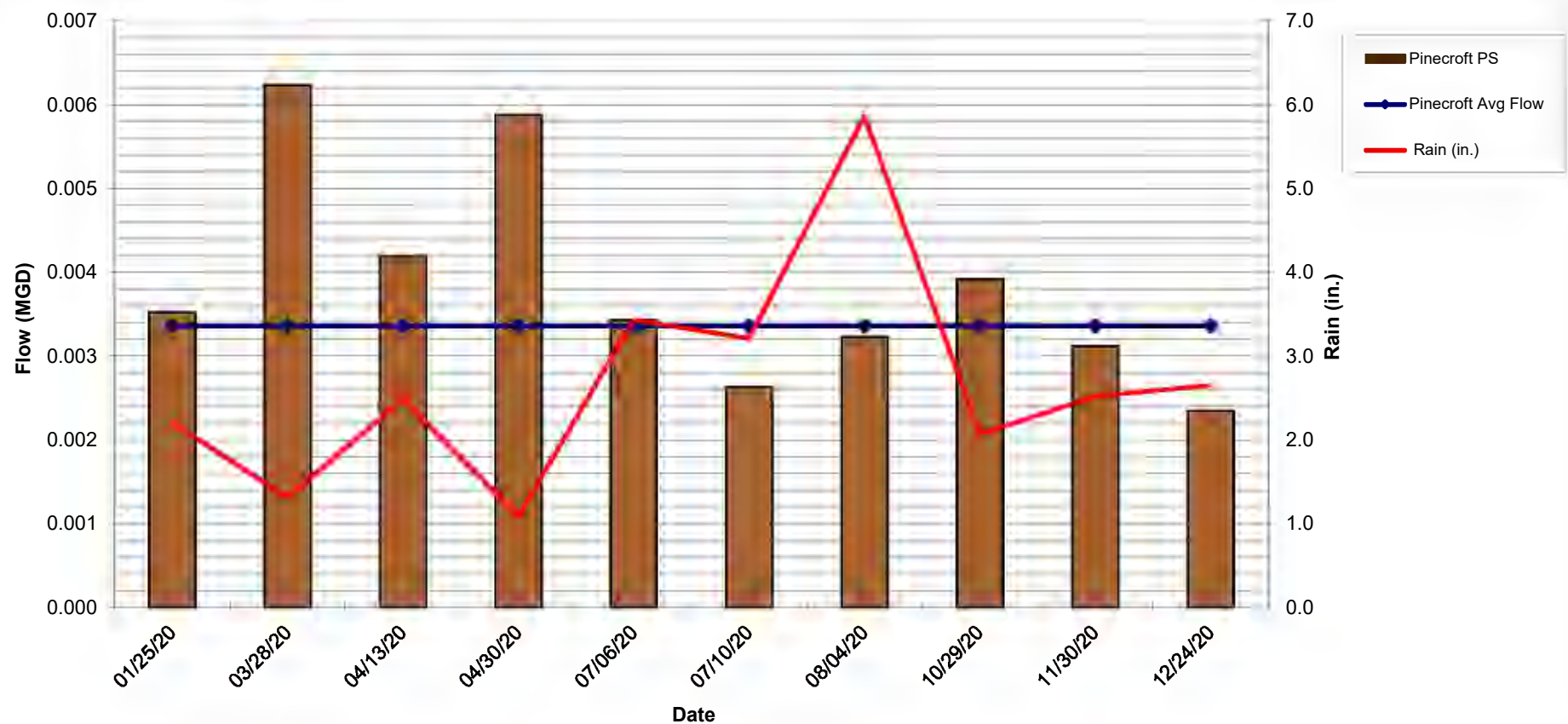
**GRAPH - #6F**

**EASTTOWN MUNICIPAL AUTHORITY  
2020 ANNUAL CHAPTER 94 REPORT  
1 INCH PLUS RAINFALL VERSUS FLOW  
NEWTOWN PUMP STATION**



## GRAPH - #6G

### EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT 1 INCH PLUS RAINFALL VERSUS FLOW PINECROFT PUMP STATION





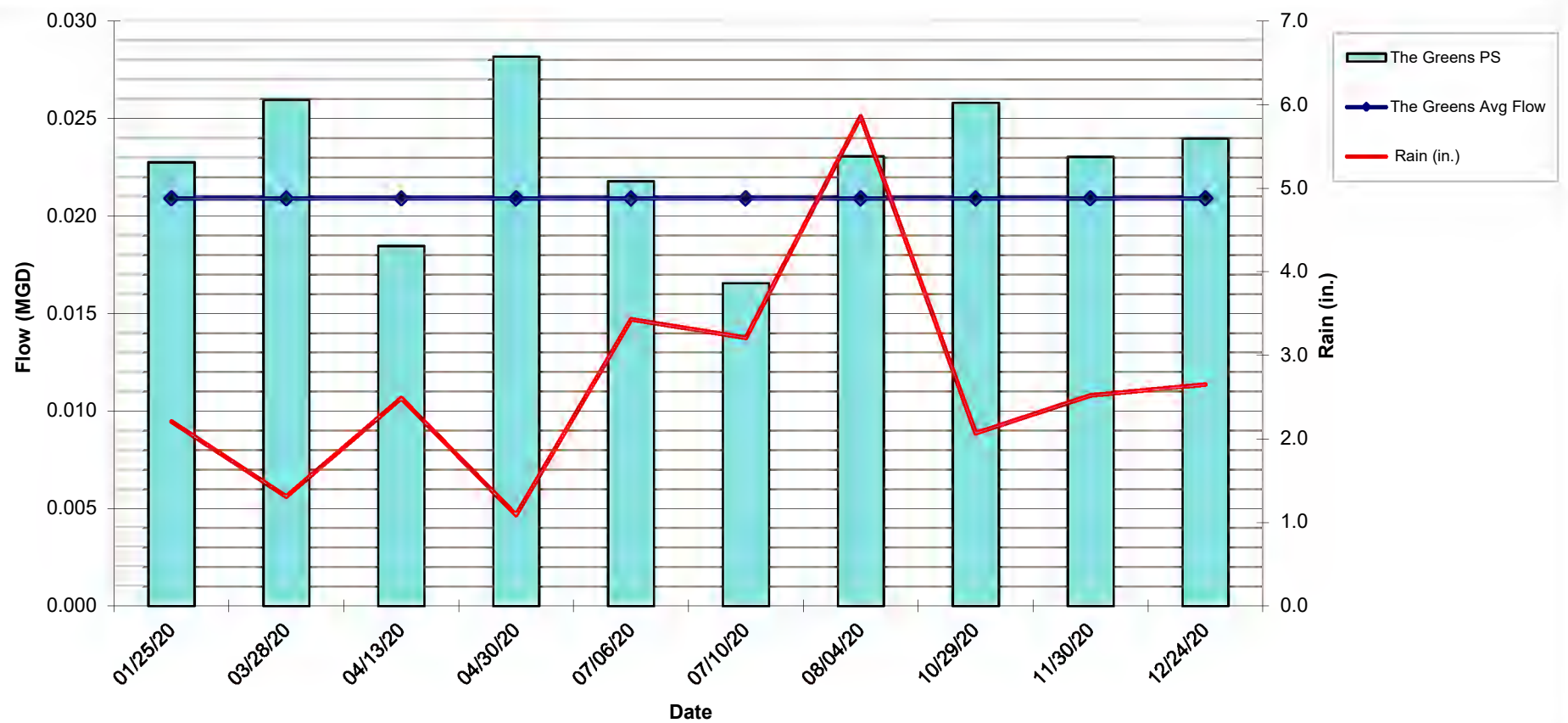
## GRAPH - #6H

### EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT 1 INCH PLUS RAINFALL VERSUS FLOW SPRING KNOLL PUMP STATION



## GRAPH - #6I

### EASTTOWN MUNICIPAL AUTHORITY 2020 ANNUAL CHAPTER 94 REPORT 1 INCH PLUS RAINFALL VERSUS FLOW THE GREENS PUMP STATION



**Exhibit K**

**Easttown Municipal Authority**

**Pump Station Flow Meter**

**Calibration Reports**

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---

# EASTTOWN Twp.

## CALIBRATION SCHEDULE:

Section B: Equipment calibrated quarterly (EASTTOWN Township)

Date: First Quarter 2020 Calibration Data

---

### "Section B"

---

Easttown Township (610-687-3000) Garage: 610-495-5841 (Eddie cell) 610-656-2534

Daylesford Pump Station

Magnetic Flow meter

Instrument Data:

Manufacturer: Endress Hauser

Model #: Pro Mag 50

Serial #: L406F616000

Cal: 1.0969-9

Max Flow: 1200GPM

|                      |               |
|----------------------|---------------|
| Date of Calibration: | 04-08-20      |
| % of Error:          | less than .2% |
| Comments:            | none          |

|                    |      |
|--------------------|------|
| Corrective Action: | none |
|--------------------|------|

---

Easttown Township  
Daylesford Pump Station

Recorder

Instrument Data:

Manufacture: Endress Hauser

Model #: RSG40

Serial #: L503EB04267

Chart: 0-1200GPM

Tot x 1

|                      |               |
|----------------------|---------------|
| Date of Calibration: | 04-08-20      |
| % of Error:          | less than .2% |
| Comments:            | none          |

|                    |      |
|--------------------|------|
| Corrective Action: | none |
|--------------------|------|

---

Easttown Township  
Berwyn Pump Station  
Magnetic Flow meter  
Instrument Data:

Manufacturer: Endress Hauser  
Model #: Pro Mag 50  
Serial #: HC045B16000  
Cal: 2.627 9+2  
Max Flow: 2500GPM  
Tot x 1

Date of Calibration: 04-08-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Easttown Township  
Berwyn Pump Station  
Recorder  
Instrument Data:

Manufacture: Endress Hauser  
Model #: 6400  
Serial #: 76B4109J4  
Chart: 0-2500GPM

Date of Calibration: 04-08-20  
Error: Less than .2%  
Comments: none

Corrective Action: none

---

Easttown Township  
Saybrook Road Pump Station  
Magnetic Flow meter  
Instrument Data:

Manufacturer: Rosemount  
Model #: 8712C  
Max Flow: 1000 GPM  
Serial #0860156434  
Output: 4-20 MADC

Date of Calibration: 04-08-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---



---

Easttown Township  
Saybrook Road Pump Station  
Recorder / Totalizer  
Instrument Data:

Manufacturer: Honeywell  
Model #: DR 4300  
Serial #: 0336Y360322600001  
Counter: Electronic Totalize X 100  
Chart: 0-100  
Max Flow: 0-1000 GPM

|                      |               |
|----------------------|---------------|
| Date of Calibration: | 04-08-20      |
| % of Error:          | Less than .2% |
| Comments:            | none          |
| Corrective Action    | none          |

---

---

# EASTTOWN Twp.

## CALIBRATION SCHEDULE:

Section B: Equipment calibrated quarterly (EASTTOWN Township)

Date: Second Quarter 2020 Calibration Data

---

### "Section B"

---

Easttown Township (610-687-3000) Garage: 610-495-5841 (Eddie cell) 610-656-2534

Daylesford Pump Station

Magnetic Flow meter

Instrument Data:

Manufacturer: Endress Hauser

Model #: Pro Mag 50

Serial #: L406F616000

Cal: 1.0969-9

Max Flow: 1200GPM

|                      |               |
|----------------------|---------------|
| Date of Calibration: | 06-19-20      |
| % of Error:          | less than .2% |
| Comments:            | none          |

|                    |      |
|--------------------|------|
| Corrective Action: | none |
|--------------------|------|

---

Easttown Township  
Daylesford Pump Station

Recorder

Instrument Data:

Manufacture: Endress Hauser

Model #: RSG40

Serial #: L503EB04267

Chart: 0-1200GPM

Tot x 1

|                      |               |
|----------------------|---------------|
| Date of Calibration: | 06-19-20      |
| % of Error:          | less than .2% |
| Comments:            | none          |

|                    |      |
|--------------------|------|
| Corrective Action: | none |
|--------------------|------|

---

Easttown Township  
Berwyn Pump Station  
Magnetic Flow meter  
Instrument Data:

Manufacturer: Endress Hauser  
Model #: Pro Mag 50  
Serial #: HC045B16000  
Cal: 2.627 9+205-26-19  
Max Flow: 2500GPM  
Tot x 1

Date of Calibration: 06-19-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Easttown Township  
Berwyn Pump Station  
Recorder  
Instrument Data:

Manufacture: Endress Hauser  
Model #: 6400  
Serial #: 76B4109J4  
Chart: 0-2500GPM

Date of Calibration: 06-19-20  
Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Easttown Township  
Saybrook Road Pump Station  
Magnetic Flow meter  
Instrument Data:

Manufacturer: Rosemount  
Model #: 8712C  
Max Flow: 1000 GPM  
Serial #0860156434  
Output: 4-20 MADC

Date of Calibration: 06-19-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Easttown Township  
Saybrook Road Pump Station  
Recorder / Totalizer  
Instrument Data:

Manufacturer: Honeywell  
Model #: DR 4300  
Serial #: 0336Y360322600001  
Counter: Electronic Totalize X 100  
Chart: 0-100  
Max Flow: 0-1000 GPM

|                      |               |
|----------------------|---------------|
| Date of Calibration: | 06-19-20      |
| % of Error:          | Less than .2% |
| Comments:            | none          |
| Corrective Action    | none          |

# EASTTOWN Twp.

## CALIBRATION SCHEDULE:

Section B: Equipment calibrated quarterly (EASTTOWN Township)

Date: Third Quarter 2020 Calibration Data

---

### "Section B"

---

Easttown Township (610-687-3000) Garage: 610-495-5841 (Eddie cell) 610-656-2534

Daylesford Pump Station

Magnetic Flow meter

Instrument Data:

Manufacturer: Endress Hauser

Model #: Pro Mag 50

Serial #: L406F616000

Cal: 1.0969-9

Max Flow: 1200GPM

Date of Calibration: 08-05-20  
% of Error: less than .2%  
Comments: none

Corrective Action: none

---

Easttown Township  
Daylesford Pump Station

Recorder

Instrument Data:

Manufacture: Endress Hauser

Model #: RSG40

Serial #: L503EB04267

Chart: 0-1200GPM

Tot x 1

Date of Calibration: 08-05-20  
% of Error: less than .2%  
Comments: none

Corrective Action: none



---

Easttown Township  
Berwyn Pump Station  
Magnetic Flow meter  
Instrument Data:

Manufacturer: Endress Hauser  
Model #: Pro Mag 50  
Serial #: HC045B16000  
Cal: 2.627 9+205-26-19  
Max Flow: 2500GPM  
Tot x 1

Date of Calibration: 08-05-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Easttown Township  
Berwyn Pump Station  
Recorder  
Instrument Data:

Manufacture: Endress Hauser  
Model #: 6400  
Serial #: 76B4109J4  
Chart: 0-2500GPM

Date of Calibration: 08-05-20  
Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Easttown Township  
Saybrook Road Pump Station  
Magnetic Flow meter  
Instrument Data:

Manufacturer: Rosemount  
Model #: 8712C  
Max Flow: 1000 GPM  
Serial #0860156434  
Output: 4-20 MADC

Date of Calibration: 08-05-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Easttown Township  
Saybrook Road Pump Station  
Recorder / Totalizer  
Instrument Data:

Manufacturer: Honeywell  
Model #: DR 4300  
Serial #: 0336Y360322600001  
Counter: Electronic Totalize X 100  
Chart: 0-100  
Max Flow: 0-1000 GPM

|                      |               |
|----------------------|---------------|
| Date of Calibration: | 08-05-20      |
| % of Error:          | Less than .2% |
| Comments:            | none          |
| Corrective Action    | none          |

---

---

# EASTTOWN Twp.

## CALIBRATION SCHEDULE:

Section B: Equipment calibrated quarterly (EASTTOWN Township)

Date: Fourth Quarter 2020 Calibration Data

---

### "Section B"

---

Easttown Township (610-687-3000) Garage: 610-495-5841 (Eddie cell) 610-656-2534

Daylesford Pump Station

Magnetic Flow meter

Instrument Data:

Manufacturer: Endress Hauser

Model #: Pro Mag 50

Serial #: L406F616000

Cal: 1.0969-9

Max Flow: 1200GPM

Date of Calibration: 01-05-21  
% of Error: less than .2%  
Comments: none

Corrective Action: none

---

Easttown Township  
Daylesford Pump Station

Recorder

Instrument Data:

Manufacture: Endress Hauser

Model #: RSG40

Serial #: L503EB04267

Chart: 0-1200GPM

Tot x 1

Date of Calibration: 01-05-21  
% of Error: less than .2%  
Comments: none

Corrective Action: none

---

Easttown Township  
Berwyn Pump Station  
Magnetic Flow meter  
Instrument Data:

Manufacturer: Endress Hauser  
Model #: Pro Mag 50  
Serial #: HC045B16000  
Cal: 2.627 9+205-26-19  
Max Flow: 2500GPM  
Tot x 1

Date of Calibration: 01-05-21  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Easttown Township  
Berwyn Pump Station  
Recorder  
Instrument Data:

Manufacture: Endress Hauser  
Model #: 6400  
Serial #: 76B4109J4  
Chart: 0-2500GPM

Date of Calibration: 01-05-21  
Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Easttown Township  
Saybrook Road Pump Station  
Magnetic Flow meter  
Instrument Data:

Manufacturer: Rosemount  
Model #: 8712C  
Max Flow: 1000 GPM  
Serial #0860156434  
Output: 4-20 MADC

Date of Calibration: 01-05-21  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Easttown Township  
Saybrook Road Pump Station  
Recorder / Totalizer  
Instrument Data:

Manufacturer: Honeywell  
Model #: DR 4300  
Serial #: 0336Y360322600001  
Counter: Electronic Totalize X 100  
Chart: 0-100  
Max Flow: 0-1000 GPM

|                      |               |
|----------------------|---------------|
| Date of Calibration: | 01-05-21      |
| % of Error:          | Less than .2% |
| Comments:            | none          |
| Corrective Action    | none          |



1900 Market Street  
Suite 300  
Philadelphia, PA 19103  
T: 215-222-3000  
F: 215-222-3588

[www.pennoni.com](http://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**

A handwritten signature in cursive script that reads "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





## 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>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. <u>(25 Pa. Code § 94.12(a)(1))</u></p> <p><b>Check the appropriate boxes:</b></p> <p><input type="checkbox"/> Line graph for flows attached (<b>Attachment</b> )</p> <p><input type="checkbox"/> DEP Chapter 94 Spreadsheet used (<b>Attachment</b> )</p> <p><input checked="" type="checkbox"/> Section 1 is not applicable (report is for a collection system).</p>                                                     |
| <p>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. <u>(25 Pa. Code § 94.12(a)(2))</u></p> <p><b>Check the appropriate boxes:</b></p> <p><input type="checkbox"/> Line graph for organic loads attached (<b>Attachment</b> )</p> <p><input type="checkbox"/> DEP Chapter 94 Spreadsheet used (<b>Attachment</b> )</p> <p><input checked="" type="checkbox"/> Section 2 is not applicable (report is for a collection system).</p> |

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** )

**3800-FM-BPNPSM0507 4/2014**  
**Chapter 94 Report**

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



## 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](http://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](http://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                     |

<sup>(1)</sup> Calculated Flow Rate Per EDU 168.27 (gal/EDU)

<sup>(2)</sup> Calculated 5-year Hydraulic 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
- 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

0 600 1,200 Feet

1 inch = 600 feet

REVISION DATE: 3/3/2020

MAP NOTES:

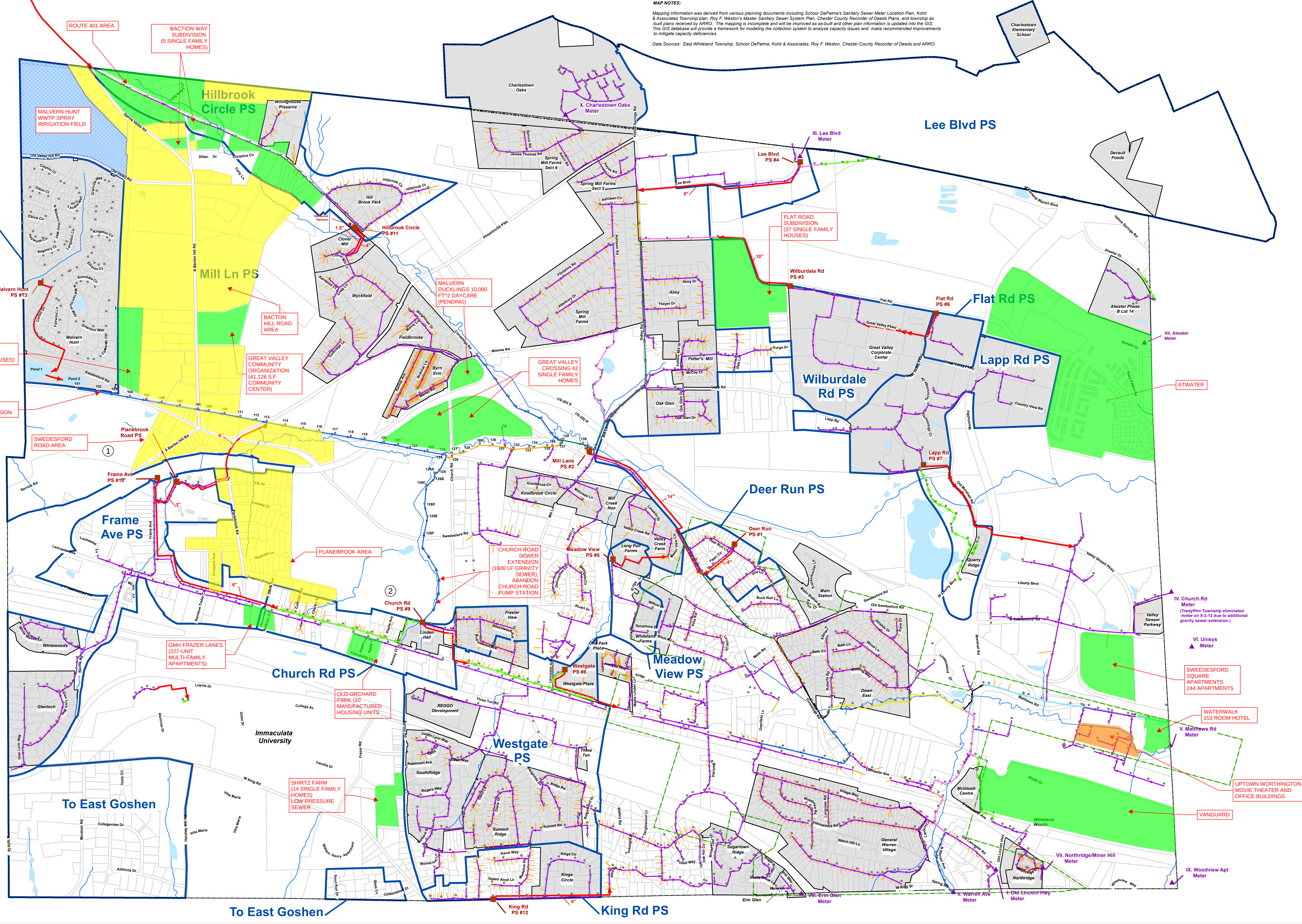
Mapping information was derived from various planning documents including School DePalma's Sanitary Sewer Meter Location Plan, Kohli & Associates Township plan, Roy F. Weston's Master Sanitary Sewer System Plan, Chester County Recorder of Deeds Plans, and township as-built plans received by ARRO. The 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, School DePalma, Kohli & Associates, Roy F. Weston, Chester County Recorder of Deeds and ARRO.

- NOTES:
1. PLANE BROOK ROAD PUMP STATION WAS PLACED IN SERVICE IN NOVEMBER OF 2018 AND THE FRAME AVENUE PUMP STATION WAS DECOMMISSIONED
  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





## ATTACHMENT C

# ATTACHMENT C

## EDU Tracking Summary: 5 Year Proposed EDU Connections

| DEVELOPMENT/EXTENSION                                                               | TOTAL<br>COMMITMENT | NUMBER<br>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     | -        | -     | -     | -     | -    |
| Veterinary 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) existing flow)                  | 64                  | 64.0            | 0.0     | -        | -     | -     | -     | -    |
|                                                                                     | 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<br>COMMITMENT | NUMBER<br>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          | -            | -            | -            | -           |
| <b>COMMITTED EDU TOTALS</b>                   | <b>4,543.7</b>      | <b>2,184.3</b>  | <b>2,370.4</b> | <b>550.4</b> | <b>740.5</b> | <b>681.0</b> | <b>427.5</b> | <b>43.0</b> |

|                                      |         |
|--------------------------------------|---------|
| 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 Lane 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 <sup>(3)</sup> | 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) <sup>(6)(7)</sup> | HYDRAULIC RATIO | PEAKING FACTOR | 2-YEAR ANNUAL AVERAGE FLOW (gpd) | 2-YEAR MAX DAILY FLOW (gpd) <sup>(8)</sup> |
|-----------------------------------|------------------|--------------------------|-----------------------------|-----------------------------------------|---------------------------------------------------------------------|------------------------|---------------|-----------------------|---------------|-----------------------|---------------|-----------------------|-------------------|---------------------------|----------------------------------------|-----------------|----------------|----------------------------------|--------------------------------------------|
|                                   |                  |                          |                             |                                         |                                                                     |                        | AVG. RUN TIME | YEARLY RUN TIME (MIN) | AVG. RUN TIME | YEARLY RUN TIME (MIN) | AVG. RUN TIME | YEARLY RUN TIME (MIN) |                   |                           |                                        |                 |                |                                  |                                            |
| Deer Run <sup>(5)</sup>           | 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 <sup>(4)</sup>          | 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 <sup>(4)</sup>         | 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 <sup>(5)</sup>      | 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 <sup>(5)</sup>         | 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 <sup>(5)</sup>          | 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 <sup>(5)</sup>          | 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 <sup>(5)</sup>           | 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 <sup>(5)(9)</sup>     | 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 <sup>(1)</sup>       | P.S. 10          |                          | 2                           |                                         |                                                                     |                        |               |                       |               |                       |               |                       |                   |                           |                                        |                 |                |                                  |                                            |
| Hillbrook Circle <sup>(5)</sup>   | 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 <sup>(5)</sup>          | 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 <sup>(2)</sup>       | P.S. 13          |                          | 2                           |                                         |                                                                     |                        |               |                       |               |                       |               |                       |                   |                           |                                        |                 |                |                                  |                                            |
| Planebrook Road <sup>(4)(5)</sup> | 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                                    |

<sup>(1)</sup> Pump Station Abandoned November 30, 2018; All flows were diverted to Planebrook Road Pump Station

<sup>(2)</sup> Pump Station included under MVH Chapter 94 Report

<sup>(3)</sup> Two pumps alternate lead-lag at each pump station, except Mill Lane Pump Station, which was upgraded to a three-pump system

<sup>(4)</sup> Annual Average Flow based on meter data

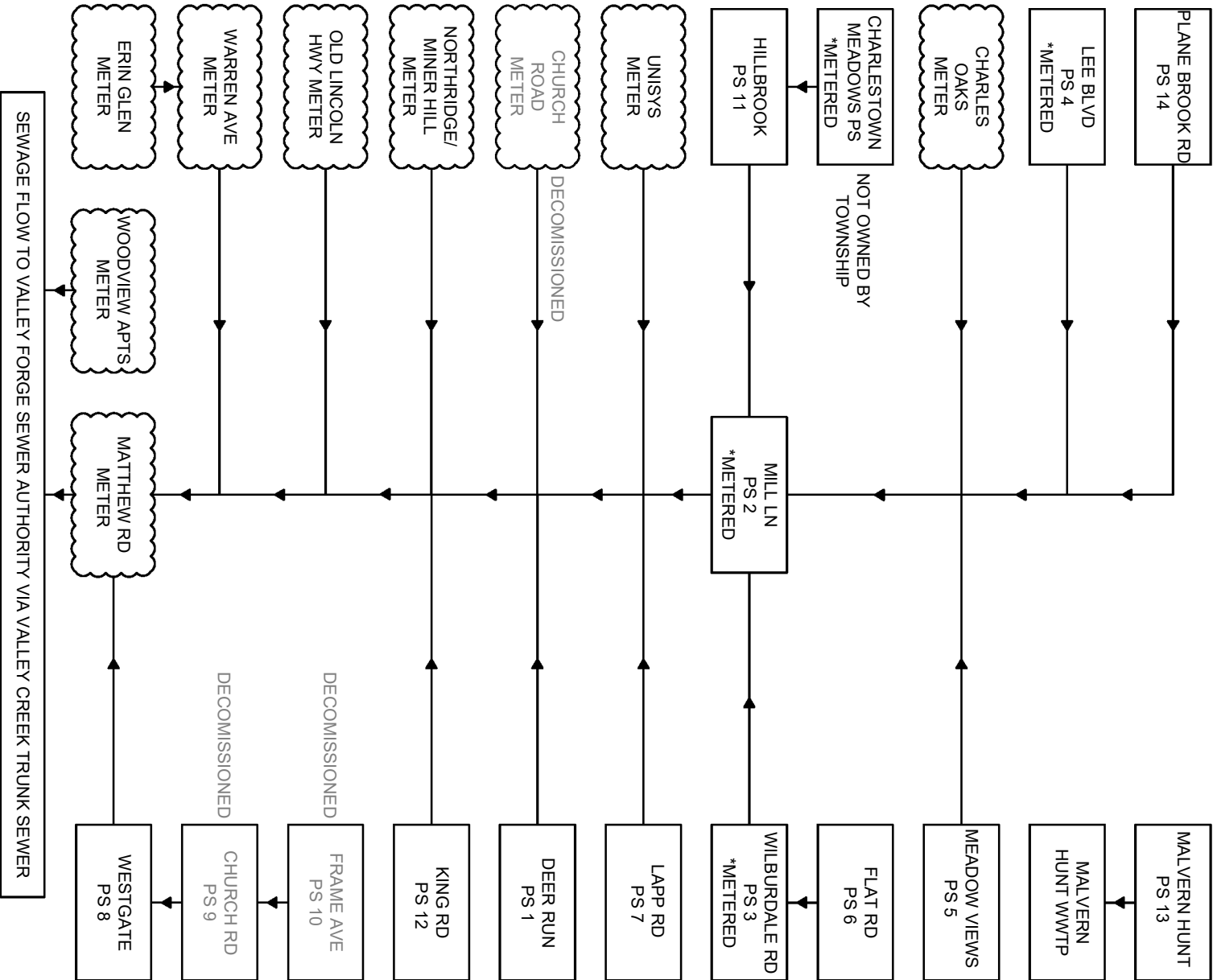
<sup>(5)</sup> Annual Average Flow based on pump run times

<sup>(6)</sup> Maximum flow at each pump station with one pump out of service that can handle peak instantaneous flow.

<sup>(7)</sup> Mill Lane Pump Station upgraded in October 2013 to three-pump system. Maximum flow with two pumps that can handle peak instantaneous flow.

<sup>(8)</sup> 2-year Annual Average Flow x Peaking Factor (Present Maximum Daily Flow to Annual Average Flow ratio)

<sup>(9)</sup> Existing Pump Station was taken out of service on March 13, 2020. Data reflects flows from January 1, 2020 through March 13, 2020.



**PENNONI ASSOCIATES INC.**  
1900 Market Street, Suite 300  
Philadelphia, PA 19103  
T 215.222.3000 F 215.222.3588

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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         |



## 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.



**EDWARD B. WALSH & ASSOCIATES, INC.**  
*Complete Civil Engineering Design / Consultation Services*  
Whiteland Business Park  
855 Springdale Drive, Suite 202  
Exton, PA 19341

March 8, 2021

Mr. Richard D. Taylor, Laboratory Manager  
Valley Forge Sewer Authority  
333 Pawling Road  
Phoenixville, PA 19460  
610.935.1553

Re: Borough of Malvern 2020 Chapter 94 Report  
EBWA Project No. 2780-16

Dear Mr. Taylor:

In accordance with the Valley Forge Sewer Authority's request, enclosed please find Malvern Borough's Chapter 94 Report for the year 2020. The report should contain the necessary information required to assist the Authority in the preparation of your Annual Report under Chapter 94 of Title 25, Section 94.12 Municipal Wasteload Management.

Also enclosed per your request are an updated Growth Projection Table and a Flow Projection Table for the Borough of Malvern as of December 31, 2020.

If you should have any questions require additional information, please do not hesitate to contact me.

Very truly yours,  
EDWARD B. WALSH & ASSOCIATES, INC.  
Malvern Borough Engineers

Daniel H. Daley, P.E.

encl.

cc: Chris Bashore, Borough Manager, w/ encl.

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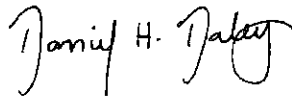
**Chapter 94 Municipal Wasteload Management Annual Report**

**2020 Chapter 94 Annual Report  
Borough of Malvern  
Valley Forge Sewer Authority  
Chester County**

**Prepared by:  
Edward B. Walsh and Associates, Inc.  
855 Springdale Drive, Suite 202  
Exton, PA 19341**

**Prepared for:  
Valley Forge Sewer Authority  
Valley Forge Wastewater Treatment Plant  
333 Pawling Road  
Phoenixville, PA 19464**

**Preparer**



*Signature*

**Name: Daniel H. Daley, P.E.**

**Company: E. B. Walsh & Associates, Inc.**

**Permittee**



*Signature*

**Name: Christopher Bashore**

**Permittee: Malvern Borough**

March 8, 2021

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## **1. INTRODUCTION**

Malvern Borough currently has an allocation of 543,650 GPD at the Valley Forge Sewer Authority Regional Treatment Plant. All of Malvern Borough is designated as being within the Public Sewer Service Area. Malvern Borough is the Owner and Operator of the Collection and Conveyance Systems within the Borough.

## **2. HYDRAULIC AND ORGANIC LOADINGS**

Valley Forge Sewer Authority conducts influent sampling for BOD<sub>5</sub> and hydraulic loadings at the wastewater treatment plant.

Malvern Borough's average sewage flow for 2020 was 393,613 GPD, as per Valley Forge Sewage Treatment Flow Report for 2020 (supplied to the Borough on February 19, 2021).

Malvern Borough estimates their BOD<sub>5</sub> as follows:

The total number of pounds of BOD<sub>5</sub> collected each day is estimated to be 1,109.1 pounds per day, which was calculated by using a factor of 0.17 pounds per day per capita X (times) the estimated number of persons.

$$1,864 \text{ EDU's} \times 3.5 \text{ Persons} = 6,524 \text{ Persons}$$

$$6,524 \times 0.17 = 1,109.1 \text{ Pounds}$$

## **3. 5-YEAR HYDRAULIC AND ORGANIC LOADING PROJECTIONS**

The 2020 Average Sewage flow of 393,613 GPD excludes:

- 2 EDU's from East Whiteland Township which flow to the Old Lincoln Highway sewage meter.
- EDU's from East Whiteland Township's portion of Erin Glen Subdivision which flows to the Warren Avenue sewage meter.

The 2020 Average Sewer flow of 393,613 includes:

- Unmetered flow from Malvern Prep (15 EDUs) and Village of Pennwyck – Vintage Subdivision (12 EDUs) to Willistown Township.

A summary of the total number of EDU's is as follows:

| <b><u>EQUIVALENT DWELLING UNIT (EDU) SUMMARY</u></b> |                          |                             |                        |
|------------------------------------------------------|--------------------------|-----------------------------|------------------------|
|                                                      | <b>METERED<br/>EDU'S</b> | <b>UNMETERED<br/>EDU'S+</b> | <b>TOTAL<br/>EDU'S</b> |
| 2016                                                 | 1796                     | 27                          | 1823                   |
| 2017                                                 | 1802                     | 27                          | 1829                   |
| 2018                                                 | 1805                     | 27                          | 1832                   |
| 2019                                                 | 1828                     | 27                          | 1855                   |
| 2020                                                 | 1837                     | 27                          | 1864                   |

+Unmetered EDU's - Discharge into Willistown Township

Malvern Prep

15 EDUs

Village of Pennwyck - Vintage Subdivision

12 EDUs

Total

27 EDUs

**ADDITIONAL EDU'S**

|      |                                                  |   |
|------|--------------------------------------------------|---|
| 2016 | F Joseph Rubino-361 Old Lincoln Hwy. (2-4-43)    | 1 |
|      |                                                  |   |
| 2017 | Gables - 217 S. Warren Ave. (2-7-36)             | 2 |
|      | F Joseph Rubino - 361 Old Lincoln Hwy. (2-4-43)  | 1 |
|      | Hughes 326 Old Lincoln Hwy. (2-4-91.1)           | 1 |
|      | 347 Old Lincoln Hwy. - Rubino Holdings (2-4-41)  | 2 |
|      |                                                  |   |
| 2018 | Sheet (323 Old Lincoln Hwy.-Hopkins (2-4-38)     | 2 |
|      | Lagrie - Building Permits (2-4-34 - Lot 1)       | 1 |
|      |                                                  |   |
| 2019 | 400 E. King Street - Brick and Brew              | 8 |
|      | 203 Management LLC. - 156 W. King Street         | 5 |
|      | Wolfe - 151 Channing Avenue                      | 1 |
|      | Gables - 217 S. Warren Ave.                      | 2 |
|      | Chambers - 346 E. King Street                    | 7 |
|      |                                                  |   |
| 2020 | 11 Griffith Ave Subdivision (17 Griffith Ave)    | 1 |
|      | Rubino (13 Lovers Ln Sub) (15 & 17)              | 2 |
|      | Lagrie - Building Permits (353 Old Lincoln Hwy.) | 1 |
|      | 51 Ruthland Ave. Subdivision (53, 55, 57 & 59)   | 4 |
|      | Renehan - 320 W. First Ave Permit Plan           | 1 |

During the next five (5) years, the number of EDU's is projected to increase as follows:

| Year   | Projected Number of<br>EDU's to be Added in<br>Calendar Year |       |     | Accumulative Total<br>of the Number of EDU's<br>* | Accumulative Total<br>of Sewage Flow<br>MGD |
|--------|--------------------------------------------------------------|-------|-----|---------------------------------------------------|---------------------------------------------|
| 2020   | ---                                                          |       |     | 1864                                              | 0.394                                       |
| 2021   | 13                                                           | 3575  | GPD | 1877                                              | 0.397                                       |
| 2022   | 5                                                            | 1375  | GPD | 1882                                              | 0.399                                       |
| 2023   | 17                                                           | 4675  | GPD | 1899                                              | 0.403                                       |
| 2024   | 21                                                           | 5775  | GPD | 1920                                              | 0.409                                       |
| 2025   | 15                                                           | 4125  | GPD | 1935                                              | 0.413                                       |
| Total: | 71                                                           | 19525 | GPD |                                                   |                                             |

The increase in the number of equivalent dwelling units and associated sewage flow was derived in the following manner:

1. All residential, commercial, and industrial facilities that are presently connected to the sewer system are included in the 2020 metered flow. Uncompleted developments and subdivisions and proposed developments and subdivisions under consideration have their associated sewage flow projected into each of the above referenced calendar years.
2. For each additional EDU, a sewage flow of 275 gallons per day (GPD) was used for planning purposes.

For the period of 2021 to 2025, the additional sewage flow was based upon the development of proposed and subdivisions and developments along with unanticipated projects in the manner indicated on the attached Table 1.0 entitled "Malvern Borough 2020 Growth Projection Table December 31, 2020." The location of each of the various subdivisions and developments is shown on the attached "Location Map" for Malvern Borough's 2020 Chapter 94 Report.

#### 4. SEWER EXTENSIONS

- a. No sewer main extensions were completed in 2020.
- b. *A map showing sewer extensions approved or exempted in the past year in accordance with the PA Sewage Facilities Act (35 P.S. §§ 750.1—750.20) and Chapter 71 (relating to administration of the sewage facilities program), but not yet constructed.*  
**See Attached Map**

- c. *A map showing all known proposed projects which require public sewers but are in the preliminary planning stages.*

**See Attached Map**

- d. *A list summarizing each extension or project.*

**See Table 1.0**

- e. *If a sewer extension approval or proposed project includes schedules for completing the project over time, the list should describe the projects projected build-out over time.*

**See Table 1.0**

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

### Discussion of I & I Problems

Malvern Borough monitors the flow rates in their sewer system in order to detect sources of infiltration, and when sources of infiltration are detected, Malvern Borough takes the necessary measures to remove the cause and source of the infiltration. The balance of Malvern Borough's sanitary sewer system is in good condition. The amount of infiltration flowing into the sanitary sewer system was estimated to be at the rate of fifty (50) gallons per inch of diameter of pipe per 24 hours. Using the above described infiltration rate, the total estimated amount of infiltration into the sanitary sewer system was calculated to be as indicated below:

|                                                    |                    |
|----------------------------------------------------|--------------------|
| 8" sanitary sewer 33,219 L.F. = 6.29 miles X 400 = | 2,516 gallons      |
| 10" sanitary sewer 4,327 L.F. = 0.82 miles X 500 = | <u>410 gallons</u> |
|                                                    | 2,926 gal/day      |

### Measures Taken to Alleviate Infiltration Problems

The sewage flows listed in Item 1 above, Hydraulic and Organic Loading Contribution do not exceed Malvern Borough's allocated sewage flow capacity which is 0.544 MGD.

Malvern Borough will continue to take the necessary measures to eliminate infiltration problems.

### Monitoring, Maintenance and Inspection of System

Twice a year a manhole inspection is performed. Once every two years or when necessary; selective video inspections of sections of the sanitary sewer system are made where infiltration problems are suspected. Low-lying manholes are

checked periodically for surface water infiltration. There are four (4) employees available for maintenance.

The Borough flow meters (installed in early 2015) were maintained / calibrated quarterly.

In 2019, the Borough replaced 2,400 linear feet of 4" forcemain from the Ruthland Avenue Pump Station to the gravity sanitary sewer manhole on Channing Avenue. The cost of this project was approximately \$288,000. Also, a flow meter was installed on the Ruthland Avenue Pump Station.

#### Pump Station Maintenance

Stations are checked twice a day. Every week air tanks are drained in stations. Every six months pumps and motors are lubricated. There are four (4) people available for maintenance on the sanitary sewer system. In case of emergency, there is always one (1) person available on stand-by duty.

#### Overall Condition of Malvern Borough's Sanitary Sewer System

Malvern Borough continues to monitor and maintain their sanitary system and the overall condition of the system is good.

### **6. CONDITION OF THE SEWER SYSTEM**

This section requires a discussion of the condition of the sewer system, including portions where conveyance capacity is exceeded or will be exceeded in the next 5 years. It should include a discussion of those portions of the system where rehabilitation or cleaning is needed or underway to maintain the integrity of the system and prevent or eliminate:

- |                                     |                   |
|-------------------------------------|-------------------|
| a. <i>Bypassing;</i>                | <b>None Known</b> |
| b. <i>Combined sewer overflows;</i> | <b>None Known</b> |
| c. <i>Sanitary sewer overflows;</i> | <b>None Known</b> |
| d. <i>Excessive infiltration;</i>   | <b>None Known</b> |
| e. <i>Other system problems.</i>    | <b>None Known</b> |

#### Discussion of available existing and future capacity.

- f. *The age of the sewer system.*

**The majority of the sanitary sewer system was installed in 1975-1976.**

- g. *The type of material of which the system is made (i.e., brick, vitrified clay, PVC, Orangeburg, etc.).*



**The existing sanitary sewer system consists of terracotta pipe. Any recent extensions or repairs to the system were made with PVC pipe.**

- h. *An analysis that determines whether the existing sewer lines are sized properly for the connected population.*

**Based on existing flow data for the Borough as compared to the projected flow, no known capacity issues are anticipated. As re-development or new development is proposed, the capacity of the system is analyzed to ensure capacity.**

- i. *A discussion of any portions of the system that should be repaired, replaced or rehabilitated, including a timeframe by which any proposed actions are expected to be completed.*

**At this time there are no portions of the system that are known to be in need of repair or replacement.**

*Discussion regarding any portions of the sewer system in which surcharging occurs:*

- j. *How often does the system surcharge in each location?*  
**There are no known areas of the system that have surcharged.**

- k. *What size storm events create surcharging sewer lines?*  
**Not Applicable**

- l. *What is the cause of the surcharging?*  
**Not Applicable**

- m. *Sewer systems that surcharge during wet weather indicate a lack of hydraulic capacity and are considered to be in a projected hydraulic overload. For such conditions, permittees should submit a CAP and CMP with the annual report, as required by 25 Pa Code § 94.22.*  
**Not Applicable**

*Provide a list of all SSOs that occurred during the calendar year, including their cause and location (a copy of the Southeast Regional Office's SSO Report Form submitted by the permittee is acceptable). SSOs related to wet weather should be discussed:*

- n. *Explain if there is a history of SSOs at each reported location. If a trend of SSOs at specific locations during rain events is documented, this indicates a lack of hydraulic capacity and is considered a hydraulic overload condition.*

**There are no known areas of the system that have had an overflow.**

- o. *Why are SSOs occurring at each location? Has a hydraulic analysis been conducted, and if so, what were the results and recommendations for corrective action?*

**Not Applicable**

- p. *Provide an analysis of flow metering that has been conducted.*

**Not Applicable**

- q. *Sewer systems that experience SSOs are considered to be in an existing hydraulic overload. A CAP and CMP should be submitted with the annual report, as required by 25 Pa Code § 94.21.*

**Not Applicable**

*The Department strongly recommends that existing capacity be documented with flow meter data. Whether flow meters are in place, or are proposed to be used throughout the system to gather data on a sub-basin approach-existing capacity should be documented with data that describes actual flow conditions during dry-weather and wet-weather conditions:*

- r. *Dry weather flows should be monitored to document baseline flows and for comparison purposed, to determine the extent of I/I within the collection system.*

**The Borough had the five gravity flow metering stations within the Borough replaced. The meters were brought online February 21, 2015 and fully functional by the end of the First Quarter 2015.**

**In addition, a new meter was installed in the fall / winter of 2019 at the Ruthland Avenue Pump Station to further evaluate the Borough flows.**

- s. *Wet weather capacity should be determined by documenting the peak instantaneous (or peak hourly) flow rates as compared to the hydraulic carrying capacity of the sanitary sewer (i.e., Manning's equation).*

**The Borough has plans to further evaluate peak flows during wet weather conditions and complete analysis related to I/I.**

**The Borough Engineer has begun assembling the data for the hydraulic carrying capacity of the existing sewer.**

## **7. SEWAGE PUMPING STATIONS**

### Pumping Stations

There are two pump stations and two ejector stations located within Malvern Borough's sanitary sewer system.

|                                                      | PUMPING<br>STATION 1                                                                                                                                                                                                  | PUMPING<br>STATION 2  | EJECTOR<br>STATION 1 | EJECTOR<br>STATION 2 |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|----------------------|----------------------|
| Rated Max.<br>capacity:                              | 500 GPM @<br>120' TDH                                                                                                                                                                                                 | 200 GPM @<br>135' TDH | 50 GPM @<br>35' TDH  | 100 GPM @<br>56' TDH |
| Current Ave.<br>daily flow                           | 101.4 GPM<br>(1)                                                                                                                                                                                                      | 43.2 GPM<br>(1)       | (2)                  | 8 GPM<br>(3)         |
| Current peak<br>flow                                 | 253.6 GPM<br>(4)                                                                                                                                                                                                      | 108.1 GPM<br>(4)      | (2)                  | 32 GPM<br>(3)        |
| Peak<br>instantaneous<br>flow during wet<br>weather: | (2)                                                                                                                                                                                                                   | (2)                   | (2)                  | (2)                  |
| <i>Footnotes:</i>                                    |                                                                                                                                                                                                                       |                       |                      |                      |
| (1)                                                  | Not metered flow. Calculated on EDU basis. 781 EDU's at Station No. 1 and 333 EDU's at Station No. 2 (187 GPD <sub>AVG</sub> per EDU based on Warren Avenue metered flow after deduction for Erin Glen metered flow). |                       |                      |                      |
| (2)                                                  | The Borough is currently working on providing information regarding these Items.                                                                                                                                      |                       |                      |                      |
| (3)                                                  | The numbers for this Ejector Station are based on the Design Calculations                                                                                                                                             |                       |                      |                      |
| (4)                                                  | Calculated average daily flow multiplied by a peak factor of 2.5                                                                                                                                                      |                       |                      |                      |

## 8. INDUSTRIAL WASTES

If applicable, the report on industrial wastes (IW) should include:

- a. *A copy of an ordinance or regulation governing IW.*  
**Industrial Wastes are ultimately governed by the Rules and Regulations of the Valley Forge Sewer Authority. The Rules and Regulations of Valley Forge have been adopted by Adopted by Malvern Borough via Ordinance No. 2002-2 and 2009-2, see attached.**
- b. *A discussion of the permittee's program for surveillance and monitoring of IW discharges to the sewer system during the past year.*  
**No specific program for surveillance / monitoring exists. The Borough's Public Works Department monitors the sewer system on a regular basis and if issues are observed, they are reported to the Public Works Director and the issue is investigated.**

- c. *A discussion of specific problems in the sewer system or at the WWTF, known or suspected to be caused by IW discharges and a summary of steps being taken to alleviate or eliminate the problems.*

**No known issues within Malvern Borough's sewer system.**

- d. *A list of any such industries known to be discharging wastes that create a problem and actions taken to prevent potential or recurring problems caused by the IW dischargers.*

**Not Applicable**

- e. *Provide documentation regarding any actions taken against IW dischargers.*

**Not Applicable**

## **9. CORRECTIVE ACTION PLAN**

Malvern Borough does not have an existing or projected overload condition within their collection and or conveyance system; therefore a CAP or CMP Plan is not required.

## **10. CALIBRATION REPORTS**

Allied Controls conducts quarterly calibrations for the flow meters within Malvern Borough. The Calibrations are done via a contract through Valley Forge Sewer Authority. The calibration reports are attached to this Chapter 94 Report.

## ARTICLE III

**Industrial Waste, Holding Tank Waste and Septage**  
**[Adopted 9-20-1994 by Ord. No. 94-4 (Part 11, Ch. 2, Art. B, of**  
**the 1975 Code of Ordinances)]**

**§ 168-11. Purpose; policy.**

- A. This article requires all users and use of the Borough's sewer facilities to comply with the regulations (collectively "applicable regulations" or any one individually "applicable regulation") promulgated by the Valley Forge Sewer Authority (VFSA), the United States Environmental Protection Agency (USEPA), which include, without limitation, the pretreatment standards promulgated by the USEPA as set forth in 40 Code of Federal Regulations (CFR) 403 et seq. and the Pennsylvania Department of Environmental Resources (PADER); and
- B. This article establishes the means of enforcing those regulations.

**§ 168-12. Amended VFSA regulations adopted. [Amended 6-18-2002 by Ord. No. 2002-2<sup>1</sup>; 2-17-2009 by Ord. No. 2009-2; 12-21-2010 by Ord. No. 2010-5]**

The standards established by the Valley Forge Sewer Authority Rules and Regulations Governing the Acceptance of Industrial Waste, Trucked Industrial Waste, Hauling Tank Waste and Septage, dated May 31, 2002, and amended by Resolution No. 2 of 2008 of the Board of Directors of the Valley Forge Sewer Authority (VFSA) and further amended by Resolution No. 1 of 2010, are hereby adopted as the minimal standards of the Borough, applicable to all users and use of the Borough's sewer facilities, and any user or use of the Borough facilities must comply with all of the VFSA's requirements with respect to these amended regulations, as well as all other applicable regulations.

**§ 168-13. Violations.**

Without limiting any other section hereof, a person (as defined by the VFSA regulations) violates this article:

- A. By discharging sewage or waste into the Borough's sewage facilities when such discharge is not in compliance with this

---

1. Editor's Note: Section 2 of this ordinance provided for the deletion of existing Appendix XXII of the 1975 Code of Ordinances and replacement with a copy of the "Valley Forge Sewer Authority Rules and Regulations Governing the Acceptance of Industrial Waste, Trucked Industrial Waste, Hauling Tank Waste and Septage dated May 31, 2002." Said document has not been codified; it is on file in the office of the Borough Secretary.



article, any applicable industrial permit requirements or National Categorical Pretreatment Standards, any applicable regulation or any Borough order; or

- B. By otherwise failing or refusing to comply in any way with the VFSA regulations, including but not limited to achieving all permits, licenses and approvals and filing all reports, when and as required.

**§ 168-14. Solicitor authorized to commence action; cost of action.**

The Borough Solicitor is authorized to commence actions against any violator of this article for appropriate legal and/or equitable relief from the violation. If the Borough is granted any relief in any such action, the violator shall, in addition to any fine or penalty, pay all the Borough's costs thereof, including but not limited to attorney fees.

**§ 168-15. Penalties.**

- A. Any person (as defined by VFSA regulations) who violates any provision of this article shall, upon conviction thereof, be sentenced to pay a fine of not more than \$1,000 and/or to imprisonment for a term not to exceed 90 days. Every day that any violation of this article continues shall constitute a separate offense.
- B. Any person (as defined by VFSA regulations) who knowingly makes any false statement, representation or certification in any application, record, report, plan or other document filed or required to be maintained pursuant to this article or any industrial waste permit or who falsifies, tampers with or knowingly renders inaccurate any monitoring device or method required under this article shall be in violation of this article and may be prosecuted in accordance with the provisions of the Pennsylvania Crimes and Offenses Code, 18 Pa.C.S.A. § 4901 et seq. pertaining to perjury and falsification in official matters.

**§ 168-16. Severability.**

If any provision, paragraph, word or section of this article is invalidated by any court of competent jurisdiction, the remaining provisions, paragraphs, words and sections of this article shall not be affected and shall continue in full force and effect.

**§ 168-17. Repealer.**

All other ordinances or parts of other ordinances and provisions of this Code inconsistent or conflicting in any part with this article are hereby repealed to the extent of such inconsistency or conflict.

**§ 168-18. Adoption of future amendments of VFSA regulations. [Added 6-18-2002 by Ord. No. 2002-2]**

In the event that the Valley Forge Sewer Authority further amends its rules and regulations, or otherwise undertakes regulatory action governing wastewater treatment within the Borough of Malvern, said proposed regulations must be forwarded to and adopted by Borough Council prior to becoming effective.

TABLE 1.0 BOROUGH OF MALVERN 2020 GROWTH PROJECTION TABLE

December 31, 2020

|                                    |                                                  |                    |                 |                            |                         |                       | EDU's REMAINING TO BE CONNECTED |      |      |      |      |
|------------------------------------|--------------------------------------------------|--------------------|-----------------|----------------------------|-------------------------|-----------------------|---------------------------------|------|------|------|------|
| ID                                 | Property Owner / Project                         | Tax Parcel         | Tot. Est. EDU's | EDU's Previously Connected | EDU's Connected in 2020 | EDU's to be Connected | 2021                            | 2022 | 2023 | 2024 | 2025 |
| Completed Projects                 |                                                  |                    |                 |                            |                         |                       |                                 |      |      |      |      |
| 1                                  | Santoleri                                        | 2-4-262.1          | 1               | 1                          | 0                       | 0                     |                                 |      |      |      |      |
| 2                                  | Hibernia Homes (Formerly Yasgur-Levis)           | 2-4-71             | 1               | 1                          | 0                       | 0                     |                                 |      |      |      |      |
| 3                                  | Hibernia Homes (Formerly Yasgur-Levis)           | 2-4-67             | 2               | 2                          | 0                       | 0                     |                                 |      |      |      |      |
| 4                                  | Greenstone (Formerly TAG)                        | 2-6-102,101, 91.1  | 5               | 5                          | 0                       | 0                     |                                 |      |      |      |      |
| 5                                  | Hibernia Homes ( Formerly Building Block)        | 2-4-69             | 1               | 1                          | 0                       | 0                     |                                 |      |      |      |      |
| 6                                  | Riffenhouse                                      | 2-4-337.2          | 1               | 1                          | 0                       | 0                     |                                 |      |      |      |      |
| 9                                  | Buerkel (1 Previously Approved & 2 New EDU's)    | 2-3-3.1E           | 3               | 3                          | 0                       | 0                     |                                 |      |      |      |      |
| 11                                 | East King Street Redevelopment                   | 2-4-148            | 128             | 128                        | 0                       | 0                     |                                 |      |      |      |      |
| 22                                 | Frindt                                           | 2-3-24             | 1               | 1                          | 0                       | 0                     |                                 |      |      |      |      |
| 25                                 | Greenstone (Formerly DeFlavis)                   | 2-6-91             | 1               | 1                          | 0                       | 0                     |                                 |      |      |      |      |
| 27                                 | Hughes 326 Old Lincoln Hwy.                      | 2-4-91.1           | 1               | 1                          | 0                       | 0                     |                                 |      |      |      |      |
| 29                                 | Pots of Green                                    | 2-3-22             | 1               | 1                          | 0                       | 0                     |                                 |      |      |      |      |
| 32                                 | SEPTA R5                                         | 2-3-84 E           | 1               | 1                          | 0                       | 0                     |                                 |      |      |      |      |
| 33                                 | 101 Church Street (Andrews Management)           | 2-4-287            | 3               | 3                          | 0                       | 0                     |                                 |      |      |      |      |
| 38                                 | 347 Old Lincoln Highway (Rubino Holdings)        | 2-4-41             | 2               | 2                          | 0                       | 0                     |                                 |      |      |      |      |
| 39                                 | Moffat-144 Church Street (TAG Builders)          | 2-2-27             | 4               | 4                          | 0                       | 0                     |                                 |      |      |      |      |
| 40                                 | F Joseph Rubino (361 OLH)                        | 2-4-43             | 2               | 2                          | 0                       | 0                     |                                 |      |      |      |      |
| 13                                 | Sheets (323 OLH - Hopkins)                       | 2-4-38             | 2               | 2                          | 0                       | 0                     |                                 |      |      |      |      |
| 45                                 | 400 E. King Street - Brick and Brew              | 2-4-355            | 10              | 10                         | 0                       | 0                     |                                 |      |      |      |      |
| 43                                 | 203 Management LLC. - 156 W. King Street         | 2-3-29, 29.1       | 5               | 5                          | 0                       | 0                     |                                 |      |      |      |      |
| 50                                 | Wolfe - 151 Channing Avenue                      | 2-4-235.1          | 1               | 1                          | 0                       | 0                     |                                 |      |      |      |      |
| 44                                 | 51 Rutland Ave. Subdivision (Haly)               | 2-4-360.1          | 4               | 0                          | 4                       | 0                     |                                 |      |      |      |      |
| 46                                 | 11 Griffith Ave Subdivision - Renehan            | 2-3-25             | 1               | 0                          | 1                       | 0                     |                                 |      |      |      |      |
| 47                                 | Renehan - 320 W. First Avenue Permit Plan        | 2-6-96.1           | 1               | 0                          | 1                       | 0                     |                                 |      |      |      |      |
| 42                                 | Chambers - 346 E. King St                        | 2-4-297            | 7               | 7                          | 0                       | 0                     |                                 |      |      |      |      |
| 24                                 | Rubino (Hopkins - 13 Lovers Lane Subdivision)    | 2-4-43.1           | 2               | 0                          | 2                       | 0                     |                                 |      |      |      |      |
| Projects Approved but Not Complete |                                                  |                    |                 |                            |                         |                       |                                 |      |      |      |      |
| 7                                  | Cifa                                             | 2-4-84             | 1               | 0                          | 0                       | 1                     |                                 |      |      | 1    |      |
| 8                                  | Bean (Formerly approved as part of Hough - Loew) | 2-3-3              | 1               | 0                          | 0                       | 1                     |                                 |      |      |      | 1    |
| 10                                 | Lagrie - Building Permits                        | 2-4-34, 36, 2-1-35 | 3               | 1                          | 1                       | 1                     | 1                               |      |      |      |      |
| 34                                 | Malvern Prep (Maintenance Building)              | 2-7-34 E           | 1               | 0                          | 0                       | 1                     |                                 |      |      |      | 1    |
| 35                                 | Simmons                                          | 2-4-105            | 1               | 0                          | 0                       | 1                     |                                 |      |      |      | 1    |
| 37                                 | Gables-217 S. Warren Ave.                        | 2-7-36             | 5               | 4                          | 0                       | 1                     |                                 |      | 1    |      |      |
| 49                                 | Traynor Capital Management - 418 E. King Street  | 2-4-356            | 5               | 0                          | 0                       | 5                     | 5                               |      |      |      |      |
| 48                                 | 523 Monument Ave. Subdivision - Coughlin         | 2-6-37             | 1               | 0                          | 0                       | 1                     | 1                               |      |      |      |      |



TABLE 2.0

**BOROUGH OF MALVERN 30-YEAR FLOW PROJECTIONS**  
**VALLEY FORGE SEWER AUTHORITY**  
**2020 CHAPTER 94 REPORT**

December 2020

**WASTEWATER FLOW PROJECTIONS**

|                 | PRESENT<br>2020 | 5-YEAR<br>2025 | 10-YEAR<br>2030 | 20-YEAR<br>2040 | ULTIMATE<br>30-YEAR<br>2050 |
|-----------------|-----------------|----------------|-----------------|-----------------|-----------------------------|
| <b>GPD</b>      | 393,613         | 413,138        | 454,388         | 502,513         | 528,638                     |
| <b>EDUs</b>     | 1864            | 1935           | 2085            | 2260            | 2355                        |
| <i>New EDUs</i> | ---             | 71             | 150             | 175             | 95                          |

## NOTES:

1. **Includes unmetered flow into Willistown Township** and excludes 2 EDU's from East Whiteland Twp and Erin Glen Flow from East Whiteland Twp.  
 Malvern Borough has 27 EDUs that flow unmetered into Willistown Twp.  
     15 EDUs - Malvern Prep = 4,125 gpd  
     12 EDUs - Vintage Development = 3,300 gpd  
     Total = 7,425 gpd
2. Projected flows based upon a flow of 275 gallons per day (gpd) per equivalent dwelling unit (EDU).



**Tributary Municipality – Malvern Borough  
Chapter 94 Report Checklist**

Items marked YES are complete. Items marked NO are incomplete. Items marked NA are not applicable to this project

| YES | NO | NA | Annual Report Requirements                                                                                                                                  | Comments                                 |
|-----|----|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|     |    |    | <b>94.12 Annual Report</b>                                                                                                                                  |                                          |
|     |    |    | <b>Section (a)(1)</b><br>A line graph depicting monthly average flows (expressed in millions of gallons per day (MGD)) for each month for the past 5 years. |                                          |
|     |    | X  | The graph should include projected flows for the next 5 years.                                                                                              |                                          |
|     |    | X  | The graph shall include a line depicting the hydraulic design flow in MGD.                                                                                  |                                          |
|     |    |    | <b>Section (a)(2)</b><br>A line graph depicting monthly average organic loading (expressed in pounds per day of BOD5) for each month for the past 5 years.  |                                          |
|     |    | X  | The graph shall include projected loadings for the next 5 years.                                                                                            |                                          |
|     |    | X  | The graph shall include a line depicting the organic loading design of the plant in lbs/day BOD5.                                                           |                                          |
|     |    |    | <b>Section (a)(3)</b><br>A discussion of the basis for the flow and organic loading projections to the plant as referred to in Sections a(1) and a(2).      |                                          |
|     |    | X  | A description of the time needed to expand the plant to meet the load projections, if applicable.                                                           |                                          |
|     |    | X  | Data used to support the projections are included in an appendix to the report.                                                                             |                                          |
|     |    |    | <b>Section (a)(4)</b><br>A map showing all sewer extensions constructed in the past calendar year.                                                          |                                          |
|     |    | X  | The map should show sewer extensions approved or exempted in the past year in accordance with 537 but not yet constructed.                                  | See attached map                         |
| X   |    |    | The map should show all known proposed projects that require public sewers but that are in the preliminary planning stages.                                 | See attached map in report and Table 1.0 |
| X   |    |    | A list accompanying the map summarizing each extension or project and the population to be served.                                                          | See Table 1.0                            |

**Tributary Municipality – Malvern Borough  
Chapter 94 Report Checklist**

Items marked YES are complete. Items marked NO are incomplete. Items marked NA are not applicable to this project

| YES | NO | NA | Annual Report Requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Comments                  |
|-----|----|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| X   |    |    | The list should include any schedules describing how the project will be completed over time, and the effect that this built-out-rate will have on the populations served.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | See Table 1.0             |
| X   |    |    | <b>Section (a)(5)</b><br>A discussion of 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, and infiltration/inflow monitoring.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | See Item 5 of the report  |
|     | X  |    | <u>A calibration report shall be included for all flow measuring, indicating and recording equipment within the collection and conveyance system. Calibrations should occur annually.</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | See Item 10 of the report |
| X   |    |    | A discussion of the maintenance and control of combined sewer regulators during the past year.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | See Item 5 of the report  |
| X   |    |    | <b>Section (a)(6)</b><br>A discussion of the condition of the sewer system, including portions of the sewer system where conveyance capacity is being exceeded or is projected to be exceeded in the next 5 years.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | See Item 6 of the report  |
|     | X  |    | <u>Existing capacity should be documented with actual metering of present maximum flows. If not already existing, the permittee should consider the best placement of flow meters to document the capacity of major interceptors (greater than 10 inches in diameter) and/or where lines cross municipal borders. A discussion of present maximum flows should be documented with hourly or instantaneous peak readings taken during major storm events (greater than 1.0 inch of rain). Auto dialers may be installed to alert of high flow conditions. The Chapter 94 Report should compare the peak instantaneous flow for each major storm event to the design hydraulic conveyance capacity of the sewer in order to determine whether sufficient capacity is available. The ratio of peak (hourly or instantaneous) to annual average flows should be determined to assess the actual peaking factor for the system.</u> | See Item 6 of the report  |

**Tributary Municipality – Malvern Borough  
Chapter 94 Report Checklist**

Items marked YES are complete. Items marked NO are incomplete. Items marked NA are not applicable to this project

| YES | NO | NA | Annual Report Requirements                                                                                                                                                                                                                                                     | Comments                                                                                  |
|-----|----|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| X   |    |    | A discussion of portions of the system where rehabilitation or cleaning is needed or underway to maintain the integrity of the system and prevent or eliminate bypassing, combined sewer overflow, sanitary sewer overflow, excessive infiltration, and other system problems. | See Items 5 and 6 of the report – There are no known problems within the Borough's system |
| X   |    |    | <b>Section (a)(7)</b><br>A discussion of the condition of sewage pumping Stations, including:<br>A comparison of the maximum pumping rate with present maximum flows.                                                                                                          | See Item 7 of the report                                                                  |
|     | X  |    | <u>Present maximum flows should be documented with the peak hourly or instantaneous readings taken during major storm events (greater than 1.0 inch of rain). Auto dialers may be installed to alert of high flow conditions.</u>                                              | The Borough is currently working on providing this information                            |
|     | X  |    | <u>A discussion of metered flow data obtained during the report's calendar year to illustrate the ratio of peak flow to annual average flow. The permittee should use these figures to determine the actual peaking factor for the pumping station.</u>                        | The Borough is currently working on providing this information                            |
|     | X  |    | <u>Provide documentation that the pump station can convey maximum flows with any one pump out of service.</u>                                                                                                                                                                  | The Borough is currently working on providing this information                            |
|     | X  |    | The projected two-year maximum flows for each station.                                                                                                                                                                                                                         | The Borough is currently working on providing this information                            |
|     | X  |    | <u>The two-year projection should use the estimated new flows to the system (annual average flows), multiplied by the peaking factor derived from metered flow data.</u>                                                                                                       | The Borough is currently working on providing this information                            |
|     |    | X  | <b>Section (a)(8)</b><br>A report of industrial wastes discharged into the sewer system.                                                                                                                                                                                       | Completed by VFSA                                                                         |
| X   |    |    | The report shall include:<br><b>(i)</b> A copy of any ordinance or regulation governing industrial waste discharges into the sewer system, including a copy of any amendments adopted.                                                                                         | Included in report                                                                        |
|     |    | X  | <b>(ii)</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.                                                                                               | Completed by VFSA                                                                         |

**Tributary Municipality  
Chapter 94 Report Checklist**

Items marked YES are complete. Items marked NO are incomplete. Items marked NA are not applicable to this project

| YES | NO | NA | Annual Report Requirements                                                                                                                                                                                                                                                    | Comments                                    |
|-----|----|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
|     |    | X  | (iii) A discussion of specific problems in the sewer system or at the plant, known or suspected to be caused by industrial waste discharges, including a summary of the steps being taken to alleviate or eliminate the problems, as well as pollution prevention techniques. | Completed by VFSA                           |
|     |    | X  | 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 actions taken to eliminate the problem or prevent its recurrence.                                                              | Completed by VFSA                           |
|     |    | X  | <b>Section (a)(9)</b><br>A proposed plan to reduce or eliminate present or projected overloaded conditions under Chapters 94.21 and 94.22.                                                                                                                                    | The Borough is not projecting any overloads |
| X   |    |    | <b>Section (b)</b><br>Permittees of sewer systems which contribute sewage flows to the plant shall submit information to the permittee of the plant as required to facilitate preparation of the annual report.                                                               |                                             |
|     |    |    | <b>94.13 Measuring, indicating and recording devices.</b>                                                                                                                                                                                                                     |                                             |
|     |    | X  | <b>Section (a)</b><br>A plant which receives or will receive in the next five years, monthly average flows exceeding 100,000 gallons per day (gpd) shall be equipped to continuously measure, indicate and record the flow.                                                   |                                             |
|     |    | X  | The permittee shall install the necessary equipment for those measurements within 6 months after the date when such a flow becomes evident.                                                                                                                                   |                                             |
|     |    | X  | <b>Section (b)</b><br>A calibration report shall be included in the annual report for flow measuring, indicating and recording equipment. Calibrations should occur annually.                                                                                                 |                                             |

# Malvern Report

## Valley Forge Sewer Auth.

### CALIBRATION SCHEDULE:

Section D: Equipment calibrated quarterly (MALVERN Borough)

Section A1: Meters not covered under Valley Forge Contract (MALVERN Borough)

Date: 1 rst. Quarter 2020 Calibration Data

---

### “Section D”

---

Malvern Borough (644-1819)

Tide Water Meter Pit

Ultrasonic Flow meter

Instrument Data:

Manufacturer: Miltronics

Model #: HydroRanger 200

Serial #: PBD/X7070003

Max Flow: 50 GPM

Counter: Electronic Totalize X 10

Primary: 4” Palmer Bowlus Flume

Output: 4-20 MADC

|                      |               |
|----------------------|---------------|
| Date of Calibration: | 05-13-20      |
| % of Error:          | Less than .2% |
| Comments:            | none          |
| Corrective Action:   | none          |

---

Malvern Borough

Tide Water Meter Pit

Totalizer transmitter (Thru SCADA)

Instrument Data:

Manufacturer: Seimens

Model #: Hydro Ranger 200

Serial #: PBD/X7070003

Relay output x 100

|                      |               |
|----------------------|---------------|
| Date of Calibration: | 06-02-20      |
| % of Error:          | Less than .2% |
| Comments:            | none          |
| Corrective Action:   | none          |

---

Malvern Borough

Tide Water Meter Pit

Totalize / Display

SCADA (LOCATED AT MALVERN)

Instrument Data:

Manufacture: Maple System

Model #: HM15070

Serial #120609618

Multiplier X 100

Date of Calibration: 06-04-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough

Warren Avenue Meter Pit

Ultrasonic Flow meter

Instrument Data:

Manufacturer: Miltronics

Model #: HydroRanger 200

Serial #: 110904179VU

Max Flow: 750 GPM

Primary: 21" Leopold Lagco Flume

Output: 4-20 MADC

Date of Calibration: 06-23-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough

Warren Avenue Meter Pit

Totalizer transmitter (Thru SCADA)

Instrument Data:

Manufacturer: Seimens

Model #: Hydro Ranger 200

Serial #: 110904179VU

Relay output x 100

Date of Calibration: 06-02-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough

Warren Avenue Receiver

Totalize / Display

SCADA (LOCATED AT MALVERN)

Instrument Data:

Manufacture: Maple System



Model #: HM15070  
Serial #120609618  
Multiplier X 100

Date of Calibration: 06-04-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough  
Old Lincoln  
Ultrasonic Flow meter  
Instrument Data:

Manufacturer: Seimens  
Model #: Hydro Ranger 200  
Serial #: PBD/X65982013  
Max Flow: 0-200 GPM  
Primary: 8" Palmer Bowlus Flume  
Output: 4-20 MADC same

Date of Calibration: 06-23-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough  
Old Lincoln Pit  
Totalizer transmitter (Thru SCADA)  
Instrument Data:

Manufacturer: Seimens  
Model #: Hydro Ranger 200  
Serial #: PBD/X65982013  
Relay output x 100

Date of Calibration: 06-02-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough  
Old Lincoln Meter Pit  
Totalize / Display  
SCADA (LOCATED AT MALVERN)  
Instrument Data:

Manufacture: Maple System  
Model #: HM15070

Serial #120609618  
Multiplier X 100

Date of Calibration: 06-04-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough  
Minor Hill  
Ultrasonic Flow meter  
Instrument Data:

Manufacturer: Badger  
Model #: 2100  
Serial #: 4002  
Max Flow: 0-90.0 GPM  
Primary: 8" Palmer Bowlus Flume  
Output: 4-20 MADC same

Date of Calibration: 06-23-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough  
Minor Hill  
Totalizer transmitter (Thru SCADA)  
Instrument Data:

Manufacturer: Badger  
Model #: 2100  
Serial #: 4002  
Relay output x 100

Date of Calibration: 06-02-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough  
Minor Hill  
Totalize / Display  
SCADA (LOCATED AT MALVERN)  
Instrument Data:

Manufacture: Maple System  
Model #: HM15070  
Serial #120609618  
Multiplier X 100

Date of Calibration: 06-04-20  
% of Error: Less than .2%  
  
Comments: none  
  
Corrective Action: none

---

## **“Section A1”**

---

Malvern Borough  
Injector Station No. 2  
Magnetic Flow meter/totalizer  
Instrument Data:

Manufacturer: Endress Hauser  
Model #: Pro Mag 50  
Serial #: 7B04A416000  
Cal: 104515010000000  
Max Flow: 150 GPM

Date of Calibration: 06-04-20  
% Of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Malvern Borough  
Injector Station No. 2  
Circular Chart Recorder  
Instrument Data:

Manufacture: Fisher + Porter  
Model #: 392  
Serial #: D17787-001-01-01-4500-F5  
Counter: Electronic Totalizer x 10  
Range: 0-150 GPM

Date of Calibration: 06-04-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

# Malvern Report

## Valley Forge Sewer Auth.

### CALIBRATION SCHEDULE:

Section D: Equipment calibrated quarterly (MALVERN Borough)

Section A1: Meters not covered under Valley Forge Contract (MALVERN Borough)

Date: 3 rd. Quarter 2020 Calibration Data

---

### “Section D”

---

Malvern Borough (644-1819)

Tide Water Meter Pit

Ultrasonic Flow meter

Instrument Data:

Manufacturer: Miltronics

Model #: HydroRanger 200

Serial #: PBD/X7070003

Max Flow: 50 GPM

Counter: Electronic Totalize X 10

Primary: 4” Palmer Bowlus Flume

Output: 4-20 MADC

|                      |               |
|----------------------|---------------|
| Date of Calibration: | 07-21-20      |
| % of Error:          | Less than .2% |
| Comments:            | none          |
| Corrective Action:   | none          |

---

Malvern Borough

Tide Water Meter Pit

Totalizer transmitter (Thru SCADA)

Instrument Data:

Manufacturer: Seimens

Model #: Hydro Ranger 200

Serial #: PBD/X7070003

Relay output x 100

|                      |               |
|----------------------|---------------|
| Date of Calibration: | 07-29-20      |
| % of Error:          | Less than .2% |
| Comments:            | none          |
| Corrective Action:   | none          |

---

Malvern Borough

Tide Water Meter Pit

Totalize / Display

SCADA (LOCATED AT MALVERN)

Instrument Data:

Manufacture: Maple System

Model #: HM15070

Serial #120609618

Multiplier X 100

Date of Calibration: 07-21-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough

Warren Avenue Meter Pit

Ultrasonic Flow meter

Instrument Data:

Manufacturer: Miltronics

Model #: HydroRanger 200

Serial #: 110904179VU

Max Flow: 750 GPM

Primary: 21" Leopold Lagco Flume

Output: 4-20 MADC

Date of Calibration: 10-07-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough

Warren Avenue Meter Pit

Totalizer transmitter (Thru SCADA)

Instrument Data:

Manufacturer: Seimens

Model #: Hydro Ranger 200

Serial #: 110904179VU

Relay output x 100

10-07-20  
Date of Calibration: 07-21-20  
% of Error: Less than .2%  
Comment10-07-20s: none

Corrective Action: none

---

Malvern Borough

Warren Avenue Receiver

Totalize / Display

SCADA (LOCATED AT MALVERN)

Instrument Data:

Manufacture: Maple System

Model #: HM15070  
Serial #120609618  
Multiplier X 100

Date of Calibration: 07-21-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough  
Old Lincoln  
Ultrasonic Flow meter  
Instrument Data:

Manufacturer: Seimens  
Model #: Hydro Ranger 200  
Serial #: PBD/X65982013  
Max Flow: 0-200 GPM  
Primary: 8" Palmer Bowlus Flume  
Output: 4-20 MA10-07-20DC same

Date of Calibration: 10-07-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough  
Old Lincoln Pit  
Totalizer transmitter (Thru SCADA)  
Instrument Data:

Manufacturer: Seimens  
Model #: Hydro Ranger 200  
Serial #: PBD/X65982013  
Relay output x 100

Date of Calibration: 07-21-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough  
Old Lincoln Meter Pit  
Totalize / Display  
SCADA (LOCATED AT MALVERN)  
Instrument Data:

Manufacture: Maple System  
Model #: HM15070



Serial #120609618  
Multiplier X 100

Date of Calibration: 07-21-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough  
Minor Hill  
Ultrasonic Flow meter  
Instrument Data:

Manufacturer: Badger  
Model #: 2100  
Serial #: 4002  
Max Flow: 0-90.0 GPM  
Primary: 8" Palmer Bowlus Flume  
Output: 4-20 MADC same

Date of Calibration: 10-07-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough  
Minor Hill  
Totalizer transmitter (Thru SCADA)  
Instrument Data:

Manufacturer: Badger  
Model #: 2100  
Serial #: 4002  
Relay output x 100

Date of Calibration: 07-21-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough  
Minor Hill  
Totalize / Display  
SCADA (LOCATED AT MALVERN)  
Instrument Data:

Manufacture: Maple System  
Model #: HM15070  
Serial #120609618  
Multiplier X 100

Date of Calibration: 07-21-20  
% of Error: Less than .2%  
  
Comments: none  
  
Corrective Action: none

---

## **"Section A1"**

---

Malvern Borough  
Injector Station No. 2  
Magnetic Flow meter/totalizer  
Instrument Data:

Manufacturer: Endress Hauser  
Model #: Pro Mag 50  
Serial #: 7B04A416000  
Cal: 104515010000000  
Max Flow: 150 GPM

Date of Calibration: 09-30-20  
% Of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

---

Malvern Borough  
Injector Station No. 2  
Circular Chart Recorder  
Instrument Data:

Manufacture: Fisher + Porter  
Model #: 392  
Serial #: D17787-001-01-01-4500-F5  
Counter: Electronic Totalizer x 10  
Range: 0-150 GPM

Date of Calibration: 09-30-20  
% of Error: Less than .2%  
Comments: none  
  
Corrective Action: none

# Malvern Report

## Valley Forge Sewer Auth.

### CALIBRATION SCHEDULE:

Section D: Equipment calibrated quarterly (MALVERN Borough)

Section A1: Meters not covered under Valley Forge Contract (MALVERN Borough)

Date: 4 rth. Quarter 2020 Calibration Data

---

### “Section D”

---

Malvern Borough (644-1819)

Tide Water Meter Pit

Ultrasonic Flow meter

Instrument Data:

Manufacturer: Miltronics

Model #: HydroRanger 200

Serial #: PBD/X7070003

Max Flow: 50 GPM

Counter: Electronic Totalize X 10

Primary: 4” Palmer Bowlus Flume

Output: 4-20 MADC

|                      |               |
|----------------------|---------------|
| Date of Calibration: | 12-22-20      |
| % of Error:          | Less than .2% |
| Comments:            | none          |
| Corrective Action:   | none          |

---

Malvern Borough

Tide Water Meter Pit

Totalizer transmitter (Thru SCADA)

Instrument Data:

Manufacturer: Seimens

Model #: Hydro Ranger 200

Serial #: PBD/X7070003

Relay output x 100

|                      |               |
|----------------------|---------------|
| Date of Calibration: | 12-17-20      |
| % of Error:          | Less than .2% |
| Comments:            | none          |
| Corrective Action:   | none          |

---

Malvern Borough

Tide Water Meter Pit

Totalize / Display

SCADA (LOCATED AT MALVERN)

Instrument Data:

Manufacture: Maple System

Model #: HM15070

Serial #120609618

Multiplier X 100

Date of Calibration: 12-17-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough

Warren Avenue Meter Pit

Ultrasonic Flow meter

Instrument Data:

Manufacturer: Miltronics

Model #: HydroRanger 200

Serial #: 110904179VU

Max Flow: 750 GPM

Primary: 21" Leopold Lagco Flume

Output: 4-20 MADC

Date of Calibration: 12-22-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough

Warren Avenue Meter Pit

Totalizer transmitter (Thru SCADA)

Instrument Data:

Manufacturer: Seimens

Model #: Hydro Ranger 200

Serial #: 110904179VU

Relay output x 100

10-07-20  
Date of Calibration: 12-17-20  
% of Error: Less than .2%  
Comment10-07-20s: none

Corrective Action: none

---

Malvern Borough

Warren Avenue Receiver

Totalize / Display

SCADA (LOCATED AT MALVERN)

Instrument Data:

Manufacture: Maple System

Model #: HM15070  
Serial #120609618  
Multiplier X 100

Date of Calibration: 12-17-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough  
Old Lincoln  
Ultrasonic Flow meter  
Instrument Data:

Manufacturer: Seimens  
Model #: Hydro Ranger 200  
Serial #: PBD/X65982013  
Max Flow: 0-200 GPM  
Primary: 8" Palmer Bowlus Flume  
Output: 4-20 MA10-07-20DC same

Date of Calibration: 12-27-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough  
Old Lincoln Pit  
Totalizer transmitter (Thru SCADA)  
Instrument Data:

Manufacturer: Seimens  
Model #: Hydro Ranger 200  
Serial #: PBD/X65982013  
Relay output x 100

Date of Calibration: 12-17-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough  
Old Lincoln Meter Pit  
Totalize / Display  
SCADA (LOCATED AT MALVERN)  
Instrument Data:

Manufacture: Maple System  
Model #: HM15070

Serial #120609618  
Multiplier X 100

Date of Calibration: 12-17-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough  
Minor Hill  
Ultrasonic Flow meter  
Instrument Data:

Manufacturer: Badger  
Model #: 2100  
Serial #: 4002  
Max Flow: 0-90.0 GPM  
Primary: 8" Palmer Bowlus Flume  
Output: 4-20 MADC same

Date of Calibration: 12-22-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough  
Minor Hill  
Totalizer transmitter (Thru SCADA)  
Instrument Data:

Manufacturer: Badger  
Model #: 2100  
Serial #: 4002  
Relay output x 100

Date of Calibration: 12-17-20  
% of Error: Less than .2%  
Comments: none

Corrective Action: none

---

Malvern Borough  
Minor Hill  
Totalize / Display  
SCADA (LOCATED AT MALVERN)  
Instrument Data:

Manufacture: Maple System  
Model #: HM15070  
Serial #120609618  
Multiplier X 100



|                      |               |
|----------------------|---------------|
| Date of Calibration: | 12-17-20      |
| % of Error:          | Less than .2% |
| Comments:            | none          |
| Corrective Action:   | none          |

---

## **“Section A1”**

---

Malvern Borough  
Injector Station No. 2  
Magnetic Flow meter/totalizer  
Instrument Data:

Manufacturer: Endress Hauser  
Model #: Pro Mag 50  
Serial #: 7B04A416000  
Cal: 104515010000000  
Max Flow: 150 GPM

|                      |               |
|----------------------|---------------|
| Date of Calibration: | 12-22-20      |
| % Of Error:          | Less than .2% |
| Comments:            | none          |
| Corrective Action:   | none          |

---

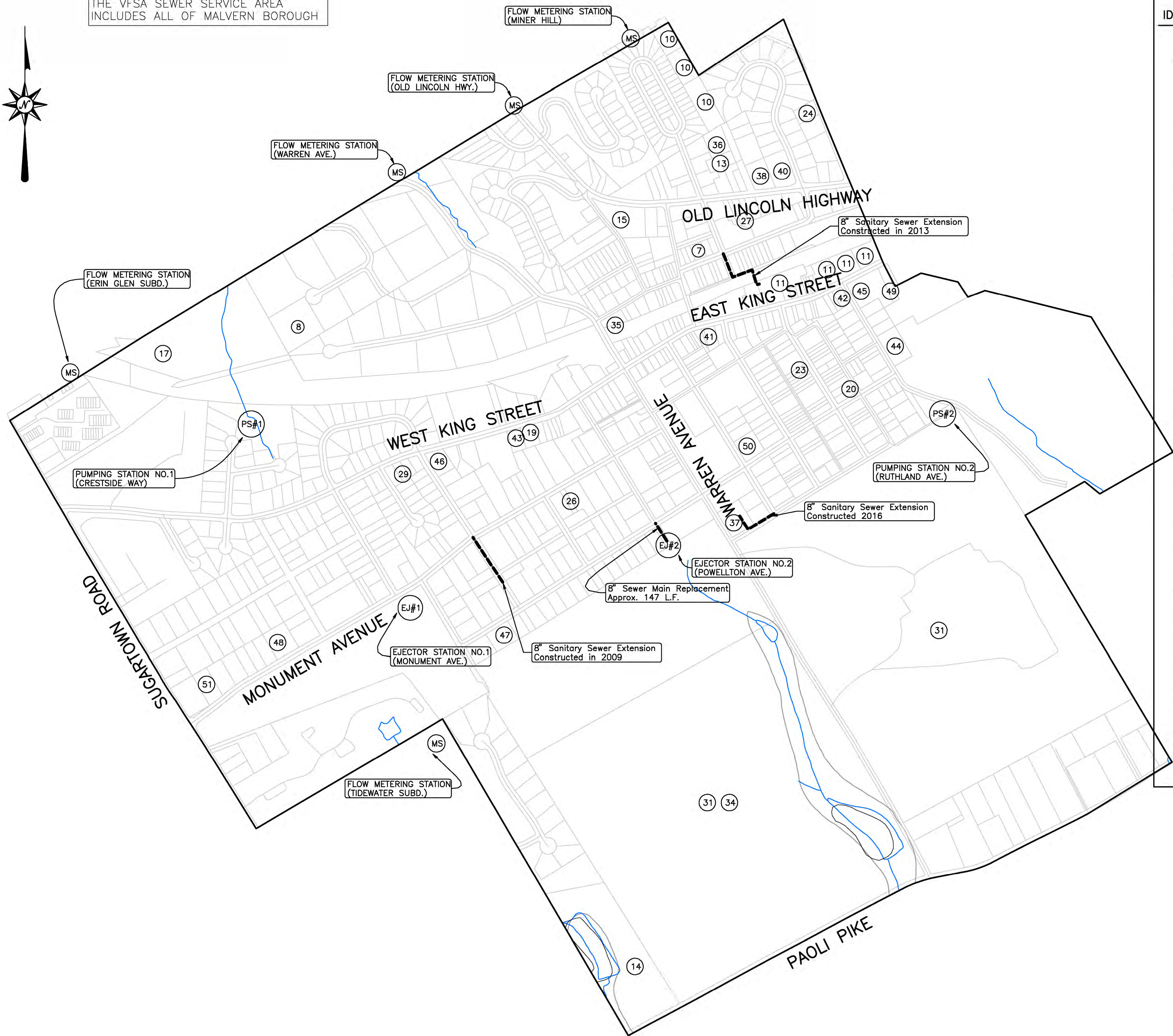
Malvern Borough  
Injector Station No. 2  
Circular Chart Recorder  
Instrument Data:

Manufacture: Fisher + Porter  
Model #: 392  
Serial #: D17787-001-01-01-4500-F5  
Counter: Electronic Totalizer x 10  
Range: 0-150 GPM

|                      |               |
|----------------------|---------------|
| Date of Calibration: | 12-22-20      |
| % of Error:          | Less than .2% |
| Comments:            | none          |
| Corrective Action:   | none          |



NOTE:  
THE VFSA SEWER SERVICE AREA  
INCLUDES ALL OF MALVERN BOROUGH



| ID NO. | DEVELOPMENT                                      | TAX PARCEL        |
|--------|--------------------------------------------------|-------------------|
| 7      | Cifa                                             | 2-4-84            |
| 8      | Bean (Formerly approved as part of Hough - Loew) | 2-3-3             |
| 10     | Lagrie                                           | 2-4-34, 2-1-35,36 |
| 11     | East King Street Redevelopment                   | 2-4-148           |
| 13     | Sheets                                           | 2-4-38            |
| 14     | Remed                                            | 2-9-1             |
| 15     | Francis (Formerly Longford/Old Lincoln)          | 2-4-68            |
| 17     | Atwin                                            | 2-3-1.1           |
| 19     | Ilex                                             | 2-3-29.1          |
| 20     | Buckley                                          | 2-4-276           |
| 23     | Finegan                                          | 2-4-266.1         |
| 24     | Rubino                                           | 2-4-43.1          |
| 26     | Priddy                                           | 2-7-8             |
| 27     | Highes                                           | 2-4-91.1          |
| 29     | Pots of Green                                    | 2-3-22            |
| 30     | Adptive Reuse / Change in Use                    | Various           |
| 31     | Potential Redevelopments**                       | Various           |
| 34     | Malvern Prep Maintenance Building                | 2-7-34 E          |
| 35     | Simmons                                          | 2-4-105           |
| 36     | Gugliemi                                         | 2-4-36            |
| 37     | Gables-217 S. Warren Ave,                        | 2-7-36            |
| 38     | 347 Old Lincoln Highway (Rubino Holdings)        | 2-4-41            |
| 40     | F Joseph Rubino (361 Old Lincoln Highway)        | 2-4-43            |
| 41     | ZMC Partners, LP                                 | 2-4-204, 205, 206 |
| 42     | Chambers - 346 E. King St                        | 2-4-297           |
| 43     | 203 Management LLC.                              | 2-3-29, 29.1      |
| 44     | 51 Ruthland Ave.                                 | 2-4-360           |
| 45     | 400 E. King St. - Brick and Brew                 | 2-4-355           |
| 46     | 11 Griffith Ave - Renehan                        | 2-3-25            |
| 47     | Renehan - 320 W. First Avenue Permit Plan        | 2-6-96.1          |
| 48     | 523 Monument Ave. Subdivision - Coughlin         | 2-6-37            |
| 49     | Traynor Capital Management - 418 E. King Street  | 2-4-356           |
| 50     | Wolfe - 151 Channing Avenue                      | 2-4-235.1         |
| 51     | 631 Monument Avenue                              | 2-6-31            |

DEVELOPMENT LOCATION PLAN

LOCATION PLAN  
FOR  
MALVERN BOROUGH 2020  
CHAPTER 94 REPORT

MALVERN BOROUGH

CHESTER COUNTY, PA

Edward B. Walsh & Associates, Inc.

CIVIL ENGINEERS & SURVEYORS

Whiteland Business Park  
855 Springdale Drive, Suite 202  
Exton, Pennsylvania 19341  
Phone (610) 903-0060  
Fax (610) 903-0080  
www.ebwalshinc.com

Project-2780-16

Date- 03/5/21

Scale- NTS

Drawn- C.E.

Checked- D.H.D.

Sheet- 1 OF 1

Plotted: 3/5/2021

File:F:\JB\2780-16\2021 Report\07-2780-16 CHAP 94 PLAN-2020.pro





## 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:   | <b>VALLEY FORGE SEWER<br/>AUTHORITY MEMBER<br/>MUNICIPALITIES REPORT</b> | Permit No.:       | <b>PA0043974</b>           |
| Mailing Address:  | <b>333 PAWLING ROAD</b>                                                  | Effective Date:   | <b>1/1/20</b>              |
| City, State, Zip: | <b>PHOENIXVILLE, PA 19460</b>                                            | Expiration Date:  | <b>12/31/24</b>            |
| Contact Person:   | <b>Mr. Martin F. Goldberg</b>                                            | Renewal Due Date: | <b>7/4/24</b>              |
| Title:            | <b>Operations Manager</b>                                                | Municipality:     | <b>Schuylkill Township</b> |
| Phone:            | <b>610-935-1553</b>                                                      | County:           | <b>Chester</b>             |
| Email:            | <b>mgoldberg@vfsa.com</b>                                                | Consultant Name:  |                            |

### 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 1**)  
☒ DEP Chapter 94 Spreadsheet used (**Attachment 1**)  
☐ 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 1**)  
☒ DEP Chapter 94 Spreadsheet used (**Attachment 1**)  
☐ 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))

**Not applicable**

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** )
- ☒ List summarizing each extension or project attached (**Attachment** )
- ☐ Schedules describing how each project will be completed over time and effects attached (**Attachment** )

**Comments:**

**Please see report following.**

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))

**Please see report following.**

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:**

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

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** )

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 2**)

**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).

**Martin F. Goldberg**

Name of Responsible Official

**610-935-1553**

Telephone No.

Signature

Date

*Martin F. Goldberg*

5/25/21

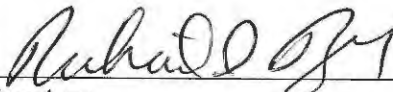


### PREPARER CERTIFICATION

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).

Richard D. Taylor

Name of Preparer

  
Signature

610-935-1553

Telephone No.

5-25-21  
Date



## 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](http://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](http://www.depweb.state.pa.us), and selecting Regional Resources).

**CHAPTER 94**  
**MUNICIPAL WASTELOAD MANAGEMENT**  
**MEMBER MUNICIPALITIES ANNUAL REPORT**  
(In PADEP Format)

**CALENDAR YEAR 2020**

For: **THE VALLEY FORGE SEWER AUTHORITY**  
**MEMBER MUNICIPALITIES REPORT**  
**CHESTER COUNTY, PENNSYLVANIA**  
**333 PAWLING ROAD**  
**PHOENIXVILLE, PA 19460**

## INTRODUCTION

Valley Forge Sewer Authority (VFSA) owns and operates an advanced secondary regional publicly owned treatment works permitted by the Pennsylvania Department of Environmental Resources (PADEP), in conjunction with the United States Environmental Protection Agency (USEPA), under Discharge Permit # PA0043974.

The VFSA provides both wastewater conveyance and treatment to its Member Municipalities consisting of Schuylkill, East Pikeland, and Charlestown Townships. The Member Municipalities allocation of the total treatment plant hydraulic and organic loading is 18.1 percent.

### 1. HYDRAULIC LOADING

The current permitted capacities of the VFSA treatment plant are:

|                           | Post Expansion | Member Municipality Allocation |
|---------------------------|----------------|--------------------------------|
| Annual Average Capacity   | 11.75 mgd      | 2.128 MGD (18.1% of total)     |
| Hydraulic Design Capacity | 11.75 mgd      | 2.128 MGD (18.1% of total)     |
| Organic Design Capacity   | 26,700 lbs/day | 4,833 lbs/day (18.1% of total) |

The Annual Average (AA) flow for 2020 for the VFSA Member Municipalities was **1.671** MGD, which is seventy-eight percent of the post-expansion AA capacity of **2.128** MGD.

The 2020 VFSA Member Municipalities wastewater treatment plant flow was generated by an average of 7,462 EDUs. The number of baseline EDUs used in the projected flow calculations is 7,521, corresponding to the 2020 end-of-year EDU count.

By PADEP definition in the Chapter 94 Municipal Wasteload Management Annual Report template, a hydraulic overload condition at the WWTP exists when, during any three consecutive month period, the average flow exceeds the hydraulic design capacity of the WWTP. This condition did not occur during 2020.

### 2. ORGANIC LOADING

The Annual Average (AA) organic loading for 2020 for the VFSA Member Municipalities was **2,787** LB/day BOD<sub>5</sub>, which is fifty-eight percent of the post-expansion permitted AA capacity of **4,833** LB/day BOD<sub>5</sub>. Organic loading was estimated utilizing an average value of 200 mg/L BOD<sub>5</sub>.

By PADEP definition in the Chapter 94 Municipal Wasteload Management Annual Report template an organic overload condition at the WWTP exists when, during any month the average organic loading exceeds the permitted organic design capacity of the WWTP. This condition did not occur during 2020.

**3. NOT APPLICABLE**

**4. SEWER EXTENSIONS**

The total number of EDUs connected at the end of 2020 was 7521. The EDU count at the end of the year was 215 EDUs.

During the next five years, the number of EDUs is projected to increase as follows:

|      |     |
|------|-----|
| 2021 | 141 |
| 2022 | 159 |
| 2023 | 45  |
| 2024 | 25  |
| 2025 | 18  |

Please see the spreadsheet and graphs included in Appendix A at the end of this section.

Information and updates on the progress of the sewer extensions is presented in Table 1, below:

VFSA Member Municipality  
Chapter 94 Report 2020

| VALLEY FORGE SEWER AUTHORITY MEMBER MUNICIPALITY SEWER EXTENSIONS - 2020 CHAPTER 94 REPORT |                 |                        |                                        |                                                |                                                                                                                                           |                                                                                                                                                         |
|--------------------------------------------------------------------------------------------|-----------------|------------------------|----------------------------------------|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Development Name                                                                           | Developer       | Municipality           | # of new connections completed in 2020 | Length of Sewer Cleaned and TV'd (Lineal Feet) | Dedication status                                                                                                                         | Notes                                                                                                                                                   |
| Pickering Crossing                                                                         | Southdown Homes | Charlestown Township   | 6                                      | 1250                                           | Construction in progress<br>Dedication expected in 2022                                                                                   | 10 lots remain to be connected in 2021 & 2022 and beyond.                                                                                               |
| Spring Oak                                                                                 | JP Orleans      | Charlestown Township   | 13                                     | 2850                                           | Phases 2 & 3 dedication are completed. Phase 1 dedication is projected be completed in the fall of 2021 with recordation of ROW Agreement | 19 new homes to be connected in 2021 & 2022 and beyond.                                                                                                 |
| Devault Village at Spring Oak                                                              | JP Orleans      | Charlestown Township   | 0                                      | 0                                              | Agreements anticipated prior to star date. Expedited start fall of 2021                                                                   | Received PADEP planning approval in December 2018 for 15,950 gpd.                                                                                       |
| Kimberton Glen                                                                             | Toll Brothers   | East Pikeland Township | 55                                     | 3100                                           | Phase 1 dedication to the Authority will be completed upon successful fulfillment of the 18-month Maintenance Warranty. Projected 2021.   | 81 lots remain to be connected in 2021 & 2022 and beyond. Phases 2 & 3 are currently under construction.                                                |
| 400 Westside                                                                               | Longview        | East Pikeland Township |                                        | 1800                                           | Deed of Dedication and Right-of-Way agreement to Authority was completed in the fall of 2020 and recorded at Chester County.              | Completed final closeout of this development project occurred in the fall of 2020 with VFSA Board approval.                                             |
| Valley Forge Greene                                                                        | Pulte           | Schuylkill Township    | 8                                      | 625                                            | Agreements are in place and sanitary sewer construction activities are in progress.                                                       | Received PADEP planning approval in February 2020 for 32 - unit townhomes totalling 8,800 gpd. To date, 24 units remain to be connected in 2021 & 2022. |



## **5. PROGRAM for SANITARY SEWER MONITORING, MAINTENANCE, REPAIR AND REHABILITATION**

In late 2019, the Authority, with their Engineer of Record, Buchart-Horn, Inc., completed a study which was documented in a report entitled, "Valley Forge Sewer Authority, French Creek Interceptor System Evaluation". The evaluation included manhole inspections and flow monitoring in various subbasins within the overall French Creek Drainage Basin. In 2020 to address items highlighted in the BH study, the Authority initiated field work to repair and improve key portions of the basin. The project activities included:

- Clearing all right-of-ways of overgrown vegetation.
- Utilizing a Global Positioning System (GPS) to locate manholes and marking all manhole locations within the study area.
- Installing portable flow meters in strategic areas to evaluate inflow and infiltration (I&I) quantities at these locations during storm events.
- Utilizing the Authority's Engineer of Record, Buchart Horn Inc., to provide manhole condition assessments according to industry-accepted methodologies.
- Utilizing a contractor to clean and televise sanitary sewers in the targeted drainage areas and to perform spot repairs.
- Installing new water proof manhole frames and covers.

In 2020, approximately 60% of the entire French Creek Pump Station sanitary sewer drainage basin including 13 miles of pipe and 302 manholes had been cleaned, televised and inspected. This work also included performing 35 spot repairs to gravity sewer pipes and manholes and installing 40 new manhole frame and covers.

Some conclusions of this work to date include the following:

- The gravity sewers and manholes appear to be in generally good condition, and while some defects were found and repaired, they were generally minor.
- An expanded maintenance program which includes identification of system defects and repair will be beneficial going forward.
- In addition to I&I related to precipitation events, there is also a relationship between groundwater level and wastewater flow in the French Creek sewer system.
- Significant additional work is needed to identify and repair I&I throughout the entire VFSA system. However, gaining significant capacity through I&I reduction may be unlikely. More important is the maintenance of system condition in order to avoid

degradation which may result in reduced capacity and increase the risk of sewer overflows. Future planning will include capacity equaling 275 gpd/edu.

In addition to continuing with the I&I activities that are described above, the additional work anticipated in the future includes the following:

- Establish and implement appropriate activities to evaluate and address potential sources of I&I from private sewer lateral connections and potentially illegal connections to the sanitary sewer system from private households. The Authority is also evaluating developing ordinances which would require, as part of the real estate transaction process, inspections of internal plumbing in customer homes to assure no illegal connections.

In 2021 the Authority intends to continue its work in the French Creek basin, as well as initiating evaluation and repair work in other parts of its overall system. A program to address manholes along stream corridors in the Pickering Creek and White Horse pumping station basins including manhole survey and inspection is planned for 2021.

In addition to the I&I Analysis and Repair activities described above, the Authority also performed two significant sanitary pipeline and manhole repairs in 2020 which are summarized below:

1. **Replacement of Gravity Sewer Line on West Pothouse Road between West Evergreen Drive and East of Potters Pond Drive from Manholes 104 to 103 (August 2020).** This gravity sewer segment, consisting of approximately 370 feet of 18" asbestos cement pipe, was identified to be partially collapsed as a result of sulfide corrosion. The Authority contracted with their on-call contractor, Blooming Glenn Construction, to perform expedited work to excavate and replace this segment with 26 SDR PVC pipe and reconnect the 2 sanitary laterals that were connected to this pipe segment. In addition, both the upstream and downstream manholes were found to be damaged as a result of hydrogen sulfide corrosion. They were rebuilt with corrosion resistant materials.

Following this work activity, the Authority televised all of the gravity sewers on Pothouse Road between Township Line Road and the Pothouse Pumping Station. Repairs are anticipated to be performed in 2021 based on the findings of the television inspection work.

2. **Sinkhole repair at 3222 Phoenixville Pike (November 2020).** A gravity sewer segment consisting of 150 feet of 10" PVC pipe was found to be exposed as a result of significant sinkhole undermining of the pipe in an Authority right-of way. Once identified, the Authority contracted with Earth Engineering to establish the best course of action to safely stabilize the partially undermined gravity sewer line. The recommendation was to excavate and expose a significant portion of the pipe, and then stabilize the pipe with mechanical joint reinforcements and partially backfill with flow-able fill material. Once accomplished the segment was backfilled with clean soil to grade and then re-

vegetated. This work was performed for the Authority on an expedited basis by Blooming Glen Construction.

## **6. CONDITION OF THE SEWER SYSTEM**

As indicated in Section 5 above, a conclusion of the French Creek Evaluation was that the gravity sewers and manholes in the French Creek drainage basin appear to be in generally good condition. It is the Authority's opinion that its entire system is also in a generally good state of repair, and further detailed study will occur in subsequent years.

During 2020, no bypassing occurred in the Member Municipalities sanitary sewer system. VFSA has a sanitary sewer system only, not a combined system, so no CSOs occurred. During 2020, there were three Sanitary Sewer Overflow (SSOs) which were promptly reported to PADEP. These occurred on the following dates: January 25, August 4, and August 4-5. Copies of the submitted reports are in Appendix B:

In 2019 the Authority excavated to expose key locations in its force main which runs from its Pickering Pumping Station to the WWTP in order to better evaluate forcemain pipe conditions and establish recommendations for system maintenance. Results of this testing indicated a need to install a new air release valve (ARV) at a vulnerable location (which was completed in 2020). Further evaluation will be performed in 2021.

## **7. SEWAGE PUMPING STATIONS**

Please see the table (attached) regarding VFSA member municipality pump stations. Additional flows are based on the Member Municipalities 5 year average EDU rate of 231 gpd/EDU. Data for the Maximum Day Flow has been obtained from the cloud based real time monitoring system for the pump stations from the heavy precipitation event of approximately 5.9 inches which occurred on August 4, 2020.

Overall 2020 was an above average year for precipitation with annual rainfall totals in excess of 59 inches versus average rainfall amounts of approximately 48 inches. This resulted in high maximum day flows at the pumping stations, but still below their hydraulic design capacities. All four of the large pump stations in VFSA's system contain three (3) pumps which enables two (2) pumps to operate simultaneously if required.

Please see the tables and graphs included as Appendices C and D which include monthly flows at the 4 major pump stations and flows at all of the Authority's pump stations in regards to rainfall events of one inch or more during 2020.

VFSA Member Municipality  
Chapter 94 Report 2020

| VALLEY FORGE SEWER AUTHORITY<br>2020 ANNUAL CHAPTER 94 HYDRAULIC LOADING<br>BASED ON MISSION COMMUNICATION DATA<br>PUMP STATION DATA |                 |                                                     |                                                                              |           |                                            |                                   |                                          |                                          |                                       |                                       |
|--------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------------------------------------------|------------------------------------------------------------------------------|-----------|--------------------------------------------|-----------------------------------|------------------------------------------|------------------------------------------|---------------------------------------|---------------------------------------|
| PUMP<br>STATION<br>NAME                                                                                                              | No. of<br>Pumps | PERMITTED CAPACITIES                                |                                                                              |           | PRESENT FLOWS 2020                         |                                   |                                          | PROJECTED FLOWS                          |                                       |                                       |
|                                                                                                                                      |                 | Annual<br>Average<br>Permitted<br>Capacity<br>(gpd) | Hydraulic Capacity<br>(excluding capacity<br>of backup pump),<br>(gpm) (gpd) |           | 2020<br>Annual<br>Average<br>Flow<br>(gpd) | 2020<br>Max. Day<br>Flow<br>(gpd) | 2020<br>Max. Day<br>to Avg. Day<br>Ratio | Contributing<br>New EDUs<br>next 2 years | 2 year<br>Annual<br>Avg Flow<br>(gpd) | 2 Year<br>Max. Daily<br>Flow<br>(gpd) |
| Pickering Creek                                                                                                                      | 3               | 2,686,560                                           | 5,597                                                                        | 8,059,680 | 1,366,193                                  | 5,298,000                         | 3.88                                     | 147                                      | 1,406,618                             | 5,454,765                             |
| White Horse                                                                                                                          | 3               | 2,350,080                                           | 4,896                                                                        | 7,050,240 | 1,015,551                                  | 3,983,400                         | 3.92                                     | 147                                      | 1,055,976                             | 4,141,963                             |
| Pot House                                                                                                                            | 3               | 2,040,000                                           | 4,250                                                                        | 6,120,000 | 863,957                                    | 2,973,500                         | 3.44                                     | 147                                      | 904,382                               | 3,112,632                             |
| French Creek                                                                                                                         | 3               | 1,570,994                                           | 3,382                                                                        | 4,870,080 | 731,350                                    | 2,584,400                         | 3.53                                     | 147                                      | 771,775                               | 2,727,251                             |
| Perkiomen                                                                                                                            | 2               | 214,920                                             | 597                                                                          | 859,680   | 79,132                                     | 553,300                           | 6.99                                     | 24                                       | 85,732                                | 599,448                               |
| Valley Creek                                                                                                                         | 2               | 67,680                                              | 188                                                                          | 270,720   | 18,003                                     | 148,800                           | 8.27                                     | 0                                        | 18,003                                | 148,800                               |
| Kimbel Drive                                                                                                                         | 2               | 37,440                                              | 104                                                                          | 149,760   | 17,308                                     | 56,127                            | 3.24                                     | 0                                        | 17,308                                | 56,127                                |
| Charlestown Rd                                                                                                                       | 2               | 92,520                                              | 257                                                                          | 370,080   | 33,722                                     | 143,318                           | 4.25                                     | 0                                        | 33,722                                | 143,318                               |
| VF Woods*                                                                                                                            | 2               | 112,680                                             | 313                                                                          | 450,720   | 62,694                                     | 250,776                           | 3.69                                     | 0                                        | 62,694                                | 231,588                               |
| Charestown Meadows                                                                                                                   | 2               | 97,200                                              | 270                                                                          | 388,800   | 27,411                                     | 34,200                            | 1.25                                     | 0                                        | 27,411                                | 34,200                                |
| Charlestown Oaks                                                                                                                     | 0               | METER STATION ONLY                                  |                                                                              |           | 40,865                                     |                                   | NA                                       | 0                                        |                                       |                                       |
| Kimberton Meadows                                                                                                                    | 2               | 18,000                                              | 50                                                                           | 72,000    | 14,575                                     | 36,209                            | 2.48                                     | 0                                        | 14,575                                | 36,209                                |

\* For smaller pumping stations with limited flow recording data, Max. Day was calculated using average ratio of 4 regional stations (Pickering, White Horse, Pothouse, French Creek. Max. Day/Avg. Day= 3.69

**8. INDUSTRIAL WASTES**

The Industrial Pretreatment Program as approved by the United States Environmental Protection Agency (USEPA) is administered by the Valley Forge Sewer Authority on behalf of all partner municipalities. Included in the Industrial Wastes section is a comprehensive report of the activities conducted by the Authority in regards to this program. The VFSA Board of Directors has adopted by resolution a USEPA approved industrial waste pretreatment program as part of the VFSA's rules and regulations. Each Member and Partner municipality has adopted, at a minimum, the VFSA's rules and regulations regarding sewer system use as a part of their local ordinance structure. VFSA's rules and regulations and the tributary municipalities' ordinances are periodically amended to address new or revised federal, state or local rules and regulations. VFSA maintains current copies of Member and Partner municipality ordinances on file at the administrative/laboratory building adjacent to the treatment plant. Please see Section 2 of the VFSA Chapter 94 Municipal Wasteload Management Regional Treatment Plant Annual Report.

**9. EXISTING OR PROJECTED OVERLOAD**

Per the VFSA Member Municipalities PADEP Chapter 94 Spreadsheet hydraulic and organic historical data and projections, the VFSA member municipalities are projected to slightly exceed their hydraulic capacity allocation for 2022 through 2025. However, a hydraulic overload of the wastewater treatment plant is not projected for these years since the plant is only currently at 58% of its capacity and the other partner municipalities are well below their projected hydraulic capacity allocations. This situation also occurred in 2018 and 2019 and is allowed under the Wastewater Treatment Plant Rental Pool Agreement where unused allocated capacity is automatically rented to the municipalities in need. There are no projected organic overload conditions through 2025.

There are no projected hydraulic overloads at the Pumping Stations for the next 2 years or the Wastewater Treatment Plant.

**10. SEWAGE SLUDGE MANAGEMENT INVENTORY – NOT APPLICABLE**

**11. FACILITIES WITH CSOs – NOT APPLICABLE**

**12. ANNUAL CALIBRATION REPORT**

VFSA has a contract with Allied Control Services, Inc. to check and calibrate the meters serving the WWTP and the municipal collections systems at least annually. (As a matter of course, these meters are calibrated on a quarterly basis). Please see Attachment No. 2 of Section 1 of the 2020 VFSA Chapter 94 Municipal Wasteload Management Regional Treatment Plant Annual Report for a copy of the fourth quarter 2020 calibration reports. Meter calibration reports are available upon request.

**2020 VFSA CHAPTER 94  
MUNICIPAL WASTELOAD MANAGEMENT  
MEMBER MUNICIPALITIES REPORT**

**HISTORICAL HYDRAULIC AND ORGANIC LOADING DATA  
AND FUTURE PROJECTIONS**

**APPENDIX A**



Reporting Year:

Facility Name:

Permit No.:

Persons/EDU:

Existing Hydraulic Design Capacity:  MGD

Upgrade Planned in Next 5 Years?  Year:

Future Hydraulic Design Capacity:  MGD

Existing Organic Design Capacity:

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     | 2016  | 2017    | 2018  | 2019  | 2020  |
|-----------|-------|---------|-------|-------|-------|
| January   | 1.517 | 1.38439 | 1.250 | 2.457 | 1.638 |
| February  | 2.473 | 1.24812 | 2.226 | 2.242 | 1.860 |
| March     | 1.567 | 1.42886 | 2.363 | 2.649 | 1.854 |
| April     | 1.311 | 1.8689  | 1.729 | 1.757 | 2.150 |
| May       | 1.616 | 1.46658 | 2.117 | 1.959 | 1.802 |
| June      | 1.204 | 1.38323 | 2.276 | 1.696 | 1.387 |
| July      | 1.081 | 1.23158 | 1.905 | 1.526 | 1.446 |
| August    | 1.049 | 1.25565 | 2.262 | 1.265 | 1.641 |
| September | 1.065 | 1.16308 | 2.514 | 1.175 | 1.235 |
| October   | 1.026 | 1.14594 | 1.761 | 1.245 | 1.285 |
| November  | 1.043 | 1.20121 | 2.706 | 1.363 | 1.528 |
| December  | 1.246 | 1.16872 | 2.393 | 1.740 | 2.225 |

|                   |         |             |             |             |             |
|-------------------|---------|-------------|-------------|-------------|-------------|
| Annual Avg        | 1.35    | 1.328855177 | 2.125306121 | 1.756055787 | 1.670894487 |
| Max 3-Mo Avg      | 1.852   | 1.588112075 | 2.327174079 | 2.518788247 | 1.954486961 |
| Max : Avg Ratio   | 1.37    | 1.20        | 1.09        | 1.43        | 1.17        |
| Existing EDUs     | 6,780.0 | 6,959.0     | 6,997.0     | 7,306.0     | 7,521.0     |
| Flow/EDU (GPD)    | 199.1   | 191.0       | 303.7       | 240.4       | 222.2       |
| Flow/Capita (GPD) | 56.9    | 54.6        | 86.8        | 68.7        | 63.5        |
| Exist. Overload?  | NO      | NO          | NO          | YES         | NO          |

**Projected Flows for Next Five Years (MGD)**

|                    | 2021    | 2022    | 2023    | 2024    | 2025    |
|--------------------|---------|---------|---------|---------|---------|
| New EDUs           | 141.0   | 158.6   | 45.0    | 25.0    | 18.0    |
| New EDU Flow       | 0.0326  | 0.0367  | 0.0104  | 0.0058  | 0.0042  |
| Proj. Annual Avg   | 1.67882 | 1.71552 | 1.72592 | 1.73172 | 1.73592 |
| Proj. Max 3-Mo Avg | 2.1039  | 2.14989 | 2.16293 | 2.1702  | 2.17546 |
| Proj. Overload?    | NO      | YES     | YES     | YES     | YES     |

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

| Month     | 2016  | 2017  | 2018  | 2019  | 2020  |
|-----------|-------|-------|-------|-------|-------|
| January   | 2,530 | 2,309 | 2,085 | 4,098 | 2,732 |
| February  | 4,125 | 2,082 | 3,712 | 3,740 | 3,102 |
| March     | 2,614 | 2,383 | 3,942 | 4,418 | 3,092 |
| April     | 2,187 | 3,117 | 2,885 | 2,930 | 3,586 |
| May       | 2,696 | 2,446 | 3,532 | 3,267 | 3,006 |
| June      | 2,009 | 2,307 | 3,797 | 2,828 | 2,313 |
| July      | 1,803 | 2,054 | 3,177 | 2,545 | 2,413 |
| August    | 1,749 | 2,094 | 3,774 | 2,111 | 2,737 |
| September | 1,776 | 1,940 | 4,194 | 1,959 | 2,060 |
| October   | 1,712 | 1,911 | 2,938 | 2,076 | 2,143 |
| November  | 1,740 | 2,004 | 4,514 | 2,274 | 2,549 |
| December  | 2,078 | 1,949 | 3,992 | 2,902 | 3,712 |

|                  |       |       |       |       |       |
|------------------|-------|-------|-------|-------|-------|
| Annual Avg       | 2,252 | 2,217 | 3,545 | 2,929 | 2,787 |
| Max Mo Avg       | 4,125 | 3,117 | 4,514 | 4,418 | 3,712 |
| Max : Avg Ratio  | 1.83  | 1.41  | 1.27  | 1.51  | 1.33  |
| Existing EDUs    | 6,780 | 6,959 | 6,997 | 7,306 | 7,521 |
| Load/EDU         | 0.332 | 0.319 | 0.507 | 0.401 | 0.371 |
| Load/Capita      | 0.095 | 0.091 | 0.145 | 0.115 | 0.106 |
| Exist. Overload? | NO    | NO    | NO    | NO    | NO    |

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

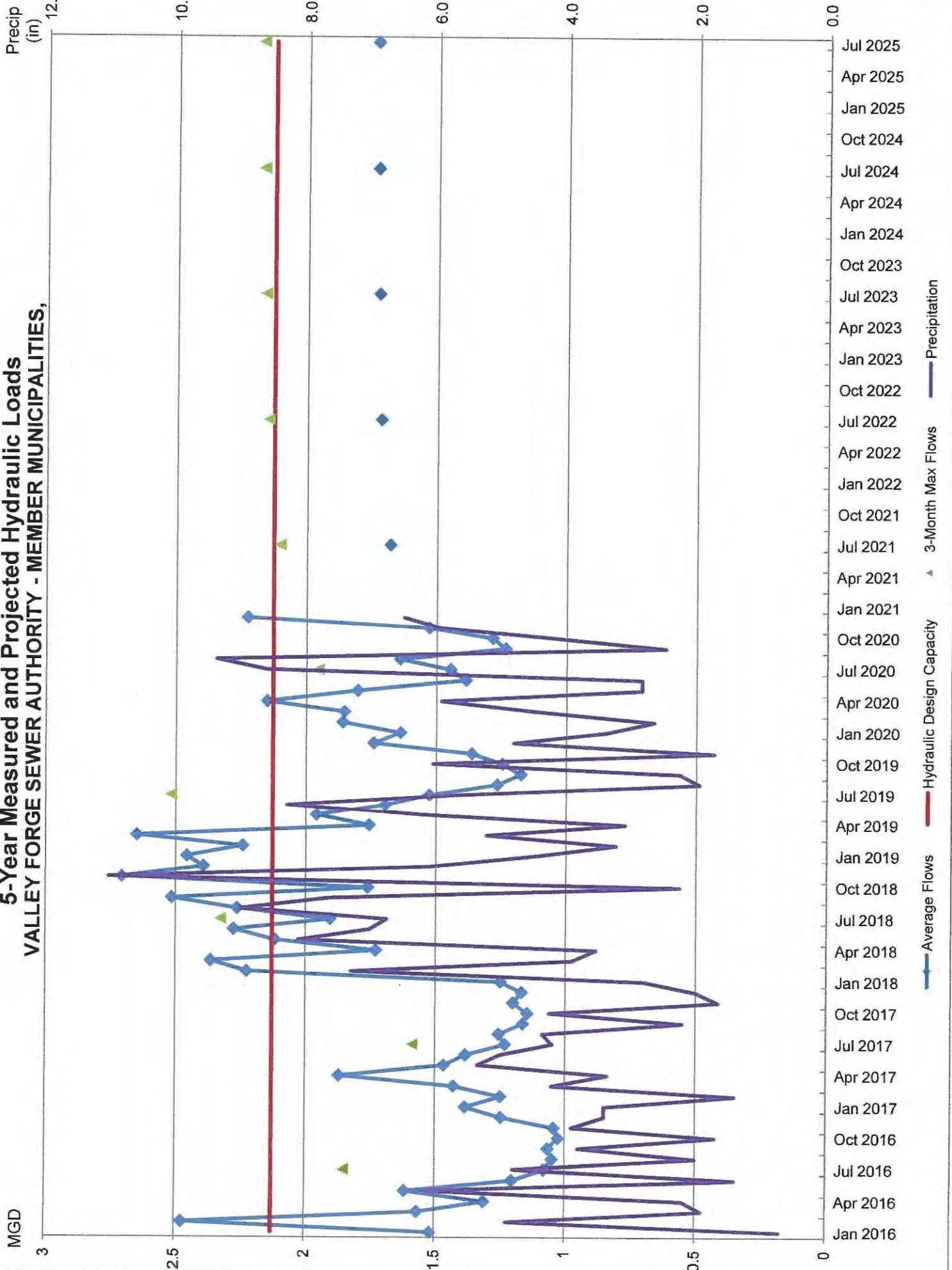
|                  | 2021   | 2022   | 2023   | 2024  | 2025  |
|------------------|--------|--------|--------|-------|-------|
| New EDUs         | 141    | 158.6  | 45     | 25    | 18    |
| New EDU Load     | 54.390 | 61.179 | 17.359 | 9.644 | 6.943 |
| Proj. Annual Avg | 2,800  | 2,861  | 2,879  | 2,888 | 2,895 |
| Proj. Max Avg    | 4,117  | 4,207  | 4,233  | 4,247 | 4,257 |
| Proj. Overload?  | NO     | NO     | NO     | NO    | NO    |

Show Precipitation Data on Hydraulic Graph?

**Total Monthly Precipitation for Past Five Years (Inches)**

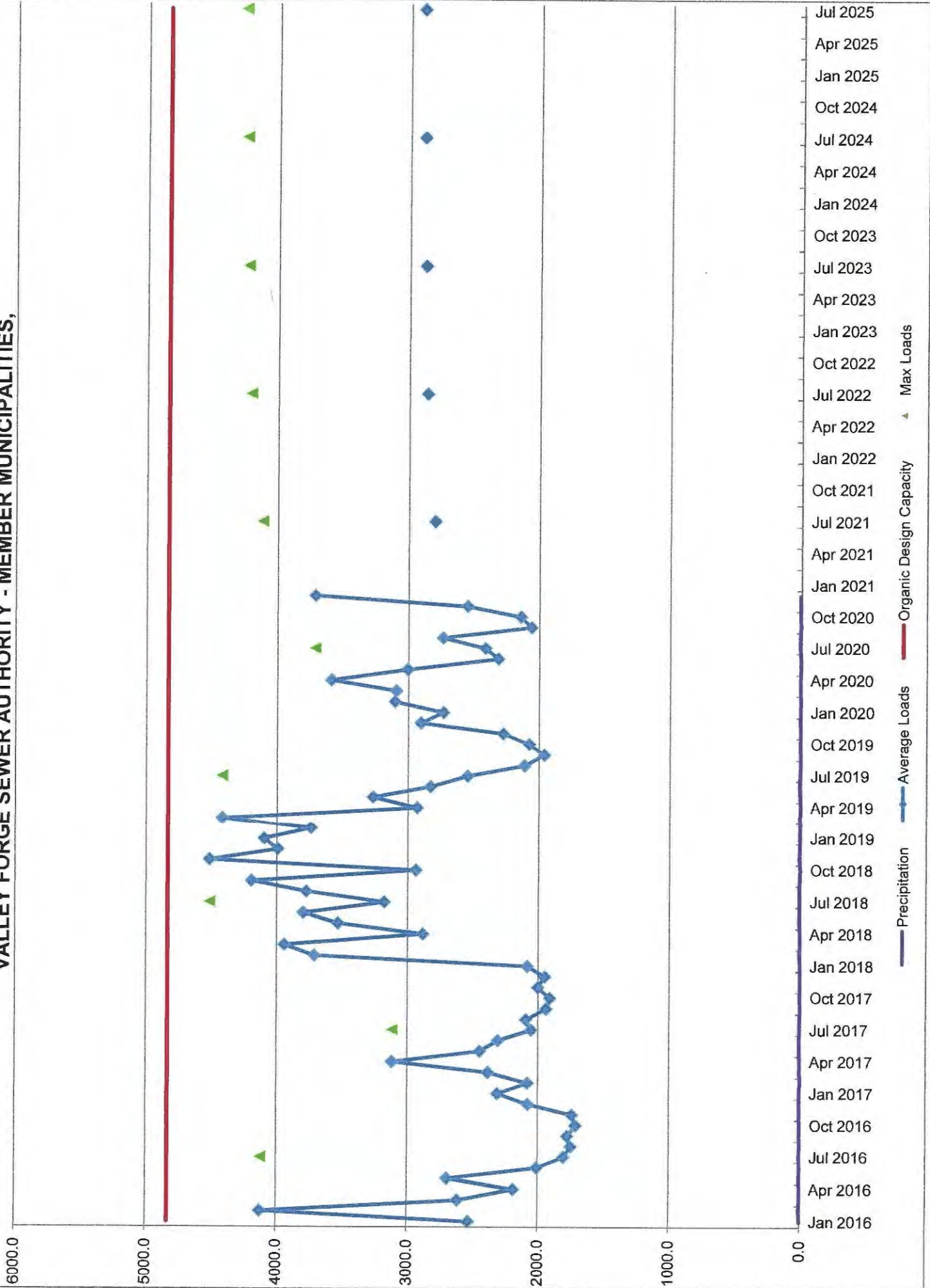
| Month     | 2016 | 2017 | 2018 | 2019 | 2020 |
|-----------|------|------|------|------|------|
| January   | 0.7  | 3.4  | 2.8  | 4.5  | 3.4  |
| February  | 4.9  | 1.4  | 7.3  | 3.2  | 2.7  |
| March     | 1.9  | 4.21 | 3.9  | 5.2  | 4.5  |
| April     | 2.2  | 3.35 | 3.5  | 3.1  | 5.9  |
| May       | 6.2  | 5.35 | 8.1  | 6.2  | 2.8  |
| June      | 1.4  | 5.0  | 7.0  | 8.3  | 2.8  |
| July      | 4.8  | 4.2  | 6.8  | 5.7  | 8.6  |
| August    | 2.0  | 4.35 | 9.0  | 2.0  | 9.4  |
| September | 3.8  | 2.2  | 7.7  | 2.3  | 2.5  |
| October   | 1.7  | 4.25 | 2.3  | 6.1  | 4.2  |
| November  | 3.9  | 1.65 | 11.0 | 1.7  | 6.0  |
| December  | 3.4  | 2.0  | 6.1  | 4.8  | 6.5  |

# 5-Year Measured and Projected Hydraulic Loads VALLEY FORGE SEWER AUTHORITY - MEMBER MUNICIPALITIES,





# 5-Year Measured and Projected Organic Loads VALLEY FORGE SEWER AUTHORITY - MEMBER MUNICIPALITIES,



**TABLE 1**  
**PROJECTED EDU GROWTH WITHIN THE MEMBER MUNICIPALITIES**

The estimated EDUs for the years 2020 through 2024 and beyond are as follows:

| Development                              | Status | Twp. | Approved<br>EDUs Total | Remaining<br>EDUs -<br>Total | 2021 | 2022 | 2023 | 2004 | 2025 | Beyond | Type<br>of Ext. | Drainage<br>Basin |
|------------------------------------------|--------|------|------------------------|------------------------------|------|------|------|------|------|--------|-----------------|-------------------|
| Campbell (26-2-169)                      | P      | EP   | 9                      | 9                            | 0    | 0    | 2    | 7    | 0    | 0      | R               | FC-2009           |
| Celluci                                  | P      | CH   | 16                     | 16                           | 0    | 0    | 0    | 0    | 0    | 16     | R               | LT-3010           |
| 19 Oakwood Lane (27-7-10.13A)            | A      | S    | 1                      | 1                            | 0    | 0    | 0    | 0    | 0    | 0      | R               | VC                |
| Connell Property (26-2-160,161)          | P      | EP   | 2                      | 2                            | 0    | 0    | 0    | 2    | 0    | 0      | R               | FC-2009           |
| Commons at Great Valley                  | E      | CH   | 73                     | 10                           | 5    | 5    | 0    | 0    | 0    | 0      | C               | LT-3010           |
| Croft @ Rt 113 & 7 Stars                 | N      | EP   | 2                      | 2                            | 0    | 2    | 0    | 0    | 0    | 0      | R               | FC-2009           |
| Cutler (Kimberton Glen)                  | A      | EP   | 332                    | 135                          | 50   | 50   | 20   | 10   | 5    | 0      | R               | FC-2009           |
| Deer Run Lane                            | E      | EP   | 9                      | 3                            | 0    | 0    | 0    | 0    | 0    | 3      | R               | FC-2009           |
| Devault Meats                            | E      | CH   | 134                    | 134                          | 0    | 0    | 0    | 0    | 0    | 134    | I               | LT-3010           |
| Emmanuel/Dodie                           | N      | EP   | 13                     | 13                           | 0    | 0    | 0    | 0    | 0    | 13     | R               | FC-2009           |
| Ferry Lane (Masters)                     | P      | S    | 4                      | 4                            | 2    | 2    | 0    | 0    | 0    | 0      | R               | PER-1009          |
| Fillipo Tract (Devault Village)          | A      | CH   | 78                     | 78                           | 28   | 50   | 0    | 0    | 0    | 0      | R               | LT-3010           |
| French Creek Business Park               | E      | S    | 25                     | 10                           | 10   | 0    | 0    | 0    | 0    | 0      | C               | FC-2009           |
| Gappa @ Rapps Dam Rd (26-3-106)          | P      | EP   | 3                      | 3                            | 0    | 0    | 2    | 0    | 0    | 1      | R               | FC-2009           |
| GPT Properties (566 & 574 Schuylkill Rd) | N      | EP   | 3                      | 3                            | 3    | 0    | 0    | 0    | 0    | 0      | R               | FC-2009           |
| Heritage (Coccia)                        | P      | EP   | 22                     | 22                           | 0    | 0    | 0    | 0    | 0    | 22     | R               | FC-2009           |
| Holy Ascension Church                    | P      | CH   | 6.6                    | 6.6                          | 0    | 6.6  | 0    | 0    | 0    | 0      | R/C             | LT-3010           |
| Jugan Property (26-2-170.2,170.3,170.4)  | P      | EP   | 17                     | 17                           | 0    | 0    | 0    | 0    | 0    | 17     | R               | FC-2009           |
| Kaiserman/Condign                        | N      | EP   | 15                     | 15                           | 0    | 10   | 5    | 0    | 0    | 0      | R               | FC-2009           |
| Kimberton Square                         | E      | EP   | 10                     | 10                           | 0    | 3    | 2    | 5    | 0    | 0      | R               | FC-2009           |
| Late Spring Development                  | E      | CH   | 10                     | 8                            | 0    | 0    | 0    | 0    | 0    | 8      | R               | LT-3010           |
| Laurabrooke                              | P      | CH   | 20                     | 20                           | 0    | 0    | 0    | 0    | 0    | 20     | R               | LT-3010           |
| Lee/Brook/Pheasant Run                   | N      | EP   | 52                     | 52                           | 0    | 0    | 0    | 0    | 0    | 52     | R               | FC-2009           |
| 505 Pawlings Road                        | A      | S    | 1                      | 1                            | 0    | 0    | 0    | 0    | 0    | 0      | R               | PER-1009          |
| Meadow Lane                              | N      | EP   | 12                     | 12                           | 0    | 0    | 0    | 0    | 12   | 0      | R               | FC-2009           |
| Meadowbrook Farm (PASD)                  | P      | S    | 3                      | 3                            | 0    | 0    | 0    | 0    | 0    | 0      | R/C             | WH-1004           |
| Mill Lane                                | P      | S    | 3                      | 2                            | 1    | 0    | 0    | 0    | 0    | 1      | R               | WH-1004           |
| Miller Pond Subdivision                  | A      | EP   | 2                      | 1                            | 1    | 0    | 0    | 0    | 0    | 0      | R               | FC-2009           |
| Miscellaneous**                          |        |      | 51                     | 21                           | 1    | 1    | 1    | 1    | 1    | 16     | R/C             |                   |
| Morehall @ VF                            | E      | S    | 148                    | 1                            | 0    | 0    | 0    | 0    | 0    | 1      | R               | PK-1003           |
| Phoenixville Area School District        | P      | EP   | 15                     | 15                           | 0    | 0    | 0    | 0    | 0    | 15     | R/C             | FC-2009           |
| Phoenixville Crossing                    | P      | EP   | 79                     | 79                           | 0    | 0    | 0    | 0    | 0    | 79     | R               | FC-2009           |
| Piazza 26-2-194.3,194.4                  | P      | EP   | 15                     | 15                           | 5    | 10   | 0    | 0    | 0    | 0      | I               | FC-2009           |
| Pickering Crossing                       | P      | CH   | 78                     | 9                            | 4    | 4    | 1    | 0    | 0    | 0      | R               | LT-3010           |
| Pleasant Valley Acres                    | N      | EP   | 27                     | 27                           | 0    | 0    | 0    | 0    | 0    | 27     | R               | FC-2009           |
| Pothouse Road (26-3-147)                 | P      | EP   | 10                     | 10                           | 0    | 2    | 8    | 0    | 0    | 0      | R               | FC-2009           |
| Reeves Property                          | P      | S    | 93                     | 93                           | 0    | 0    | 0    | 0    | 0    | 93     | R               | PK-1003           |
| Route 23 Commercial                      | E      | S    | 6                      | 2                            | 0    | 0    | 0    | 0    | 0    | 2      | C               | PK-1003           |
| Shick (26-2-96)                          | P      | EP   | 3                      | 1                            | 0    | 1    | 0    | 0    | 0    | 0      | R               | FC-2009           |
| Snyder Avenue                            | N      | EP   | 10                     | 10                           | 0    | 0    | 0    | 0    | 0    | 10     | R               | FC-2009           |
| Spring Oak                               | P      | CH   | 184                    | 23                           | 15   | 8    | 0    | 0    | 0    | 0      | R               | LT-3010           |
| Thoroughbred Drive                       | P      | EP   | 4                      | 4                            | 0    | 0    | 0    | 0    | 0    | 4      | R               | FC-2009           |
| Valley Forge Greene Townhomes            | P      | S    | 32                     | 24                           | 16   | 4    | 4    | 0    | 0    | 0      | R               | PER-1009          |
| Warner Lane                              | P      | CH   | 16.9                   | 16.9                         | 0    | 0    | 0    | 0    | 0    | 16.9   | R/C             | LT-3010           |
| Zone Dist I/O                            | P      | CH   | 175                    | 175                          | 0    | 0    | 0    | 0    | 0    | 175    | R/C             | LT-3010           |
| Zone Dist B-1, FR, L/B, RC               | P      | CH   | 228.5                  | 228.5                        | 0    | 0    | 0    | 0    | 0    | 228.5  | R/C             | LT-3010           |

**Totals:**      **1,347.0**    **141.0**    **158.6**    **45.0**    **25.0**    **18.0**    **954.4**

**TYPE**

C- COMMERCIAL  
I- INDUSTRIAL  
R- RESIDENTIAL  
R/C- RESIDENTIAL/COMMERCIAL

**STATUS**

E = EXISTING (INCLUDED ON COMP MAP)  
A = APPROVED BY VFSA (ON COMP MAP)  
P = IN NEEDS ANALYSIS - NO FORMAL APPLICATION TO VFSA -  
REQUIRES PUBLIC SEWER BUT ARE IN PRELIMINARY PLANNING STAGE/  
SHOWN WITH BUBBLE ON COMPREHENSIVE MAP  
N = NEW, NAMED BY TOWNSHIP

**MUNICIPALITIES**

EP - EAST PIKELAND TOWNSHIP CC - COUNTRY CLUB  
CH - CHARLESTOWN TOWNSHIP FC - FRENCH CREEK  
S - SCHUYLKILL TOWNSHIP KD - KIMBLE DRIVE  
WV - WEST VINCENT LT - LEE TIRE BLVD  
EP&WV - EAST PIKELAND & WEST VINCENT PER - PERKIOMEN

**DRAINAGE BASIN**

PH - POT HOUSE  
PK - PICKERING  
RT-401 = ROUTE 401  
SYDLEY RD - TO E. WHITELAND  
VC - VALLEY CREEK  
WH - WHITEHORSE

**5 YEAR PROJECTION**

|               |              |
|---------------|--------------|
| <b>2021</b>   | <b>141.0</b> |
| <b>2022</b>   | <b>158.6</b> |
| <b>2023</b>   | <b>45.0</b>  |
| <b>2024</b>   | <b>25.0</b>  |
| <b>2025</b>   | <b>18.0</b>  |
| <b>Beyond</b> | <b>954.4</b> |
| <b>Total</b>  | <b>1,342</b> |

**2020 VFSA CHAPTER 94  
MUNICIPAL WASTELOAD MANAGEMENT  
MEMBER MUNICIPALITIES REPORT  
SANITARY SEWER OVERFLOWS (SSOs)**

**APPENDIX B**

## NON-COMPLIANCE REPORTING FORM

Use this supplemental form to report all permit violations and any other non-compliance that may endanger health or the environment, in accordance with your permit. Complete all sections that apply. If you are reporting violations of permit limits, monitoring requirements or schedules that do not pose an immediate threat to health or the environment, you may attach this form to the Discharge Monitoring Report (DMR). **Title 26, Pa. Code §§ 91.33 and 91.34 (regarding incidents causing or threatening pollution and activities utilizing pollutants, respectively), in part requires immediate notification by telephone to the Department of pollution incidents, remediation, and may require an additional report on the incident or plan of pollution prevention measures.** If you are reporting other non-compliance events, and the reporting deadline does not coincide with your submission of the DMR, it should be submitted separately to the Department by the reporting deadline set forth in the permit. See instructions for more information.

Facility Name: Valley Forge Sewer Authority Month: January Year: 2020  
 Municipality: Schuylkill Township County: Chester Permit No.: PA 0043974

☐ **Violations of Permit Effluent Limitations\***

| Date | Parameter | Permit Limit | Units | Statistical Code | Result | Units | Cause of Violation | Corrective Action Taken |
|------|-----------|--------------|-------|------------------|--------|-------|--------------------|-------------------------|
|      |           |              |       |                  |        |       |                    |                         |
|      |           |              |       |                  |        |       |                    |                         |

☒ **Sanitary Sewer Overflows and Other Unauthorized Discharges\***

| Event Date | Substance Discharged | Location                                                         | Volume (gals)   | Duration (hrs) | Receiving Waters | Impact on Waters | Cause of Discharge            | Date DEP Notified |
|------------|----------------------|------------------------------------------------------------------|-----------------|----------------|------------------|------------------|-------------------------------|-------------------|
| 1/25/20    | Sanitary Sewage      | 630 West Pothouse Rd<br>2 manholes Adjacent to<br>Pothouse Rd PS | <35000<br>(EST) | 0.25<br>(EST)  | Caines Creek     | None observed.   | See attached detail of event. | 1/25/20           |
|            |                      |                                                                  |                 |                |                  |                  |                               |                   |

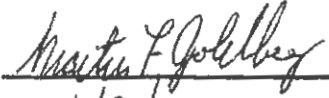
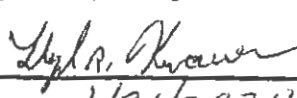
☐ **Other Permit Violations\***

- |                                                                        |         |       |
|------------------------------------------------------------------------|---------|-------|
| <input type="checkbox"/> Sample collection less frequent than required | Explain | _____ |
| <input type="checkbox"/> Sample type not in compliance with permit     | Explain | _____ |
| <input type="checkbox"/> Violation of permit schedule                  | Explain | _____ |
| <input type="checkbox"/> Other                                         | Explain | _____ |
| <input type="checkbox"/> Other                                         | Explain | _____ |

**\*If the space provided is not sufficient to record all information, please attach additional sheets.**

I certify under penalty of law that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel gather and evaluate 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 knowing violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Prepared By: Martin F. Goldberg/Lloyd R. Knauer  
 Title: Operations Manager/O & M Supervisor

Signature:    
 Date: 1/31/20 1/31/2020



**Valley Forge Sewer Authority  
333 Pawling Road  
Phoenixville, PA 19460  
NPDES # PA 0043974**

**Pothouse Road Sanitary Sewer Overflow (SSO) Event**

**1/25/20**

At about 11am on Saturday 25 January 2020, during a heavy rain event, the Authority experienced a sewer system overflow (SSO) of less than 35,000 gallons to the Caines Creek near the Pothouse Pumping Station at 630 West Pothouse Road in Schuylkill Township PA. The pump station is designed with three pumps, with 2 electrical pumps and a third diesel powered self priming emergency pump. Two electric pumps may pump the design flow from the wet well. If there is a failure of an electric pump, the self priming emergency pump should engage to pump the design flow from the wet well.

On 25 January the relatively high flows from a storm would have resulted in the need to operate 2 electric pumps simultaneously. However when this occurred, the lag pump failed to start. Once the emergency pump engaged, it self-primed, and pumped down the pump station wet well. But this occurred too late to prevent an SSO. Had either the lag electric pump or the diesel powered emergency pump activated sooner, the SSO could have been avoided. It is unclear why the lag electric pump didn't start. In order to prevent a future SSO, the Authority is performing the following activities:

- Review the settings and controls on all of our pumping stations. Consider activating the emergency pump at a lower wet well level.
- Consider utilizing a device that was part of the original emergency pump design which maintains pump prime by keeping the suction pipe full at all times. Consider adding equipment to prevent freezing in the suction line which will allow for maintaining pump prime in winter weather. If successful, this will shorten the time necessary for the engaged emergency pump to pump down the wet well.
- Consider adding a third electric pump at the Pothouse pump station.

Per the requirements of the treatment plant's NPDES permit, PADEP and three potable water plants located on the Schuylkill River downstream from the entry point of the sewer overflow were notified.

## NON-COMPLIANCE REPORTING FORM

Use this supplemental form to report all permit violations and any other non-compliance that may endanger health or the environment, in accordance with your permit. Complete all sections that apply. If you are reporting violations of permit limits, monitoring requirements or schedules that do not pose an immediate threat to health or the environment, you may attach this form to the Discharge Monitoring Report (DMR). **Title 25, Pa. Code §§ 91.33 and 91.34 (regarding incidents causing or threatening pollution and activities utilizing pollutants, respectively), in part requires immediate notification by telephone to the Department of pollution incidents, remediation, and may require an additional report on the incident or plan of pollution prevention measures.** If you are reporting other non-compliance events, and the reporting deadline does not coincide with your submission of the DMR, it should be submitted separately to the Department by the reporting deadline set forth in the permit. See instructions for more information.

Facility Name: Valley Forge Sewer Authority Month: August Year: 2020  
 Municipality: Schuylkill Township County: Chester Permit No.: PA 0043974

☒ **Violations of Permit Effluent Limitations\***

| Date   | Parameter      | Permit Limit | Units      | Statistical Code      | Result | Units      | Cause of Violation                                      | Corrective Action Taken |
|--------|----------------|--------------|------------|-----------------------|--------|------------|---------------------------------------------------------|-------------------------|
| 8/5/20 | Fecal coliform | 1000         | No./100 mL | Instantaneous Maximum | >2420  | col/100 mL | Power Outage of Approximately 23 hours - See Attachment |                         |
|        |                |              |            |                       |        |            |                                                         |                         |

☒ **Sanitary Sewer Overflows and Other Unauthorized Discharges\***

| Event Date | Substance Discharged | Location                                  | Volume (gals) | Duration (hrs) | Receiving Waters              | Impact on Waters | Cause of Discharge                      | Date DEP Notified |
|------------|----------------------|-------------------------------------------|---------------|----------------|-------------------------------|------------------|-----------------------------------------|-------------------|
| 8/4/20     | Sanitary Sewage      | Manhole Adjacent to Pothouse Pump Station | 152,019 (est) | 6.0 (est.)     | Caines Creek                  | None observed    | Heavy Rain Event - Tropical Storm Isias | 8/4/20            |
| 8/4-5/20   | Sanitary Sewage      | Manholes Adjacent to VFSA Admin Building  | 77,640 (est.) | 14.5 (est.)    | Tributary to Schuylkill River | None observed    | Heavy Rain Event - Tropical Storm Isias | 8/4/20            |

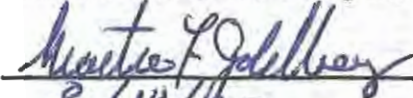
☐ **Other Permit Violations\***

- |                                                                        |         |       |
|------------------------------------------------------------------------|---------|-------|
| <input type="checkbox"/> Sample collection less frequent than required | Explain | _____ |
| <input type="checkbox"/> Sample type not in compliance with permit     | Explain | _____ |
| <input type="checkbox"/> Violation of permit schedule                  | Explain | _____ |
| <input type="checkbox"/> Other                                         | Explain | _____ |
| <input type="checkbox"/> Other                                         | Explain | _____ |

**\*If the space provided is not sufficient to record all information, please attach additional sheets.**

I certify under penalty of law that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel gather and evaluate 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 knowing violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Prepared By: Martin F. Goldberg  
 Title: Operations Manager

Signature:   
 Date: 8/14/20

**Attachment 1**  
**VFSA Power Outage - Chronology of Major Events**  
**August 4-6 2020**

| <b>Date</b>   | <b>Time</b> | <b>Activity at the Plant and Collection System</b>                                                                               |
|---------------|-------------|----------------------------------------------------------------------------------------------------------------------------------|
| 4 August 2020 | 1000        | SSO estimated to have started at manholes on lane adjacent to VFSA Admin building.                                               |
| 4 August 2020 | 1200        | SSO estimated to have started at manhole on Pothouse Rd adjacent to Pothouse Pump Station.                                       |
| 4 August 2020 | 1305        | Power out on both sides of the treatment plant.                                                                                  |
| 4 August 2020 | 1310        | VFSA Contacts BSI and requests portable generator for Plant UV.                                                                  |
| 4 August 2020 | 1515        | Temporary generator installed at Plant UV System                                                                                 |
| 4 August 2020 | 1800        | SSO on Pothouse Rd ends. Length of SSO estimated to be about 6.0 hours and 152,019 gallons.                                      |
| 5 August 2020 | 0030        | SSO at manholes on lane adjacent to VFSA Admin building ends. Length of SSO estimated to be about 14.5 hours and 77,640 gallons. |
| 5 August 2020 | 1200        | Power restored to one supply source of the treatment plant. UV still on generator power.                                         |
| 6 August 2020 | 1250        | Power restored to both plant sources. UV building on plant power.                                                                |

**Estimate of SSO from Pothouse PS 4 August 2020**

| <b>Data from Flow Report Mission System</b>                                   |                                                  |                                              |                                                 |                                                                                  |                                                              |
|-------------------------------------------------------------------------------|--------------------------------------------------|----------------------------------------------|-------------------------------------------------|----------------------------------------------------------------------------------|--------------------------------------------------------------|
|                                                                               |                                                  |                                              |                                                 | <b>Pothouse<br/>Required<br/>Pumped<br/>Gallons at<br/>91% of<br/>Whitehorse</b> | <b>Estimated SSO for<br/>Pothouse Station<br/>in Gallons</b> |
| <b>Overflow Event Hours 8/4/20</b>                                            | <b>French Creek<br/>Total Gallons<br/>Pumped</b> | <b>Pothouse<br/>Total Gallons<br/>Pumped</b> | <b>*Whitehorse<br/>Total Gallons<br/>Pumped</b> |                                                                                  |                                                              |
| 12:00                                                                         | 185,630                                          | 218,816                                      | 268,451                                         |                                                                                  |                                                              |
| 13:00                                                                         | 189,282                                          | 222,429                                      | 281,118                                         |                                                                                  |                                                              |
| 14:00                                                                         | 190,662                                          | 225,057                                      | 286,690                                         |                                                                                  |                                                              |
| 15:00                                                                         | 190,672                                          | 225,057                                      | 283,510                                         |                                                                                  |                                                              |
| 16:00                                                                         | 190,663                                          | 225,812                                      | 282,796                                         |                                                                                  |                                                              |
| 17:00                                                                         | 190,409                                          | 224,111                                      | 286,540                                         |                                                                                  |                                                              |
| <b>Sum Gallons Pumped (6 hours total)</b>                                     | <b>1,137,318</b>                                 | <b>1,341,282</b>                             | <b>1,689,105</b>                                | <b>1,537,086</b>                                                                 | <b><u>152,019</u></b>                                        |
|                                                                               |                                                  |                                              |                                                 |                                                                                  | (Equals Required<br>Minus Actual<br>Pumped)                  |
| Percentage of Whitehorse                                                      | 67                                               | 79                                           | 100                                             |                                                                                  |                                                              |
|                                                                               |                                                  |                                              |                                                 |                                                                                  |                                                              |
| July 2020 Total Flows Pumped (gallons)                                        | 18,910,760                                       | 22,326,394                                   | 24,475,573                                      |                                                                                  |                                                              |
| Percentage of Whitehorse Rate                                                 | 77                                               | 91                                           | 100                                             |                                                                                  |                                                              |
|                                                                               |                                                  |                                              |                                                 |                                                                                  |                                                              |
| <b>* There was no SSO observed at the downstream Whitehorse Pump Station.</b> |                                                  |                                              |                                                 |                                                                                  |                                                              |

| Estimate of SSO from VFSA Admin Lane 4-5 August 2020           |                   |                                        |                                        |                       |
|----------------------------------------------------------------|-------------------|----------------------------------------|----------------------------------------|-----------------------|
| Manhole Closest to Perkiomen PS -Data from Visual Observations |                   |                                        |                                        |                       |
| Overflow Event                                                 | SSO Estimated     | Estimated SSO<br>Flow Based on<br>Open | Estimated SSO<br>Flow Based on<br>Open | Estimated<br>SSO Flow |
| Hours 8/4/20-<br>8/5/20                                        | Depth<br>(Inches) | Manhole<br>(gpm)                       | Manhole<br>(MGD)                       | Total<br>(gallons)    |
| 8/4/2020 10:00                                                 | 1/8               | 28                                     | 0.04                                   | 1,680                 |
| 8/4/2020 11:00                                                 | 1/4               | 62                                     | 0.09                                   | 3,720                 |
| 8/4/2020 12:00                                                 | 1/2               | 160                                    | 0.23                                   | 9,600                 |
| 8/4/2020 13:00                                                 | 1/2               | 160                                    | 0.23                                   | 9,600                 |
| 8/4/2020 14:00                                                 | 1/2               | 160                                    | 0.23                                   | 9,600                 |
| 8/4/2020 15:00                                                 | 1/2               | 160                                    | 0.23                                   | 9,600                 |
| 8/4/2020 16:00                                                 | 1/2               | 160                                    | 0.23                                   | 9,600                 |
| 8/4/2020 17:00                                                 | 1/4               | 62                                     | 0.09                                   | 3,720                 |
| 8/4/2020 18:00                                                 | 1/4               | 62                                     | 0.09                                   | 3,720                 |
| 8/4/2020 19:00                                                 | 1/4               | 62                                     | 0.09                                   | 3,720                 |
| 8/4/2020 20:00                                                 | 1/4               | 62                                     | 0.09                                   | 3,720                 |
| 8/4/2020 21:00                                                 | 1/8               | 28                                     | 0.04                                   | 1,680                 |
| 8/4/2020 22:00                                                 | 1/8               | 28                                     | 0.04                                   | 1,680                 |
| 8/4/2020 23:00                                                 | 1/8               | 28                                     | 0.04                                   | 1,680                 |
| 8/5/2020 0:00                                                  | 1/8               | 28                                     | 0.04                                   | 1,680                 |
| 8/5/2020 0:30                                                  | 1/8               | 28                                     | 0.04                                   | 1,680                 |
| <b>Sum Gallons</b>                                             |                   |                                        |                                        | <b>76,680</b>         |

| Estimate of SSO from VFSA Admin Lane 4-5 August 2020         |                   |                                           |                                           |                       |
|--------------------------------------------------------------|-------------------|-------------------------------------------|-------------------------------------------|-----------------------|
| Manhole Closest to RR Tracks - Data from Visual Observations |                   |                                           |                                           |                       |
| Overflow Event                                               | SSO Estimated     | Estimated SSO<br>Flow Based on<br>Covered | Estimated SSO<br>Flow Based on<br>Covered | Estimated<br>SSO Flow |
| Hours 8/4/20-<br>8/5/20                                      | Depth<br>(Inches) | Manhole<br>(gpm)                          | Manhole<br>(MGD)                          | Total<br>(gallons)    |
| 8/4/2020 10:00                                               | 1/4               | 1                                         | 0.001                                     | 60                    |
| 8/4/2020 11:00                                               | 1/4               | 1                                         | 0.001                                     | 60                    |
| 8/4/2020 12:00                                               | 1/4               | 1                                         | 0.001                                     | 60                    |
| 8/4/2020 13:00                                               | 1/4               | 1                                         | 0.001                                     | 60                    |
| 8/4/2020 14:00                                               | 1/4               | 1                                         | 0.001                                     | 60                    |
| 8/4/2020 15:00                                               | 1/4               | 1                                         | 0.001                                     | 60                    |
| 8/4/2020 16:00                                               | 1/4               | 1                                         | 0.001                                     | 60                    |
| 8/4/2020 17:00                                               | 1/4               | 1                                         | 0.001                                     | 60                    |
| 8/4/2020 18:00                                               | 1/4               | 1                                         | 0.001                                     | 60                    |
| 8/4/2020 19:00                                               | 1/4               | 1                                         | 0.001                                     | 60                    |
| 8/4/2020 20:00                                               | 1/4               | 1                                         | 0.001                                     | 60                    |
| 8/4/2020 21:00                                               | 1/4               | 1                                         | 0.001                                     | 60                    |
| 8/4/2020 22:00                                               | 1/4               | 1                                         | 0.001                                     | 60                    |
| 8/4/2020 23:00                                               | 1/4               | 1                                         | 0.001                                     | 60                    |
| 8/5/2020 0:00                                                | 1/4               | 1                                         | 0.001                                     | 60                    |
| 8/5/2020 0:30                                                | 1/4               | 1                                         | 0.001                                     | 60                    |
| <b>Sum Gallons</b>                                           |                   |                                           |                                           | <b>960</b>            |

**TOTAL SSO FLOW= 77,640**

## **ESTIMATED SSO FLOW OUT OF MH WITH COVER IN PLACE**

### **24" COVER**

| Height of<br>spout above<br>M/H rim<br>H in inches | SSO FLOW<br>Q |        | Min. Sewer<br>size in which<br>these flows<br>are possible |
|----------------------------------------------------|---------------|--------|------------------------------------------------------------|
|                                                    | in gpm        | in MGD |                                                            |
| 1/4                                                | 1             | 0.001  |                                                            |
| 1/2                                                | 3             | 0.004  |                                                            |
| 3/4                                                | 6             | 0.008  |                                                            |
| 1                                                  | 9             | 0.013  |                                                            |
| 1 1/4                                              | 12            | 0.018  |                                                            |
| 1 1/2                                              | 16            | 0.024  |                                                            |
| 1 3/4                                              | 21            | 0.030  |                                                            |
| 2                                                  | 25            | 0.037  |                                                            |
| 2 1/4                                              | 31            | 0.045  |                                                            |
| 2 1/2                                              | 38            | 0.054  |                                                            |
| 2 3/4                                              | 45            | 0.065  |                                                            |
| 3                                                  | 54            | 0.077  |                                                            |
| 3 1/4                                              | 64            | 0.092  |                                                            |
| 3 1/2                                              | 75            | 0.107  |                                                            |
| 3 3/4                                              | 87            | 0.125  |                                                            |
| 4                                                  | 100           | 0.145  |                                                            |
| 4 1/4                                              | 115           | 0.166  |                                                            |
| 4 1/2                                              | 131           | 0.189  |                                                            |
| 4 3/4                                              | 148           | 0.214  |                                                            |
| 5                                                  | 166           | 0.240  |                                                            |
| 5 1/4                                              | 185           | 0.266  |                                                            |
| 5 1/2                                              | 204           | 0.294  |                                                            |
| 5 3/4                                              | 224           | 0.322  |                                                            |
| 6                                                  | 244           | 0.352  |                                                            |
| 6 1/4                                              | 265           | 0.382  |                                                            |
| 6 1/2                                              | 286           | 0.412  |                                                            |
| 6 3/4                                              | 308           | 0.444  |                                                            |
| 7                                                  | 331           | 0.476  |                                                            |
| 7 1/4                                              | 354           | 0.509  |                                                            |
| 7 1/2                                              | 377           | 0.543  |                                                            |
| 7 3/4                                              | 401           | 0.578  |                                                            |
| 8                                                  | 426           | 0.613  |                                                            |
| 8 1/4                                              | 451           | 0.649  |                                                            |
| 8 1/2                                              | 476           | 0.686  |                                                            |
| 8 3/4                                              | 502           | 0.723  |                                                            |
| 9                                                  | 529           | 0.761  |                                                            |

### **36" COVER**

| Height of<br>spout above<br>M/H rim<br>H in inches | SSO FLOW<br>Q |        | Min. Sewer<br>size in which<br>these flows<br>are possible |
|----------------------------------------------------|---------------|--------|------------------------------------------------------------|
|                                                    | in gpm        | in MGD |                                                            |
| 1/4                                                | 1             | 0.002  |                                                            |
| 1/2                                                | 4             | 0.006  |                                                            |
| 3/4                                                | 8             | 0.012  |                                                            |
| 1                                                  | 13            | 0.019  |                                                            |
| 1 1/4                                              | 18            | 0.026  |                                                            |
| 1 1/2                                              | 24            | 0.035  |                                                            |
| 1 3/4                                              | 31            | 0.044  |                                                            |
| 2                                                  | 37            | 0.054  |                                                            |
| 2 1/4                                              | 45            | 0.065  |                                                            |
| 2 1/2                                              | 55            | 0.079  |                                                            |
| 2 3/4                                              | 66            | 0.095  |                                                            |
| 3                                                  | 78            | 0.113  |                                                            |
| 3 1/4                                              | 93            | 0.134  |                                                            |
| 3 1/2                                              | 109           | 0.157  |                                                            |
| 3 3/4                                              | 127           | 0.183  |                                                            |
| 4                                                  | 147           | 0.211  |                                                            |
| 4 1/4                                              | 169           | 0.243  |                                                            |
| 4 1/2                                              | 192           | 0.276  |                                                            |
| 4 3/4                                              | 217           | 0.312  | 6"                                                         |
| 5                                                  | 243           | 0.350  |                                                            |
| 5 1/4                                              | 270           | 0.389  |                                                            |
| 5 1/2                                              | 299           | 0.430  |                                                            |
| 5 3/4                                              | 327           | 0.471  |                                                            |
| 6                                                  | 357           | 0.514  |                                                            |
| 6 1/4                                              | 387           | 0.558  | 8"                                                         |
| 6 1/2                                              | 419           | 0.603  |                                                            |
| 6 3/4                                              | 451           | 0.649  |                                                            |
| 7                                                  | 483           | 0.696  |                                                            |
| 7 1/4                                              | 517           | 0.744  |                                                            |
| 7 1/2                                              | 551           | 0.794  |                                                            |
| 7 3/4                                              | 587           | 0.845  | 10"                                                        |
| 8                                                  | 622           | 0.896  |                                                            |
| 8 1/4                                              | 659           | 0.949  |                                                            |
| 8 1/2                                              | 697           | 1.003  |                                                            |
| 8 3/4                                              | 734           | 1.057  |                                                            |
| 9                                                  | 773           | 1.113  |                                                            |

The formula used to develop Table 1 measures the maximum height of the water coming out of the maintenance manhole above the rim. The formula was taken from *Hydraulics and Its Application* by A.H. Gibson (Constable & Co. Limited).

## **Partially Covered Manhole**

Sometimes an SSO will occur that only lifts one side of the manhole cover. This is especially true of manholes where the cover is on an incline with the cover lifting on the downward side of the manhole. To estimate the volume of an SSO under these conditions, calculate the area (in square feet) from where the wastewater is escaping and the velocity (in feet per second) that the wastewater is normally traveling in the sewer at half the pipe depth. The velocity is estimated from visual observation with 2 feet/second or less being a small velocity, 4 to 5 feet/second being a medium velocity, and 7 feet/second or higher being a large velocity. Velocities in the sewer above 7 feet/second may be strong enough to blow the manhole cover off. Higher velocities also tend to raise the manhole lid higher. Next, multiply by the duration



# **ESTIMATED SSO FLOW OUT OF M/H WITH COVER REMOVED**

## **24" FRAME**

| Water<br>Height above<br>M/H frame<br>H in inches | S S O FLOW<br>Q |        | Min. Sewer<br>size in which<br>these flows<br>are possible |
|---------------------------------------------------|-----------------|--------|------------------------------------------------------------|
|                                                   | in gpm          | in MGD |                                                            |
| 1/8                                               | 28              | 0.04   |                                                            |
| 1/4                                               | 62              | 0.09   |                                                            |
| 3/8                                               | 111             | 0.16   |                                                            |
| 1/2                                               | 160             | 0.23   |                                                            |
| 5/8                                               | 215             | 0.31   | 6"                                                         |
| 3/4                                               | 354             | 0.51   | 8"                                                         |
| 7/8                                               | 569             | 0.82   | 10"                                                        |
| 1                                                 | 799             | 1.15   | 12"                                                        |
| 1 1/8                                             | 1,035           | 1.49   |                                                            |
| 1 1/4                                             | 1,340           | 1.93   | 15"                                                        |
| 1 3/8                                             | 1,660           | 2.39   |                                                            |
| 1 1/2                                             | 1,986           | 2.86   |                                                            |
| 1 5/8                                             | 2,396           | 3.45   | 18"                                                        |
| 1 3/4                                             | 2,799           | 4.03   |                                                            |
| 1 7/8                                             | 3,132           | 4.51   |                                                            |
| 2                                                 | 3,444           | 4.96   | 21"                                                        |
| 2 1/8                                             | 3,750           | 5.4    |                                                            |
| 2 1/4                                             | 3,986           | 5.74   |                                                            |
| 2 3/8                                             | 4,215           | 6.07   |                                                            |
| 2 1/2                                             | 4,437           | 6.39   |                                                            |
| 2 5/8                                             | 4,569           | 6.58   | 24"                                                        |
| 2 3/4                                             | 4,687           | 6.75   |                                                            |
| 2 7/8                                             | 4,799           | 6.91   |                                                            |
| 3                                                 | 4,910           | 7.07   |                                                            |

## **36" FRAME**

| Water<br>Height above<br>M/H frame<br>H in inches | S S O FLOW<br>Q |        | Min. Sewer<br>size in which<br>these flows<br>are possible |
|---------------------------------------------------|-----------------|--------|------------------------------------------------------------|
|                                                   | in gpm          | in MGD |                                                            |
| 1/8                                               | 49              | 0.07   |                                                            |
| 1/4                                               | 111             | 0.16   |                                                            |
| 3/8                                               | 187             | 0.27   | 6"                                                         |
| 1/2                                               | 271             | 0.39   |                                                            |
| 5/8                                               | 361             | 0.52   | 8"                                                         |
| 3/4                                               | 458             | 0.66   |                                                            |
| 7/8                                               | 556             | 0.8    | 10"                                                        |
| 1                                                 | 660             | 0.95   | 12"                                                        |
| 1 1/8                                             | 1,035           | 1.49   |                                                            |
| 1 1/4                                             | 1,486           | 2.14   | 15"                                                        |
| 1 3/8                                             | 1,951           | 2.81   |                                                            |
| 1 1/2                                             | 2,424           | 3.49   | 18"                                                        |
| 1 5/8                                             | 2,903           | 4.18   |                                                            |
| 1 3/4                                             | 3,382           | 4.67   |                                                            |
| 1 7/8                                             | 3,917           | 5.64   | 21"                                                        |
| 2                                                 | 4,458           | 6.42   |                                                            |
| 2 1/8                                             | 5,000           | 7.2    | 24"                                                        |
| 2 1/4                                             | 5,556           | 8      |                                                            |
| 2 3/8                                             | 6,118           | 8.81   |                                                            |
| 2 1/2                                             | 6,764           | 9.74   |                                                            |
| 2 5/8                                             | 7,403           | 10.66  |                                                            |
| 2 3/4                                             | 7,972           | 11.48  | 30"                                                        |
| 2 7/8                                             | 8,521           | 12.27  |                                                            |
| 3                                                 | 9,062           | 13.05  |                                                            |
| 3 1/8                                             | 9,604           | 13.83  |                                                            |
| 3 1/4                                             | 10,139          | 14.6   |                                                            |
| 3 3/8                                             | 10,625          | 15.3   | 36"                                                        |
| 3 1/2                                             | 11,097          | 15.98  |                                                            |
| 3 5/8                                             | 11,569          | 16.66  |                                                            |
| 3 3/4                                             | 12,035          | 17.33  |                                                            |
| 3 7/8                                             | 12,486          | 17.98  |                                                            |
| 4                                                 | 12,861          | 18.52  |                                                            |
| 4 1/8                                             | 13,076          | 18.83  |                                                            |
| 4 1/4                                             | 13,285          | 19.13  |                                                            |
| 4 3/8                                             | 13,486          | 19.42  |                                                            |

### **Disclaimer:**

This sanitary sewer overflow table was developed by Ed Euyen, Civil Engineer, P.E. No. 33955, California, for County Sanitation District 1. This table is provided as an example. Other Agencies may want to develop their own estimating tables.

**2020 VFSA CHAPTER 94  
MUNICIPAL WASTELOAD MANAGEMENT  
MEMBER MUNICIPALITIES REPORT**

**VFSA MAJOR PUMP STATION FLOWS  
VERSUS RAINFALL – SUMMARY AND GRAPHS**

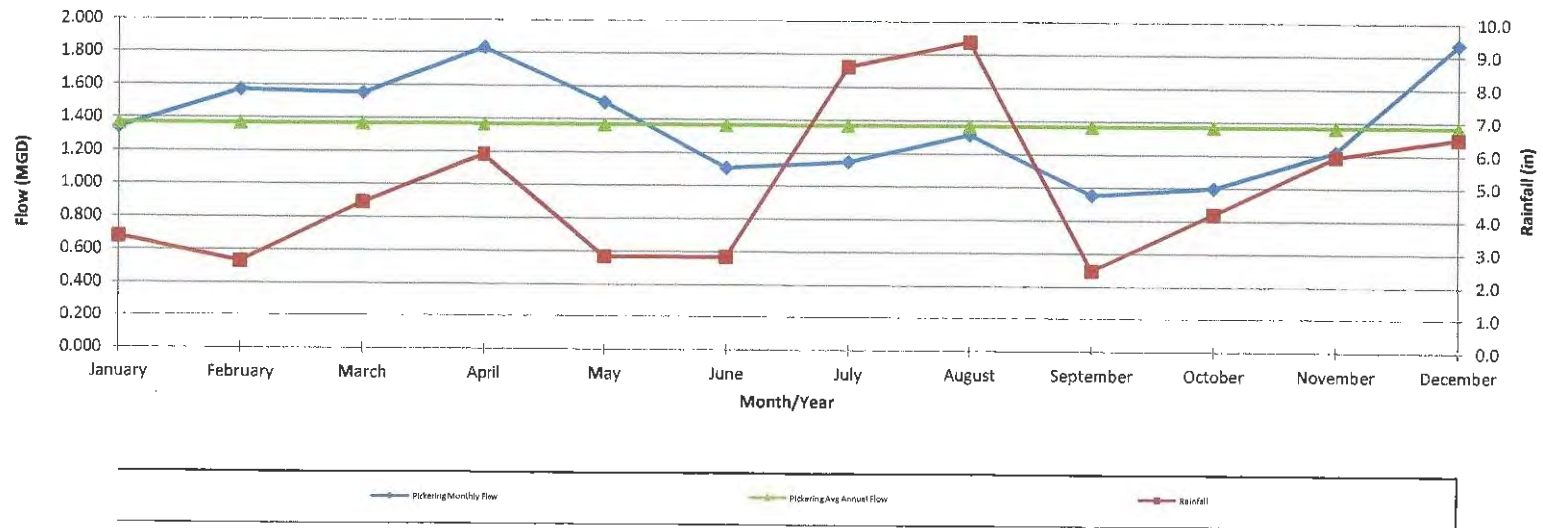
**APPENDIX C**

**Pickering Pump Station  
White Horse Pump Station  
Pot House Pump Station  
French Creek Pump Station**

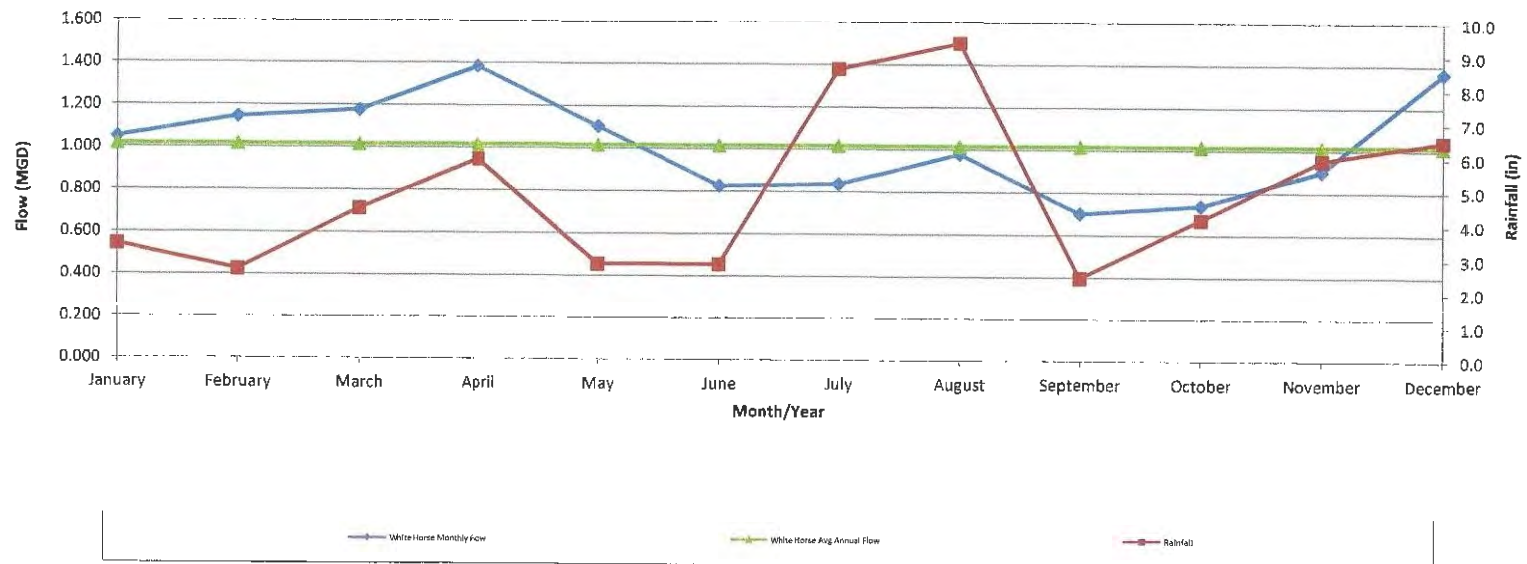
VALLEY FORGE SEWER AUTHORITY  
2020 ANNUAL CHAPTER 94 REPORT  
MONTHLY PUMP STATION FLOW

| Year                    | Month     | Monthly Flow at Major Pump Stations, MGD |            |           |           | Rainfall |
|-------------------------|-----------|------------------------------------------|------------|-----------|-----------|----------|
|                         |           | Pickering                                | Whitehorse | Pot House | French Ck |          |
| 2020                    | January   | 1.338                                    | 1.047      | 0.714     | 0.821     | 3.39     |
|                         | February  | 1.568                                    | 1.143      | 0.969     | 0.811     | 2.65     |
|                         | March     | 1.551                                    | 1.175      | 0.990     | 0.826     | 4.45     |
|                         | April     | 1.830                                    | 1.383      | 1.150     | 0.960     | 5.92     |
|                         | May       | 1.500                                    | 1.103      | 0.931     | 0.766     | 2.84     |
|                         | June      | 1.108                                    | 0.824      | 0.724     | 0.597     | 2.84     |
|                         | July      | 1.147                                    | 0.835      | 0.935     | 0.606     | 8.61     |
|                         | August    | 1.315                                    | 0.978      | 0.823     | 0.701     | 9.38     |
|                         | September | 0.951                                    | 0.700      | 0.607     | 0.517     | 2.47     |
|                         | October   | 0.997                                    | 0.738      | 0.640     | 0.553     | 4.19     |
|                         | November  | 1.221                                    | 0.900      | 0.764     | 0.668     | 5.95     |
|                         | December  | 1.869                                    | 1.363      | 1.121     | 0.951     | 6.50     |
| Avg Annual Flow (MGD) = |           | 1.366                                    | 1.016      | 0.864     | 0.731     |          |

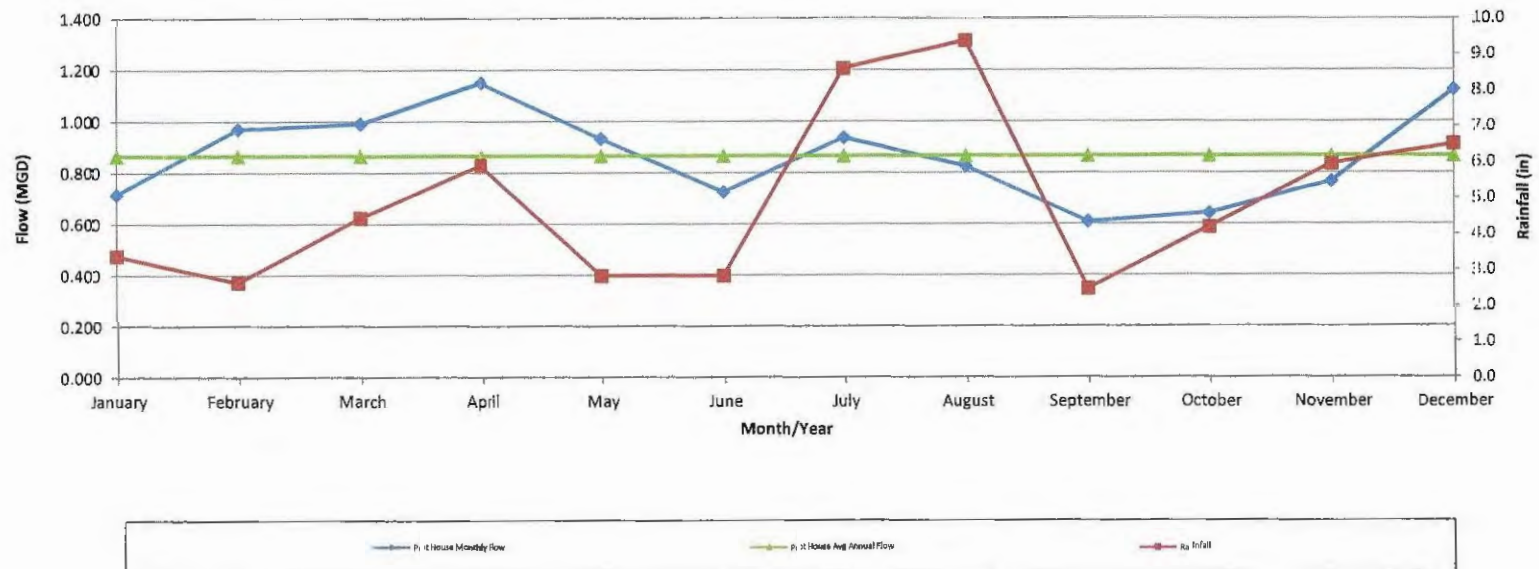
**GRAPH**  
**VALLEY FORGE SEWER AUTHORITY**  
**2020 ANNUAL CHAPTER 94 REPORT**  
**MONTHLY FLOW FROM PICKERING PUMP STATION VERSUS RAINFALL**



**GRAPH**  
**VALLEY FORGE SEWER AUTHORITY**  
**2020 ANNUAL CHAPTER 94 REPORT**  
**MONTHLY FLOW FROM WHITE HORSE PUMP STATION VERSUS RAINFALL**

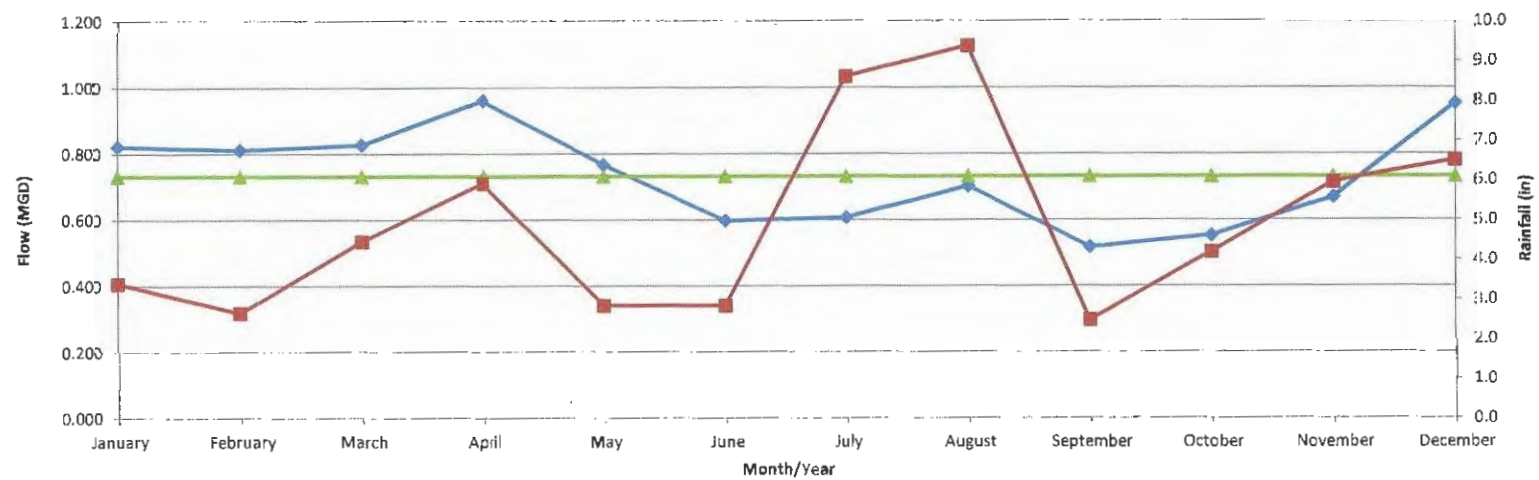


**GRAPH**  
**VALLEY FORGE SEWER AUTHORITY**  
**2020 ANNUAL CHAPTER 94 REPORT**  
**MONTHLY FLOW FROM POT HOUSE PUMP STATION VERSUS RAINFALL**





**GRAPH**  
**VALLEY FORGE SEWER AUTHORITY**  
**2020 ANNUAL CHAPTER 94 REPORT**  
**MONTHLY FLOW FROM FRENCH CREEK PUMP STATION VERSUS RAINFALL**



**2020 VFSA CHAPTER 94  
MUNICIPAL WASTELOAD MANAGEMENT  
MEMBER MUNICIPALITIES REPORT**

**1 INCH PLUS RAINFALL VERSUS FLOW AT METERED  
PUMP STATIONS – SUMMARY AND GRAPHS**

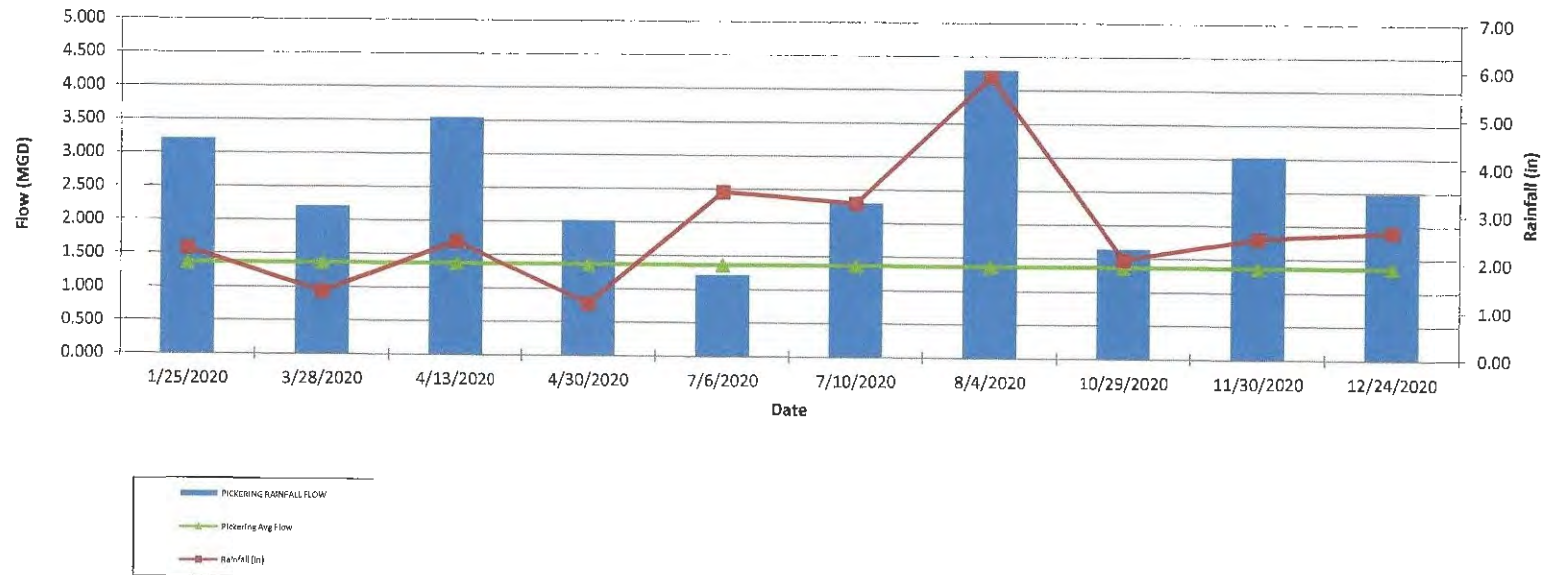
**APPENDIX D**

**Pickering Pump Station  
White Horse Pump Station  
Pot House Pump Station  
French Creek Pump Station  
Charlestown Meadows Pump Station  
Charlestown Pump Station  
Kimberton Meadows Pump Station  
Kimbel Drive Pump Station  
Perkiomen Pump Station  
Valley Creek Pump Station  
Valley Forge Woods Pump Station**

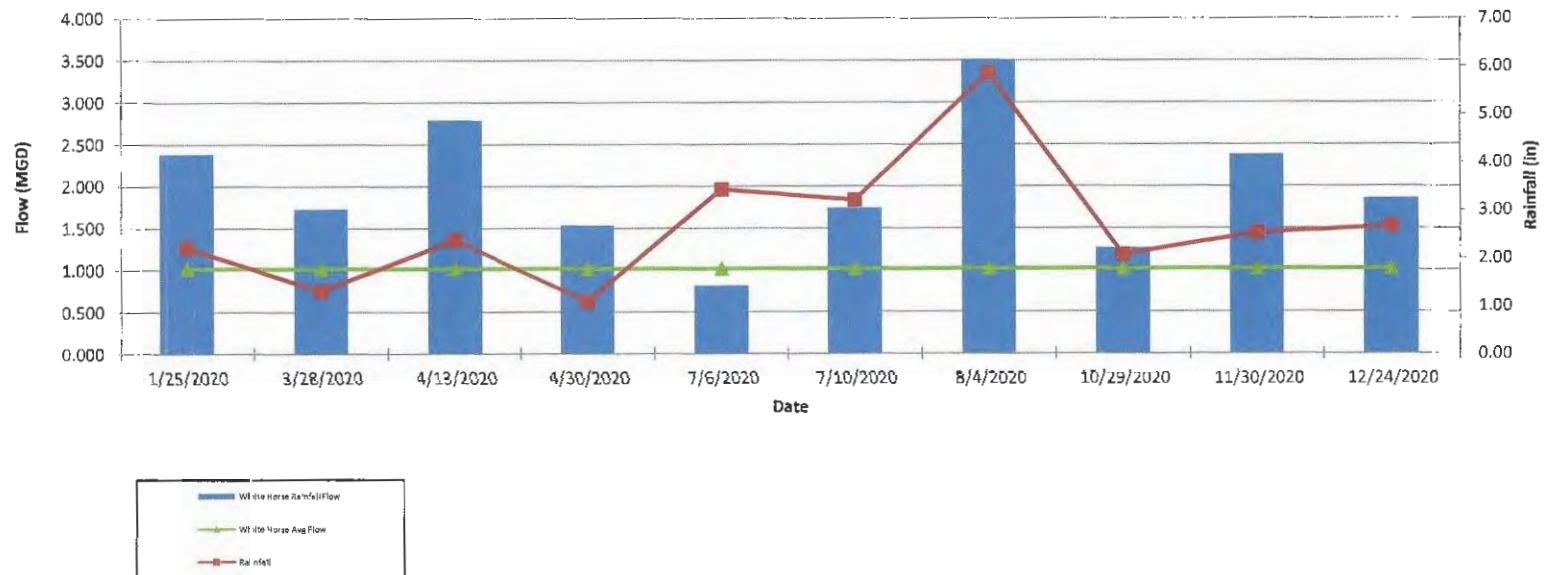
**VALLEY FORGE SEWER AUTHORITY  
2020 ANNUAL CHAPTER 94 REPORT  
1 INCH PLUS RAINFALL VERSUS FLOW SUMMARY AT PUMP STATIONS**

| Rain Date                | Rainfall | Pickering PS  |                   | White Horse PS |                   | Pot House PS  |                   | French Creek PS |                   | Charlestown Meadows |                   | Charlestown PS |                   | Kimberton Meadows PS |                   | Kimbel Drive PS |                   | Parklomen PS  |                   | Valley Creek PS |                   | Valley Forge Woods PS |                   |
|--------------------------|----------|---------------|-------------------|----------------|-------------------|---------------|-------------------|-----------------|-------------------|---------------------|-------------------|----------------|-------------------|----------------------|-------------------|-----------------|-------------------|---------------|-------------------|-----------------|-------------------|-----------------------|-------------------|
|                          |          | Peak<br>(MGD) | Peaking<br>Factor | Peak<br>(MGD)  | Peaking<br>Factor | Peak<br>(MGD) | Peaking<br>Factor | Peak<br>(MGD)   | Peaking<br>Factor | Peak<br>(MGD)       | Peaking<br>Factor | Peak<br>(MGD)  | Peaking<br>Factor | Peak<br>(MGD)        | Peaking<br>Factor | Peak<br>(MGD)   | Peaking<br>Factor | Peak<br>(MGD) | Peaking<br>Factor | Peak<br>(MGD)   | Peaking<br>Factor | Peak<br>(MGD)         | Peaking<br>Factor |
| 1/25/2020                | 2.21     | 3.208         | 2.35              | 2.387          | 2.35              | 1.436         | 1.86              | 1.823           | 2.49              | 0.029               | 1.06              | 0.102          | 3.02              | 0.022                | 1.27              | 0.040           | 2.29              | 0.186         | 2.35              | 0.050           | 2.78              | 0.075                 | 1.20              |
| 3/28/2020                | 1.31     | 2.205         | 1.81              | 1.729          | 1.70              | 1.413         | 1.64              | 1.185           | 1.62              | 0.032               | 1.16              | 0.062          | 1.84              | 0.022                | 1.29              | 0.029           | 1.65              | 0.117         | 1.47              | 0.027           | 1.49              | 0.077                 | 1.23              |
| 4/13/2020                | 2.37     | 3.535         | 2.59              | 2.788          | 2.75              | 2.305         | 2.67              | 1.975           | 2.70              | 0.031               | 1.12              | 0.102          | 3.03              | 0.034                | 1.98              | 0.044           | 2.53              | 0.169         | 2.14              | 0.052           | 2.86              | 0.085                 | 1.36              |
| 4/30/2020                | 1.09     | 2.016         | 1.48              | 1.534          | 1.51              | 1.251         | 1.45              | 1.050           | 1.44              | 0.029               | 1.04              | 0.055          | 1.84              | 0.020                | 1.17              | 0.024           | 1.38              | 0.102         | 1.28              | 0.024           | 1.33              | 0.075                 | 1.20              |
| 7/6/2020                 | 3.43     | 1.215         | 0.89              | 0.816          | 0.80              | 0.692         | 0.80              | 0.573           | 0.78              | 0.025               | 0.90              | 0.026          | 0.76              | 0.018                | 1.01              | 0.018           | 1.04              | 0.204         | 2.58              | 0.030           | 1.65              | 0.070                 | 1.12              |
| 7/10/2020                | 3.21     | 2.295         | 1.68              | 1.740          | 1.71              | 1.444         | 1.67              | 1.238           | 1.69              | 0.036               | 1.31              | 0.060          | 1.77              | 0.021                | 1.18              | 0.037           | 2.12              | 0.201         | 2.54              | 0.053           | 2.93              | 0.082                 | 1.30              |
| 8/4/2020                 | 5.86     | 4.293         | 3.14              | 3.508          | 3.45              | 2.354         | 2.72              | 2.323           | 3.18              | 0.028               | 1.03              | 0.143          | 4.24              | 0.013                | 0.74              | 0.056           | 3.24              | 0.737         | 9.30              | 0.123           | 6.84              | 0.105                 | 1.68              |
| 10/29/2020               | 2.07     | 1.643         | 1.20              | 1.263          | 1.24              | 1.069         | 1.24              | 0.935           | 1.28              | 0.031               | 1.12              | 0.033          | 0.97              | 0.020                | 1.14              | 0.029           | 1.68              | 0.098         | 1.24              | 0.033           | 1.80              | 0.069                 | 1.10              |
| 11/30/2020               | 2.52     | 3.026         | 2.21              | 2.376          | 2.34              | 1.949         | 2.26              | 1.658           | 2.27              | 0.030               | 1.09              | 0.089          | 2.63              | 0.022                | 1.26              | 0.044           | 2.53              | 0.190         | 2.40              | 0.060           | 3.33              | 0.082                 | 1.31              |
| 12/24/2020               | 2.66     | 2.479         | 1.81              | 1.854          | 1.83              | 1.499         | 1.74              | 1.250           | 1.71              | 0.031               | 1.14              | 0.066          | 1.96              | 0.022                | 1.26              | 0.034           | 1.99              | 0.200         | 2.52              | 0.039           | 2.15              | 0.090                 | 1.44              |
| Yearly Avg Flow (MGD) =  |          | 1.366         |                   | 1.016          |                   | 0.864         |                   | 0.731           |                   | 0.027               |                   | 0.034          |                   | 0.017                |                   | 0.017           |                   | 0.079         |                   | 0.018           |                   | 0.063                 |                   |
| High Peaking Factor =    |          |               | 3.14              |                | 3.45              |               | 2.72              |                 | 3.18              |                     | 1.31              |                | 4.24              |                      | 1.98              |                 | 3.24              |               | 9.30              |                 | 6.84              |                       | 1.68              |
| Average Peaking Factor = |          |               | 1.90              |                | 1.97              |               | 1.78              |                 | 1.92              |                     | 1.10              |                | 2.19              |                      | 1.23              |                 | 2.05              |               | 2.78              |                 | 2.71              |                       | 1.29              |

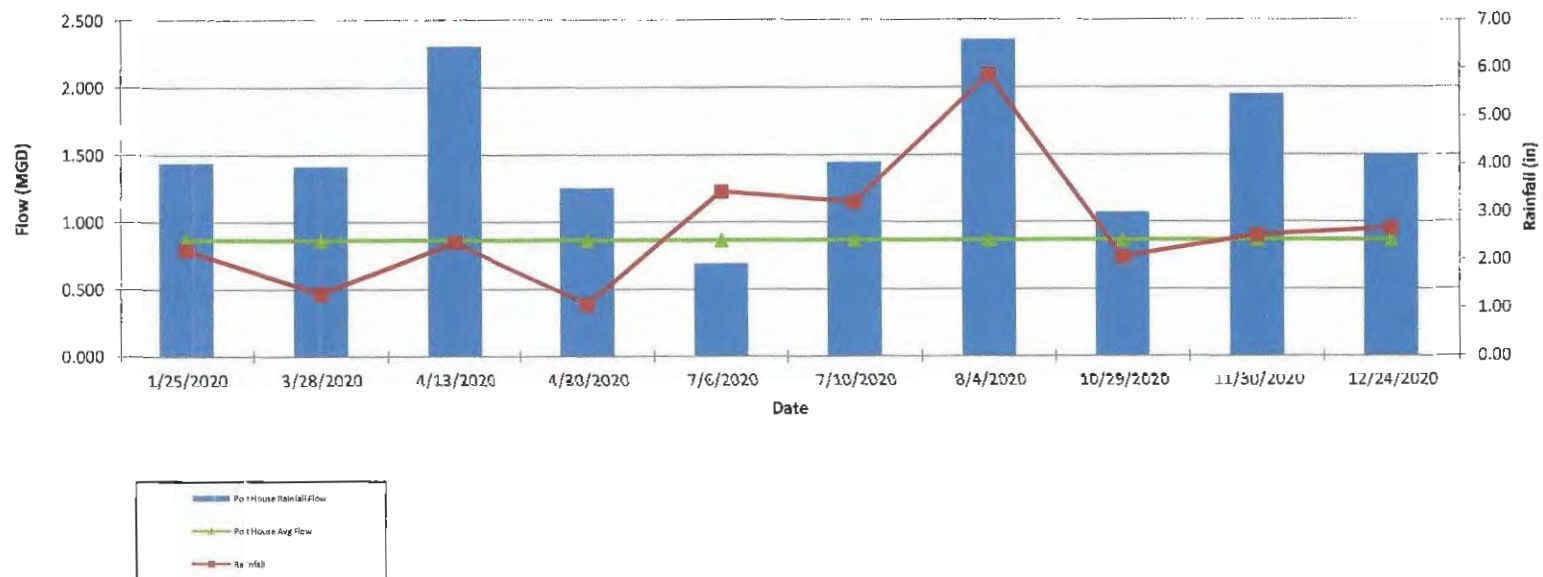
**GRAPH**  
**VALLEY FORGE SEWER AUTHORITY**  
**2020 ANNUAL CHAPTER 94 REPORT**  
**1 INCH PLUS RAINFALL VERSUS FLOW FOR PICKERING PUMP STATION**



**GRAPH**  
**VALLEY Forge SEWER AUTHORITY**  
**2020 ANNUAL CHAPTER 94 REPORT**  
**1 INCH PLUS RAINFALL VERSUS FLOW FOR WHITE HORSE PUMP STATION**

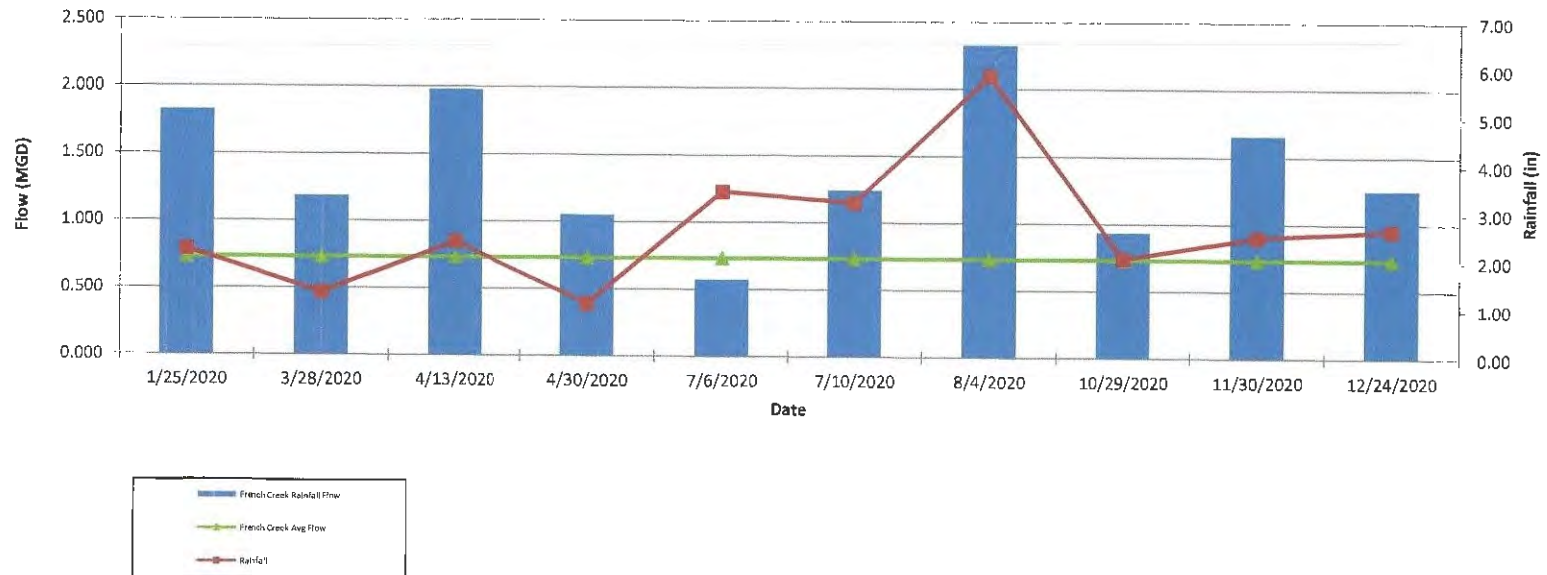


**GRAPH**  
**VALLEY FORGE SEWER AUTHORITY**  
**2020 ANNUAL CHAPTER 94 REPORT**  
**1 INCH PLUS RAINFALL VERSUS FLOW FOR POT HOUSE PUMP STATION**

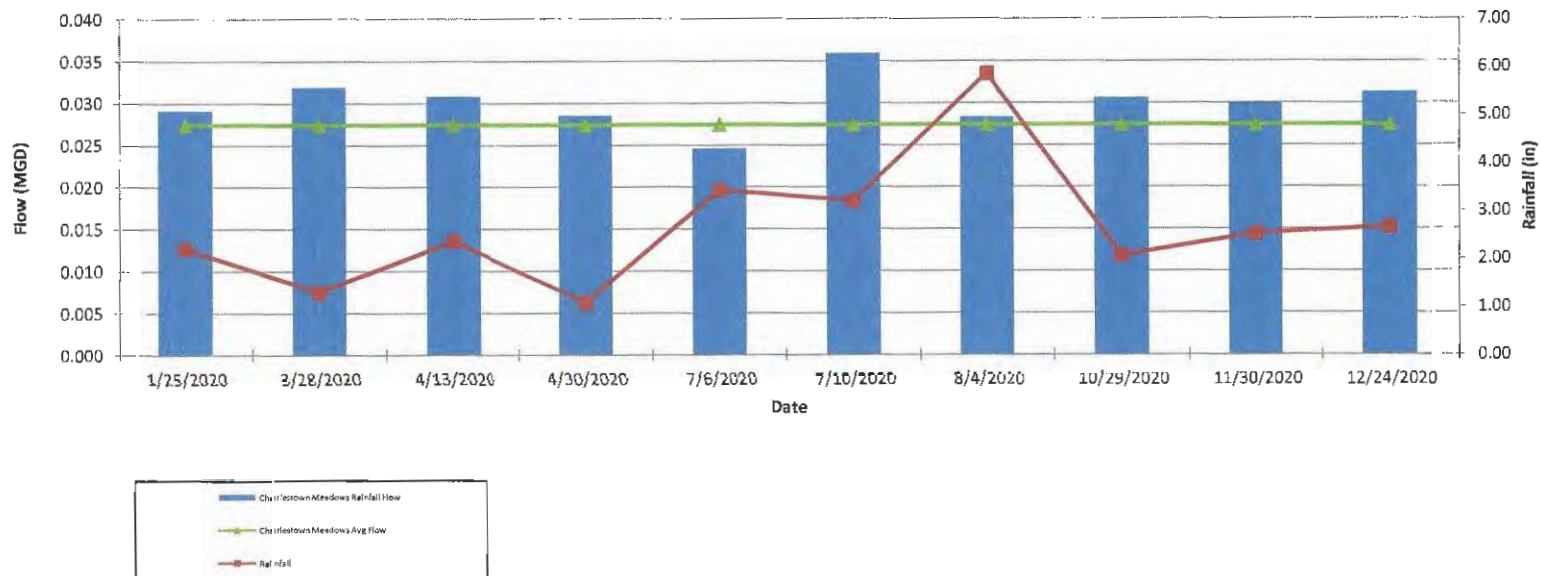




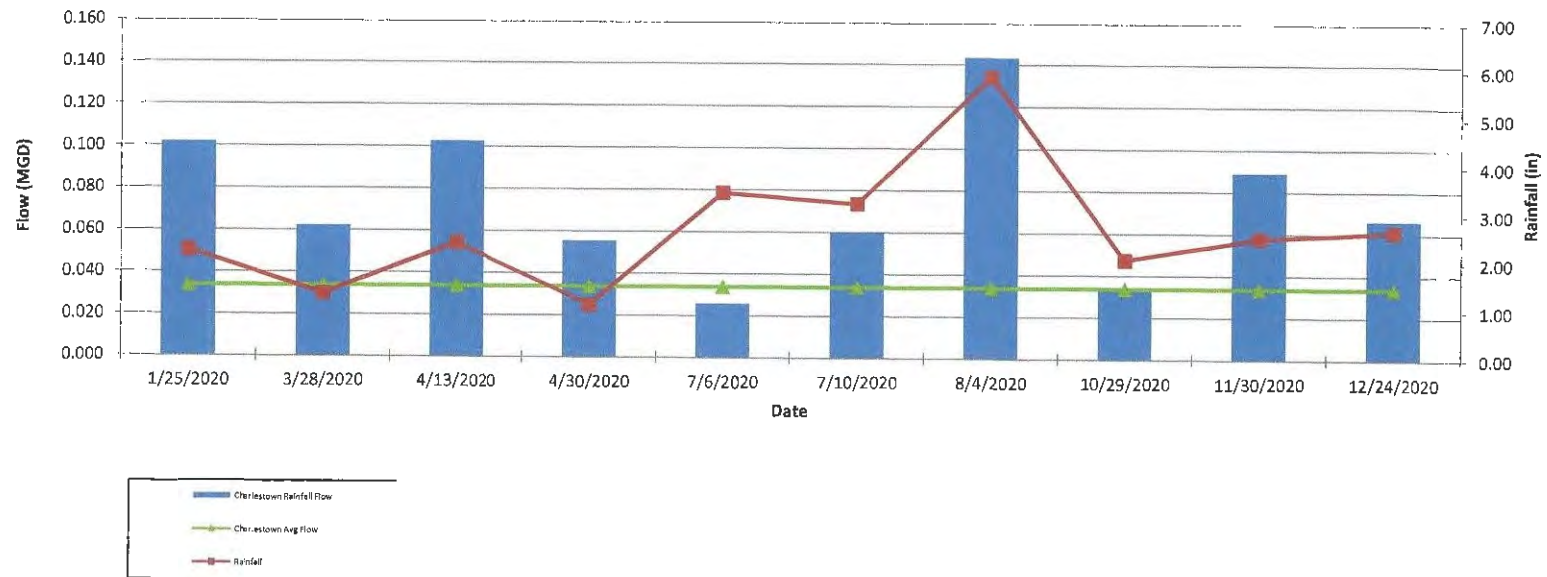
**GRAPH**  
**VALLEY FORGE SEWER AUTHORITY**  
**2020 ANNUAL CHAPTER 94 REPORT**  
**1 INCH PLUS RAINFALL VERSUS FLOW FOR FRENCH CREEK PUMP STATION**



**GRAPH**  
**VALLEY Forge SEWER AUTHORITY**  
**2020 ANNUAL CHAPTER 94 REPORT**  
**1 INCH PLUS RAINFALL VERSUS FLOW FOR CHARLESTOWN MEADOWS PUMP STATION**



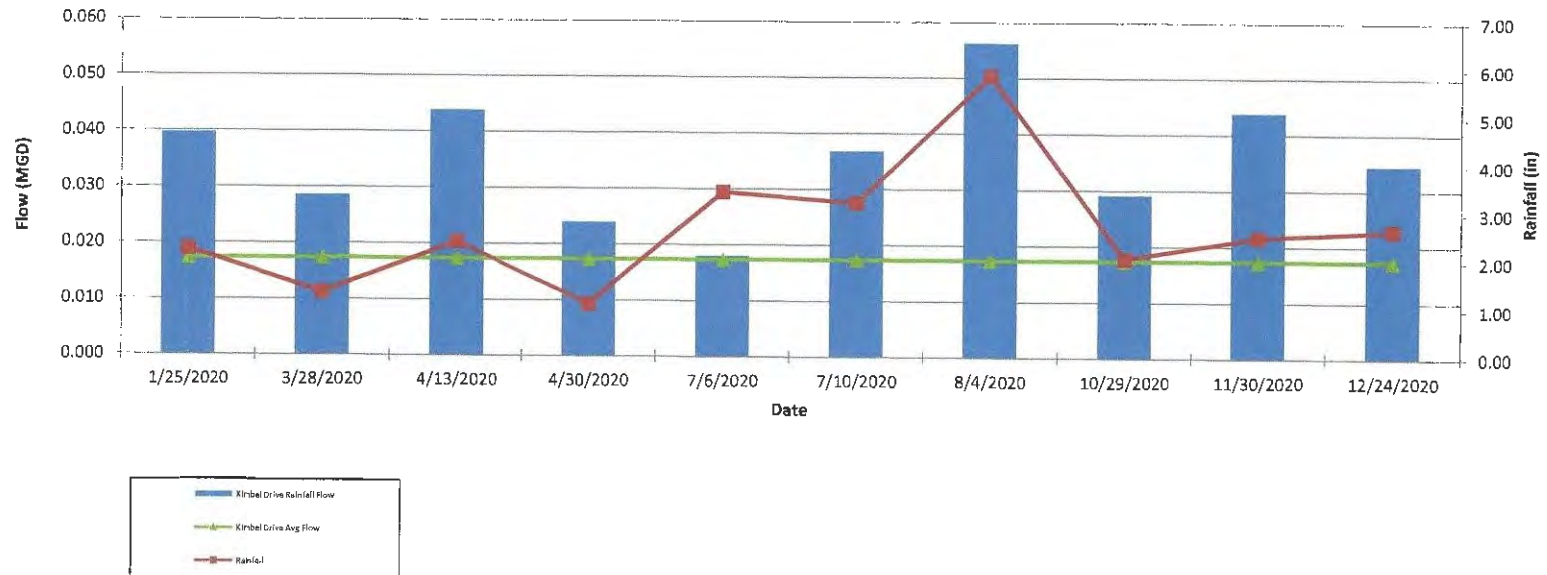
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**VALLEY Forge SEWER AUTHORITY**  
**2020 ANNUAL CHAPTER 94 REPORT**  
**1 INCH PLUS RAINFALL VERSUS FLOW FOR CHARLESTOWN PUMP STATION**



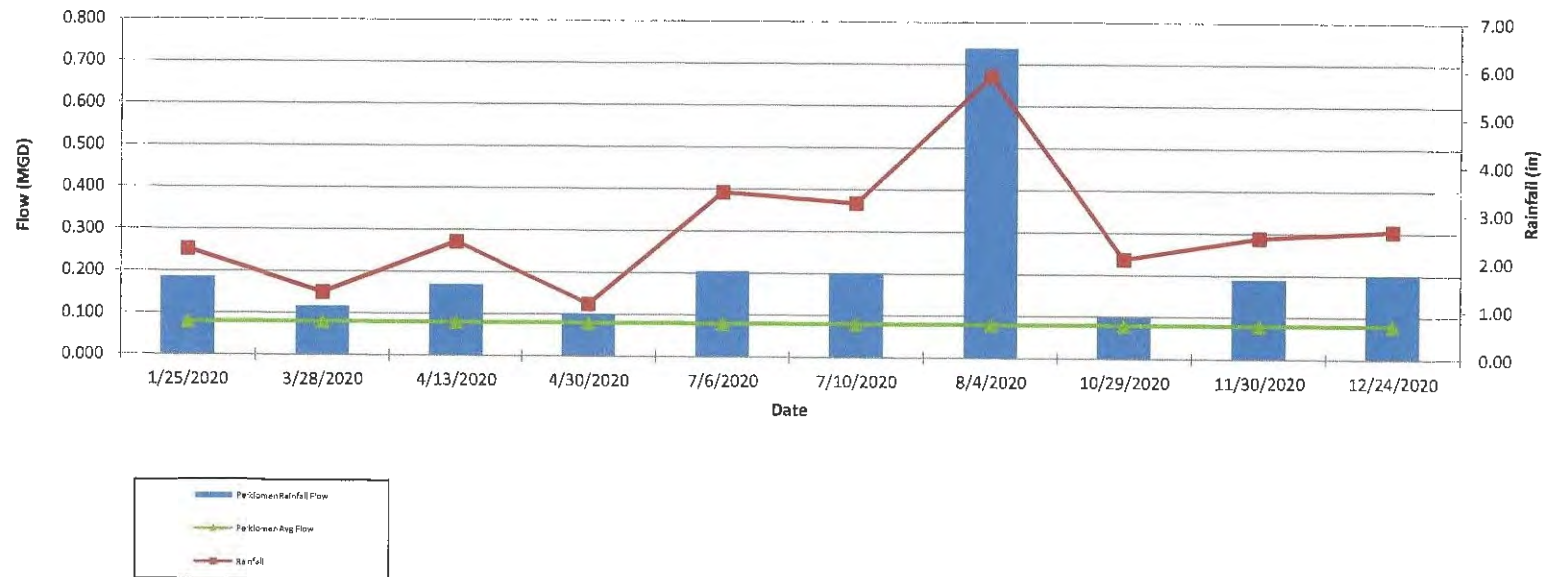
**GRAPH**  
**VALLEY FORGE SEWER AUTHORITY**  
**2020 ANNUAL CHAPTER 94 REPORT**  
**1 INCH PLUS RAINFALL VERSUS FLOW FOR KIMBERTON MEADOWS PUMP STATION**



**GRAPH**  
**VALLEY FORGE SEWER AUTHORITY**  
**2020 ANNUAL CHAPTER 94 REPORT**  
**1 INCH PLUS RAINFALL VERSUS FLOW FOR KIMBEL DRIVE PUMP STATION**

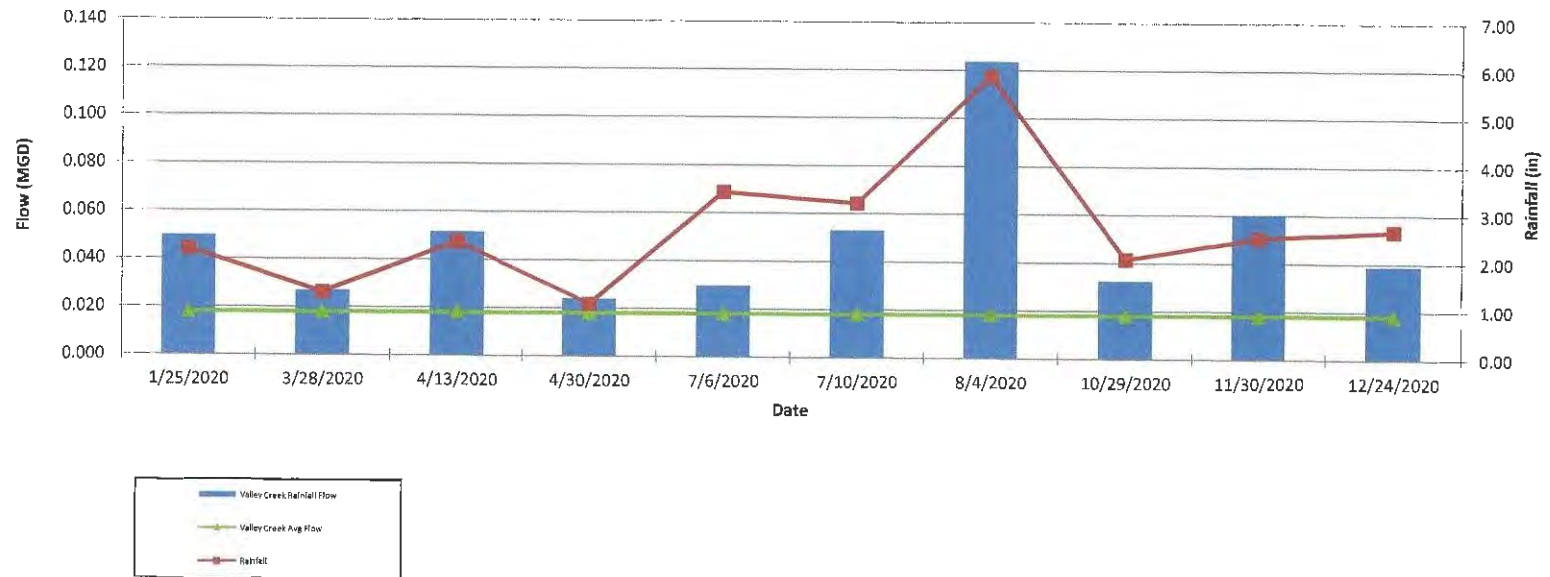


**GRAPH**  
**VALLEY FORGE SEWER AUTHORITY**  
**2020 ANNUAL CHAPTER 94 REPORT**  
**1 INCH PLUS RAINFALL VERSUS FLOW FOR PERKIOMEN PUMP STATION**

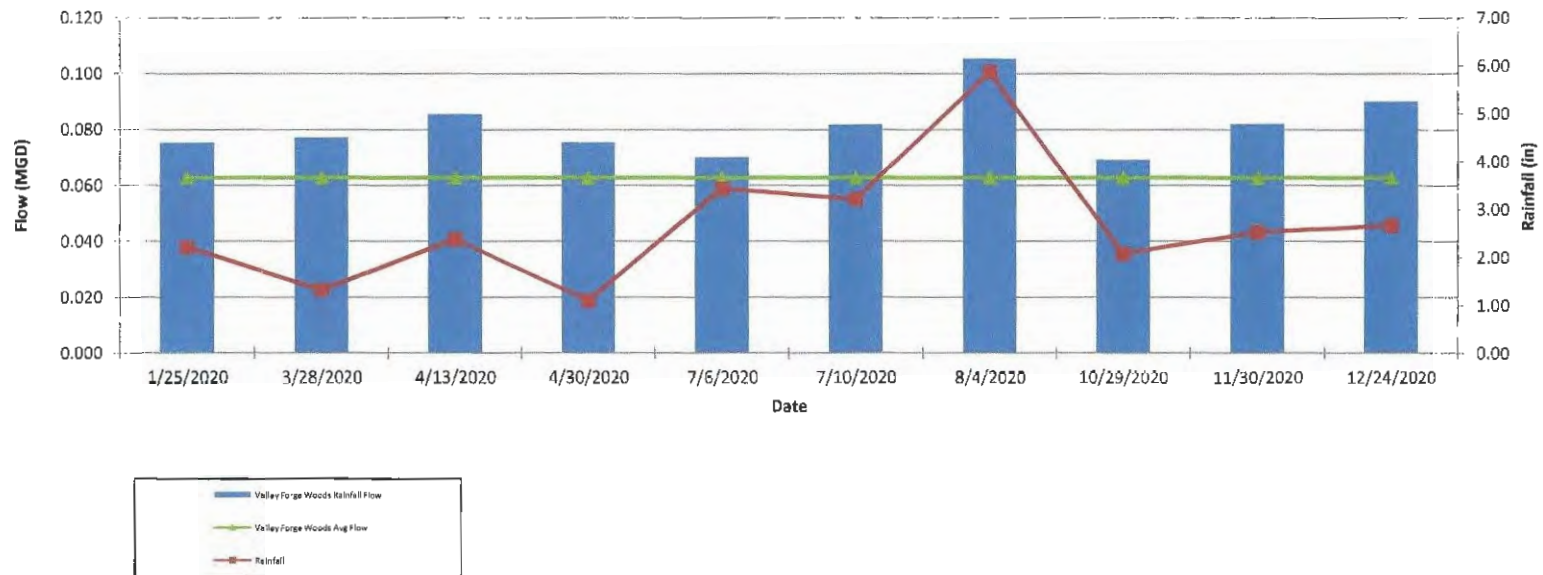




**GRAPH**  
**VALLEY FORGE SEWER AUTHORITY**  
**2020 ANNUAL CHAPTER 94 REPORT**  
**1 INCH PLUS RAINFALL VERSUS FLOW FOR VALLEY CREEK PUMP STATION**



**GRAPH**  
**VALLEY FORGE SEWER AUTHORITY**  
**2020 ANNUAL CHAPTER 94 REPORT**  
**1 INCH PLUS RAINFALL VERSUS FLOW FOR VALLEY FORGE WOODS PUMP STATION**



Two Radnor Corporate Center  
100 Matsonford Road, Ste 250  
Radnor, PA 19087

T: 484.253.4700



March 2, 2021

Mr. Richard Taylor, Laboratory Manager  
Valley Forge Sewer Authority  
333 Pawling Road  
Phoenixville, PA 19460

[153258]

Subject: Tredyffrin Township, Paoli Drainage Basin, 2020 Municipal Wasteload  
Management Annual Report

Dear Mr. Taylor:

Enclosed please find two copies of the above-referenced report for the calendar year 2020. This information is submitted on behalf of Tredyffrin Township for the Valley Forge Sewer Authority's (VFSA) information and use.

Please send a copy of the VFSA Chapter 94 report to Tredyffrin Township once completed.

If you have any questions, please do not hesitate to contact me either via phone at 443.223.7308 or email: [Slockhart@brwncald.com](mailto:Slockhart@brwncald.com). Thank you!

Very truly yours,

**Brown and Caldwell**

A handwritten signature in blue ink that reads "Susanne Lockhart".

Susanne Lockhart, P.E.  
Project Manager

cc: Stephen Burgo, P.E., Tredyffrin Township  
Gabrielle Ignarri, Tredyffrin Township

Valley Forge Sewer Authority  
2020 Municipal Wasteload  
Management Annual Report

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Prepared for  
Tredyffrin Township  
Chester County, Pennsylvania  
March 2, 2021



## 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:   | Tredyffrin Township    | Permit No.:       | PA                 |
| Mailing Address:  | 1100 Duportail Road    | Effective Date:   |                    |
| City, State, Zip: | Berwyn, PA 19312       | Expiration Date:  |                    |
| Contact Person:   | Stephen Burgo, PE      | Renewal Due Date: |                    |
| Title:            | Township Engineer      | Municipality:     | Tredyffrin         |
| Phone:            | 610-644-1400           | County:           | Chester            |
| Email:            | Sburgo @tredyffrin.org | Consultant Name:  | Brown and Caldwell |

### 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))

**See Exhibit 1 for Hydraulic and Organic Loadings**

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** )
- ☒ List summarizing each extension or project attached (**Attachment** )
- ☐ Schedules describing how each project will be completed over time and effects attached (**Attachment** )

**Comments:**

**See Exhibit 2 Sewer Extensions**

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 Exhibit 3 Program for Sewer System Monitoring, Maintenance and Repair**

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 Exhibit 4 - Condition of the Sewer System**



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 – 5)  
☒ Discussion of condition of each pump station attached (Exhibit 5)

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 )

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).

**Stephen Burgo, PE**

Name of Responsible Official

Signature

**610-644-1400**

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).

**Susanne Lockhart, PE**

Name of Preparer

Signature

**443-223-7308**

Telephone No.

**03/02/21**

Date



## 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](http://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](http://www.depweb.state.pa.us), and selecting Regional Resources).

Valley Forge Sewer Authority  
2020 Municipal Wasteload Management Annual Report

---

Prepared for  
Tredyffrin Township  
Chester County, Pennsylvania  
March 2, 2021



Two Radnor Corporate Center  
100 Matsonford Road, Ste 250  
Radnor, PA 19087

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## List of Attachments

Attachment A Exhibit 6: Flow Meter Calibration Documentation

## Exhibit 1. Hydraulic and Organic Loading

The total number of equivalent dwelling units (EDUs) connected to the Paoli sanitary sewer basin in 2020 was 7,318.6. These connected EDU's contributed 0.706 million gallons per day (MGD). The projected flows are found in Table 1-1.

| Table 1-1. Valley Creek Trunk Sewer - Paoli Basin EDU Projections |                           |                      |           |
|-------------------------------------------------------------------|---------------------------|----------------------|-----------|
| Year                                                              | Additional Number of EDUs | Total Number of EDUs | Total MGD |
| Actual 2020 <sup>1</sup>                                          | 389                       | 7318.6               | 0.811     |
| Projected 2021 <sup>2</sup>                                       | 49                        | 7367.6               | 0.824     |
| Projected 2022 <sup>2</sup>                                       | 191                       | 7558.6               | 0.877     |
| Projected 2023 <sup>2</sup>                                       | 2                         | 7560.6               | 0.877     |
| Projected 2024 <sup>2</sup>                                       | 0                         | 7560.6               | 0.877     |
| Projected 2025 <sup>2</sup>                                       | 0                         | 7560.6               | 0.877     |

1. Source is 2020 4th Quarter Flow Report from VFSA on Feb 19, 2021.

2. Estimated additional flows are based on EDUs of 275 gallons per day per EDU.

The increase in number of connections was based on Tredyffrin Township records of proposed developments.

The organic load projections are based on a 5-day biochemical oxygen demand (BOD<sub>5</sub>) of 200 milligrams per liter (mg/L), which is used in the loading calculation of:

$$\text{Total MGD per year} \times 200 \text{ mg/L BOD}_5 \times 8.34 \text{ pounds per gallon (lb/gallon)} = X \text{ lbs/day}$$

| Table 1-1A. Valley Creek Trunk Sewer - Paoli Basin 5-year Hydraulic and Organic Loading Projections |                      |                         |                            |
|-----------------------------------------------------------------------------------------------------|----------------------|-------------------------|----------------------------|
| YEAR                                                                                                | Projected Flow (MGD) | BOD <sub>5</sub> (mg/L) | BOD <sub>5</sub> (lbs/day) |
| 2020                                                                                                | 0.811                | 200                     | 1,352                      |
| 2021                                                                                                | 0.824                | 200                     | 1,375                      |
| 2022                                                                                                | 0.877                | 200                     | 1,462                      |
| 2023                                                                                                | 0.877                | 200                     | 1,463                      |
| 2024                                                                                                | 0.877                | 200                     | 1,463                      |
| 2025                                                                                                | 0.877                | 200                     | 1,463                      |

## Exhibit 2. Sanitary Sewer Extensions

Table 2-1 lists the 5-year projections for sewer connections/extensions within the Paoli drainage basin.



**Table 2-1. Valley Creek Trunk Sewer - Paoli Basin Sewer Extensions**

| Development/Extensions            | TOTAL EDUs 2021 - 2025 | 2020       | 2021      | 2022       | 2023     | 2024     | 2025     |
|-----------------------------------|------------------------|------------|-----------|------------|----------|----------|----------|
| Highgrove                         | 5                      | 1          | 1         | 2          | 2        |          |          |
| Station Square                    | 0                      | 153        |           |            |          |          |          |
| Howellville Road                  | 24                     |            |           | 24         |          |          |          |
| Sage Atwater                      | 0                      | 108        |           |            |          |          |          |
| Atwater 11A and 11B               | 18                     |            | 18        |            |          |          |          |
| Lancaster Chestnut Assoc.         | 17                     |            | 17        |            |          |          |          |
| 341 Beechwood                     | 2                      |            | 2         |            |          |          |          |
| 585 Berkshire                     | 1                      |            | 1         |            |          |          |          |
| 598-600 Upper Gulph Road          | 0                      | 2          |           |            |          |          |          |
| 1237 Lancaster Ave                | 10                     |            | 10        |            |          |          |          |
| Swedesford Plaza (ECHO Realty)    | 125                    | 125        |           | 125        |          |          |          |
| 1690 Russell Road Assisted Living | 40                     |            |           | 40         |          |          |          |
| <b>TOTAL</b>                      | <b>242</b>             | <b>389</b> | <b>49</b> | <b>191</b> | <b>2</b> | <b>0</b> | <b>0</b> |

## Exhibit 3. Sewer System Monitoring and Maintenance

In 2020, Tredyffrin Township Department of Public Works had five full time staff including the Public Works Director who are dedicated to the operation and maintenance of the sanitary sewer collection system. Other departments within Tredyffrin Township may assist as needed. Tredyffrin Township subcontracts with Municipal Maintenance to perform the non-routine maintenance on the sewer pumping stations. Tredyffrin Township has performed extensive closed-circuit television (CCTV) inspection of the Township's sewer piping, hundreds of manhole inspections and has a flusher truck for removing blockages and other debris.

## Exhibit 4. Condition of the Sewer System

The rehabilitation of the Wilson Road Force Main was completed in December 2016. In general, the system is in good condition with consistent maintenance activities being performed.

In December 2018, the Valley Creek Trunk Sewer System was sold to Aqua Resources, Inc. The assets included in the sale are: Valley Creek Trunk Sewer, Wilson Road Force Main and Wilson Road Pumping Station, Darby Road Pumping Station and Force Main, the Glenn Avenue Force Main and the Lancaster Avenue Force Main. Glenn Avenue Pumping Station and Lancaster Avenue Pumping Station were not included in the sale.

## Exhibit 5. Wastewater Pumping Stations

Within the Township's Sewer Collection System, there are five pumping stations that contribute flow to the Valley Forge Sewer Authority Pawling Road Wastewater Treatment Plant. Darby Road and Wilson Road Pumping Stations were included in the VCTS sale.

| <b>Table 5-1. Valley Creek Trunk Sewer - Paoli Basin Pumping Stations</b> |                       |                                |                                         |                                                      |                                                   |
|---------------------------------------------------------------------------|-----------------------|--------------------------------|-----------------------------------------|------------------------------------------------------|---------------------------------------------------|
| <b>Pumping Station</b>                                                    | <b>Capacity (MGD)</b> | <b>2020 Average Flow (MGD)</b> | <b>2020 Peak Flow<sup>1</sup> (MGD)</b> | <b>Projected 2022 Average Flow<sup>2</sup> (MGD)</b> | <b>Projected 2022 Peak Flow<sup>1</sup> (MGD)</b> |
| Lancaster Avenue                                                          | 0.300                 | 0.014                          | 0.034                                   | 0.040                                                | 0.101                                             |
| Glenn Avenue                                                              | 0.313                 | 0.036                          | 0.090                                   | 0.063                                                | 0.157                                             |
| Chesterbrook                                                              | 0.909                 | 0.088                          | 0.220                                   | 0.115                                                | 0.287                                             |
| Summerhill                                                                | 0.144                 | 0.006                          | 0.016                                   | 0.033                                                | 0.082                                             |
| Atwater/Church Road                                                       | 0.274                 | 0.023                          | 0.059                                   | 0.050                                                | 0.125                                             |

1. Peak flow = 2.5x average daily flow.

2. Projected flow based on Table 1A 5 Year Flow Projections incorporating planned development.

3. Flow calculations are based on pump run time.

## Exhibit 6. Flow Meter Calibration Documentation

The Township maintains multiple flow meters within their system. Attached is the documentation that regular calibration of these meters occurs as part of ongoing maintenance of the system.

## **Attachment A:**

### **Exhibit 6: Flow Meter Calibration Documentation**

---





# ALLIED CONTROL SERVICES, INC.

611 Garfield Avenue • P.O. Box 234, West Point, PA 19486  
24 Hour Emergency Service 800-441-4844  
Fax 215-699-9030

Certificate #

5157

## CERTIFICATE OF CALIBRATION

CUSTOMER: Tredyffrin Township

LOCATION: PUMP STATIONS

LOOP OR SYSTEM ID: Remote Pump Station

CALIBRATED RANGE: \_\_\_\_\_ TOTALIZER MULTIPLIER \_\_\_\_\_

The following equipment has been accurately calibrated under ambient conditions at an ambient temperature of 60 deg. F, in accordance with the manufacturers documented procedures and specifications.

| ITEM     | MANUFACTURER          | MODEL #         | SERIAL #          | DESCRIPTION       |
|----------|-----------------------|-----------------|-------------------|-------------------|
| <u>1</u> | <u>HACH</u>           | <u>HL-9000</u>  | <u>N/A</u>        | <u>ULTRASONIC</u> |
| <u>2</u> | <u>BRIDGING</u>       | <u>TIGER M4</u> | <u>M141394509</u> | <u>MAGNETIC</u>   |
| <u>3</u> | <u>BADGE</u>          | <u>M2000</u>    | <u>0716200</u>    | <u>MAGNETIC</u>   |
| <u>4</u> | <u>Thermo Dynamic</u> | <u>SX-40</u>    |                   | <u>DOPPLER</u>    |
|          |                       |                 |                   |                   |
|          |                       |                 |                   |                   |

REMARKS: \_\_\_\_\_

CALIBRATION DATE: 10 / 26 / 20 TECHNICIAN: Roger Bush

### TEST EQUIPMENT USED:

| MANUFACTURER          | DESCRIPTION                    | MODEL      | SERIAL #       |
|-----------------------|--------------------------------|------------|----------------|
| <u>Fluke</u>          | <u>DMM</u>                     | <u>787</u> | <u>7701022</u> |
| <u>Ematic</u>         | <u>Calibrated Rule</u>         | <u>403</u> |                |
| <u>Endress Hauser</u> | <u>VERIFICATOR Field Check</u> |            |                |





# CUSTOMER SERVICE REPORT

# **SR 37948**

## ALLIED CONTROL SERVICES, INC.

611 Garfield Avenue • P.O. Box 234, West Point, PA 19486  
24 Hour Emergency Service 800-441-4844

CUSTOMER'S ORDER NO.

REFERENCE NO.

BILL TO

CUSTOMER SITE/LOCATION

Tredyffrin Township

RICHARDS RD. Boxwood PS  
Pine Hill  
CHURCH RD  
SANDERHILL PS

CONTACT:

CONTACT:

## REQUESTED SERVICES

Semi-Annual Flow meter Calibrations

## CODES

DEM

PMP

PMB

QRT

COB

CON

WAR

SAL

ENG

OTHER:

## WORK PERFORMED

## EQUIPMENT REMOVED OR DELIVERED

DESCRIPTION/REF #

SERIAL/ID #

DEL

REM

Completed Semi-Annual Flow meter  
Calibrations. Found all meters operating  
correct. Richards Rd Metering Chamber  
was empty. Removed grit from float.  
Moved to test spray chamber.  
All meter stations were clean and meters  
in good working order.

QTY

PART/PRODUCT NUMBER

AMOUNT

## [A] PARTS TOTAL

LABOR (REG.)

HRS@

/HR

LABOR (O.T.)

HRS@

/HR

LUMP SUM:

## [B] LABOR TOTAL

EXPENSES (TOLLS, ROOMS, MEALS)

MILEAGE 60 MILES@

/MILE

AIR AND/OR CAR RENTAL

FOLLOW-UP REQUIRED: YES ☐ NO ☐ (ATTACH CCR FORM)

## [C] EXPENSE TOTAL

CERTIFICATIONS REQUIRED: YES ☐ NO ☐ NIST: YES ☐ NO ☐

## [D] SHIPPING CHARGES

FUTURE ACTION/WORK REQUIRED: YES ☐ NO ☐ % COMP 

## TOTAL [A] + [B] + [C] + [D]

SALES TAX OR TAX ID # ( )

OTHER:

## FINAL AMOUNT DUE

SERVICE REPRESENTATIVE

CUSTOMER SIGNATURE

MO.

DAY

YR.

CUSTOMER COPY



# CUSTOMER SERVICE REPORT #

SR53340

## ALLIED CONTROL SERVICES, INC.

611 Garfield Avenue • P.O. Box 234, West Point, PA 19486

24 Hour Emergency Service 800-441-4844

CUSTOMER'S ORDER NO.

REFERENCE NO.

BILL TO

Treddy FF in Twp

CUSTOMER SITE/LOCATION

RICHARDS Rd  
Pine Hill  
CHURCH  
Somersdale

CONTACT:

CONTACT:

### REQUESTED SERVICES

Quarterly Flow meter calibrations

### CODES

|        |     |     |
|--------|-----|-----|
| DEM    | PMP | PMB |
| QRT    | COB | CON |
| WAR    | SAL | ENG |
| OTHER: |     |     |

### WORK PERFORMED

### EQUIPMENT REMOVED OR DELIVERED

DESCRIPTION/REF #

SERIAL/ID #

DEL

REM

Completed inspection & calibration of  
All Flow meters at pump stations and  
open channel pits.

Installed Temporary HACH FL-900 AT  
Richards Rd. Checked actual flow to  
HACH display. NO PROBLEMS

QTY

PART/PRODUCT NUMBER

AMOUNT

Performed verification to Somersdale sub  
church rd ps. no problems found

Borough SPARLING meter has defective  
display. Unable to calibrate due to display.  
meter is no longer repairable by factory. Meter  
is working - parts may be found on E-BAY?

### [A] PARTS TOTAL

LABOR (REG.) 1 HRS@ /HR

LABOR (O.T.) HRS@ /HR

LUMP SUM:

### [B] LABOR TOTAL

EXPENSES (TOLLS, ROOMS, MEALS)

MILEAGE 35 MILES@ /MILE

AIR AND/OR CAR RENTAL

FOLLOW-UP REQUIRED: YES ☐ NO ☐ (ATTACH CCR FORM)

### [C] EXPENSE TOTAL

CERTIFICATIONS REQUIRED: YES ☒ NO ☐ NIST: YES ☐ NO ☐

### [D] SHIPPING CHARGES

FUTURE ACTION/WORK REQUIRED: YES ☐ NO ☐ % COMP

### TOTAL [A] + [B] + [C] + [D]

SALES TAX OR TAX ID # ( )

OTHER:

### FINAL AMOUNT DUE

SERVICE REPRESENTATIVE

CUSTOMER SIGNATURE

MO.

DAY

YR.

3

30

20





# ALLIED CONTROL SERVICES, INC.

611 Garfield Avenue • P.O. Box 234, West Point, PA 19486

24 Hour Emergency Service 800-441-4844

Fax 215-699-9030

Certificate #

5314

## CERTIFICATE OF CALIBRATION

CUSTOMER: TRAIL FARM TOWN SHIP

LOCATION: PUMP STATIONS

LOOP OR SYSTEM ID: SUMP FLOW

CALIBRATED RANGE: \_\_\_\_\_ TOTALIZER MULTIPLIER \_\_\_\_\_

The following equipment has been accurately calibrated under ambient conditions at an ambient temperature of \_\_\_\_\_ deg. F, in accordance with the manufacturers documented procedures and specifications.

| ITEM | MANUFACTURER | MODEL # | SERIAL # | DESCRIPTION                 |
|------|--------------|---------|----------|-----------------------------|
| 1    | HACH         | FL900   | 101A     | ULTRASONIC                  |
| 2    | SIEMENS      | 950     | 41       | ULTRASONIC                  |
| 3    | EMERSON      | 112000  | 0716100  | WATERMETER SIGNAL CONVERTER |
| 4    | EMERSON      | 112001  | 0716101  | WATERMETER SIGNAL CONVERTER |
|      |              |         |          |                             |
|      |              |         |          |                             |

REMARKS: \_\_\_\_\_

CALIBRATION DATE: 5 / 30 / 2020

TECHNICIAN: George Ruckner

### TEST EQUIPMENT USED:

| MANUFACTURER     | DESCRIPTION          | MODEL    | SERIAL #    |
|------------------|----------------------|----------|-------------|
| Fluke            | 1500A                | 787      |             |
| Fluke            | ULC-Factor           | 1703.180 |             |
| Endress + Hauser | ULC-Factor Field Kit |          | 01050412000 |

**ALLIED CONTROL SERVICES, INC.**

311 GARFIELD AVE. • P.O. BOX 234 • WEST POINT, PA 19486  
Phone: 215-699-2855  
Fax: 215-699-9030

**INVOICE**

Invoice Number:  
**314225**

Invoice Date:  
**03/30/2020**

Page:  
**1**

**Sold To:**  
Township of Tredyffrin  
1100 Duportail Road  
Berwyn, PA 19312

**Ship To:** DEM-00-1027  
Richards Road, Pine Hill, Church,  
Boxwood and Somerdale

| Customer ID  | Customer PO   | Payment Terms |           |
|--------------|---------------|---------------|-----------|
| TRED01       | D. Fitzgerald | Net 30 Days   |           |
| Sales Rep ID | Shipping      | Ship          | Due Date  |
| GBUCHSER     | Field Service | 3/30/2020     | 4/29/2020 |

| Qty   | P/N        | Description                                                                                                                                 | Unit Price | Extension |
|-------|------------|---------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|
| 2.50  | DEMAND ITM | Richards Road on-site semi annual calibration services as provided by G. Buchser on 3/30/2020. Please refer to CSR #53340 for more details. | 124.00     | 310.00    |
| 1.00  | DEMAND ITM | Pine Hill on-site semi annual calibration services as provided by G. Buchser on 3/30/2020. Please refer to CSR #53340 for more details.     | 124.00     | 124.00    |
| 1.00  | DEMAND ITM | Church Road on-site semi annual calibration services as provided by G. Buchser on 3/30/2020. Please refer to CSR #53340 for more details.   | 124.00     | 124.00    |
| 1.00  | DEMAND ITM | Somerdale on-site semi annual calibration services as provided by G. Buchser on 3/30/2020. Please refer to CSR #53340 for more details.     | 124.00     | 124.00    |
| 2.50  | DEMAND ITM | Boxwood on-site semi annual calibration services as provided by G. Buchser on 3/30/2020. Please refer to CSR #53340 for more details.       | 124.00     | 310.00    |
| 25.00 | MILEAGE    | Total Mileage Charge                                                                                                                        | 0.88       | 22.00     |

*Semi annual  
Calibration*

Check/Credit Memo No.

|                        |                   |
|------------------------|-------------------|
| Subtotal               | \$1,014.00        |
| Sales Tax              | 0.00              |
| Total Invoice Amount   | 1,014.00          |
| Payment/Credit Applied | 0.00              |
| <b>TOTAL</b>           | <b>\$1,014.00</b> |



# CUSTOMER SERVICE REPORT

# SR53340

## ALLIED CONTROL SERVICES, INC.

611 Garfield Avenue • P.O. Box 234, West Point, PA 19486  
24 Hour Emergency Service 800-441-4844

314225

CUSTOMER'S ORDER NO.

REFERENCE NO.

BILL TO

Reddy RR in Twp

CUSTOMER SITE/LOCATION

Richards Rd  
Pine Hill  
Church  
Somerdale

CONTACT:

CONTACT:

## REQUESTED SERVICES

Quarterly Flow meter calibrations

dem 001027  
2590003

## CODES

DEM

PMP

PMB

QRT

COB

CON

WAR

SAL

ENG

OTHER:

## WORK PERFORMED

EQUIPMENT REMOVED OR DELIVERED  
DESCRIPTION/REF #

SERIAL/ID #

DEL

REM

Completed inspection & calibration of  
all flow meters at pump stations and  
open channel pits.

Installed temporary HACH FL-900 AT  
Richards RD. checked actual flow to  
HACH display. no problems

Performed calibration to Somerdale and  
Church Rd ps. no problems found

Boxhood SPARKING magmeter has defective  
display. Unable to calibrate due to display.  
meter is no longer repairable by factory meter  
is working - parts may be found on E-Bay?

QTY

PART/PRODUCT NUMBER

AMOUNT

## [A] PARTS TOTAL

LABOR (REG.) 8 HRS @ 124.17 HR

LABOR (O.T.) HRS @ /HR

LUMP SUM:

## [B] LABOR TOTAL

EXPENSES (TOLLS, ROOMS, MEALS)

MILEAGE 25 MILES @ .88 /MILE

AIR AND/OR CAR RENTAL

FOLLOW-UP REQUIRED: YES ☐ NO ☐ (ATTACH CCR FORM)CERTIFICATIONS REQUIRED: YES ☒ NO ☐ NIST: YES ☐ NO ☐FUTURE ACTION/WORK REQUIRED: YES ☐ NO ☐ % COMP 

## [C] EXPENSE TOTAL

## [D] SHIPPING CHARGES

TOTAL [A] + [B] + [C] + [D]

SALES TAX OR TAX ID # ( )

OTHER:

## FINAL AMOUNT DUE

SERVICE REPRESENTATIVE

CUSTOMER SIGNATURE

WILLISTOWN TOWNSHIP  
MUNICIPAL WASTELOAD MANAGEMENT REPORT  
VALLEY FORGE SEWER AUTHORITY  
DRAINAGE AREA  
CALENDAR YEAR 2020

MARCH 2021

PREPARED FOR:

WILLISTOWN TOWNSHIP  
688 SUGARTOWN ROAD  
MALVERN, PA 19355

---

SALLY SLOOK, TOWNSHIP MANAGER

PREPARED BY:

CARROLL ENGINEERING CORPORATION  
949 EASTON ROAD  
WARRINGTON, PA 18976

---

WILLIAM N. MALIN, P.E., VICE PRESIDENT

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# **WASTEWATER FACILITIES PLAN**

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### PLANS

WASTEWATER FACILITIES PLAN



## **SECTION 1**

### **INTRODUCTION**

Pursuant to Pennsylvania Chapter 94 Municipal Wasteload Management regulations and requirements, Willistown Township has prepared this 2020 Municipal Wasteload Management Annual Report for the Valley Forge Sewer Authority (VFSA) service area.

The Valley Forge Sewer Authority service area covers the northern one-third of the Township adjacent to Tredyffrin Township and Malvern Borough and generally east of Sugartown Road to the Easttown Township border. In addition, there is a small portion along the East Goshen Township Boundary that straddles Paoli Pike. Wastewater in the VFSA service area is conveyed via the Valley Creek Trunk Sewer (VCTS) to VFSA for treatment. In addition to collecting and conveying wastewater in Willistown Township, flows from East Whiteland and Malvern Borough are conveyed (wheeled flow) through Willistown to the VCTS and VFSA. The Valley Forge Sewer Authority service area is shown on the Wastewater Facilities Plan.

The Valley Forge Sewer Authority service area includes approximately 20 miles of 8” through 18” gravity sewers and 9 miles of pressure sewers. There are four municipal owned and one privately owned sewage pump stations in the VFSA service area. The private pump station is part of the Dovecote development and will be dedicated to the Township.

Wastewater from the VFSA service area enters Tredyffrin and Easttown Townships at five locations identified on the Wastewater Facilities Plan:

- Flow from Tredyffrin Township Drainage Area 1 is metered at the Cedar Hollow flow meter located on Cedar Hollow Road just north of Jacqueline Drive. Approximately 97% of all Willistown Township flow to VFSA flows through the Cedar Hollow meter.
- Seven un-metered EDU's on Central Avenue in Tredyffrin Township Drainage Area 2 connect to Tredyffrin Township's sewer system.
- Fifty-six EDU's on Plank Avenue, Paoli Pike, Richmond Drive, Wistar Road and Cobblestone Drive in Tredyffrin Township Drainage Area 3 connect directly to Tredyffrin Township's sewer system.
- Flow from Easttown Township Drainage Area 1 is metered at the Pheasant Run flow meter located in Pheasant Run Drive.
- One EDU on South Valley Road in Easttown Township Drainage Area 2 connects directly to Easttown Township's sewer system.

## **SECTION 2**

### **HYDRAULIC LOADING**

Willistown Township is allocated 1,438,000 gallons per day (GPD) of capacity in VFSA's treatment plant. In 2020, Willistown conveyed a monthly average daily flow of 1,305,107 GPD to VFSA. Currently, Willistown is using 90.8% of their allocated capacity. Flows conveyed to VFSA is summarized in Table No. 1.

The monthly average daily flow in 2020 decreased by approximately 10% (141,727 GPD). The flow reduction is attributed to the completion of sewer system repairs. Willistown's long term (January 2015 through December 2020) monthly average daily flow is 1,227,965 GPD.

In 2020, one new EDU was connected in the VFSA service area. Projected flows for the new connections for the period 2021 through 2025 are shown in Table No. 2. Flows are projected to increase by 11,000 GPD in the next 5-years.

### **SECTION 3**

#### **CONDITION OF THE SEWER SYSTEM**

Willistown's sewer system dates to the 1970's. Older portions of the system primarily consist of vitrified clay or asbestos cement pipe (VCP & ACP). New portions are PVC pipe. In 2014, the gravity sewer system was televised by a third-party contractor. In 2015 sewer defects and needed repairs were catalogued. Construction drawings for sewer repairs are being prepared. The previously identified emergency sewer repairs were completed between August 2018 and February 2019. Eight-hundred thirty feet of sewer and 6 manholes were replaced. In 2019, an additional 555' and 5 manholes were replaced.

## **SECTION 4**

### **SEWAGE PUMPING STATIONS**

There are four municipal owned and one privately owned pump stations in the VFSA service area. Pump Stations Nos. 1, 2, 4, and the privately-owned Dovecote Pump Station pump flow to Pump Station No. 3. Pump Station No. 3 pumps flow to the gravity sewer system tributary to the Cedar Hollow flow meter. The pump stations are shown on the Wastewater Facilities Plan.

Pump station flows are summarized as follows:

1. PUMP STATION No. 1:

|                                |             |
|--------------------------------|-------------|
| Design Capacity:               | 288,000 GPD |
| Current 5-year Maximum Flow:   | 98,294 GPD  |
| Projected 2-year Maximum Flow: | 98,294 GPD  |

2. PUMP STATION No. 2:

|                                |             |
|--------------------------------|-------------|
| Design Capacity:               | 720,000 GPD |
| Current 5-year Maximum Flow:   | 446,209 GPD |
| Projected 2-year Maximum Flow: | 446,209 GPD |

3. PUMP STATION No. 3:

|                                |               |
|--------------------------------|---------------|
| Design Capacity:               | 2,880,000 GPD |
| Current 5-year Maximum Flow:   | 910,313 GPD   |
| Projected 2-year Maximum Flow: | 910,863 GPD   |

Current and projected pump station flows include flow from Pump Station Nos. 1, 2, 4 & Dovecote.

4. PUMP STATION No. 4:

Design Capacity: 288,000 GPD

Current 5-year Maximum Flow: 65,828 GPD

Projected 2-year Maximum Flow: 65,828 GPD

5. DOVECOTE PUMP STATION:

Pump station capacity and flow data is not currently available. There will be no additional flow in the next 2-years.



## **SECTION 5**

### **INDUSTRIAL WASTES**

Currently, there are no industrial users in the VFSA service area, nor are any planned in the future.

Table No. 1  
Willistown Township  
Valley Forge Sewer Authority Service Area  
2020 Monthly Flow Summary

| Month     | Metered Flow                     |                                  |                        |                           |                            |                                  |                      |                                 | Un-Metered Flow                  |                             |                                     |                                    |                              |                                             |                                          |                                      |
|-----------|----------------------------------|----------------------------------|------------------------|---------------------------|----------------------------|----------------------------------|----------------------|---------------------------------|----------------------------------|-----------------------------|-------------------------------------|------------------------------------|------------------------------|---------------------------------------------|------------------------------------------|--------------------------------------|
|           | Metered Flows                    |                                  |                        | Wheeled Flows             |                            |                                  |                      | Net<br>Metered<br>Flow<br>(GPD) | Cedar<br>Hollow<br>Flow<br>(MGD) | Flow<br>Analysis<br>z-scale | Flow<br>Analysis<br>Corres.<br>Flow | Peaking<br>Factor<br>ADF=<br>1.052 | Total<br>Un-metered<br>EDU's | Base EDU<br>Flow<br>275<br>Gal/EDU<br>(GPD) | Corrected<br>Un-metered<br>Flow<br>(GPD) | Total<br>Willistown<br>Flow<br>(GPD) |
|           | Cedar<br>Hollow<br>Flow<br>(GPD) | Pheasant<br>Run<br>Flow<br>(GPD) | Total<br>Flow<br>(GPD) | Woodview<br>Flow<br>(GPD) | Tidewater<br>Flow<br>(GPD) | Malvern<br>Prep<br>Flow<br>(GPD) | Total<br>Flow<br>GPD |                                 |                                  |                             |                                     |                                    |                              |                                             |                                          |                                      |
| January   | 1,174,735                        | 96,014                           | 1,270,749              | 6,888                     | 9,503                      | 8,810                            | 25,201               | 1,245,548                       | 1.175                            | 0.322                       | 1.127                               | 1.042                              | 73                           | 20,075                                      | 20,921                                   | 1,266,469                            |
| February  | 1,234,623                        | 73,089                           | 1,307,713              | 6,818                     | 10,241                     | 8,810                            | 25,869               | 1,281,844                       | 1.235                            | 0.533                       | 1.214                               | 1.123                              | 73                           | 20,075                                      | 22,541                                   | 1,304,385                            |
| March     | 1,224,793                        | 81,871                           | 1,306,664              | 7,197                     | 10,135                     | 8,810                            | 26,142               | 1,280,522                       | 1.225                            | 0.499                       | 1.193                               | 1.103                              | 73                           | 20,075                                      | 22,149                                   | 1,302,671                            |
| April     | 1,458,294                        | 91,861                           | 1,550,155              | 7,947                     | 10,977                     | 7,014                            | 25,938               | 1,524,217                       | 1.458                            | 1.240                       | 1.506                               | 1.393                              | 73                           | 20,075                                      | 27,957                                   | 1,552,174                            |
| May       | 1,370,957                        | 95,685                           | 1,466,642              | 7,768                     | 10,658                     | 7,014                            | 25,440               | 1,441,201                       | 1.371                            | 0.978                       | 1.406                               | 1.301                              | 73                           | 20,075                                      | 26,112                                   | 1,467,314                            |
| June      | 1,221,635                        | 91,040                           | 1,312,675              | 7,920                     | 9,745                      | 7,014                            | 24,679               | 1,287,996                       | 1.222                            | 0.488                       | 1.192                               | 1.102                              | 73                           | 20,075                                      | 22,127                                   | 1,310,123                            |
| July      | 1,148,937                        | 85,604                           | 1,234,541              | 7,970                     | 12,139                     | 12,287                           | 32,396               | 1,202,145                       | 1.149                            | 0.227                       | 1.106                               | 1.023                              | 73                           | 20,075                                      | 20,534                                   | 1,222,679                            |
| August    | 1,036,251                        | 71,068                           | 1,107,318              | 8,648                     | 12,139                     | 12,287                           | 33,074               | 1,074,244                       | 1.036                            | -0.211                      | 1.008                               | 0.932                              | 73                           | 20,075                                      | 18,717                                   | 1,092,962                            |
| September | 1,260,503                        | 86,381                           | 1,346,884              | 10,477                    | 12,673                     | 12,287                           | 35,437               | 1,311,448                       | 1.261                            | 0.621                       | 1.254                               | 1.160                              | 73                           | 20,075                                      | 23,279                                   | 1,334,727                            |
| October   | 995,847                          | 86,381                           | 1,082,228              | 9,734                     | 13,542                     | 8,717                            | 31,993               | 1,050,236                       | 0.996                            | -0.380                      | 0.974                               | 0.901                              | 73                           | 20,075                                      | 18,080                                   | 1,068,316                            |
| November  | 1,129,241                        | 86,381                           | 1,215,622              | 13,162                    | 12,663                     | 8,717                            | 34,542               | 1,181,080                       | 1.129                            | 0.154                       | 1.094                               | 1.011                              | 73                           | 20,075                                      | 20,305                                   | 1,201,386                            |
| December  | 1,452,196                        | 86,381                           | 1,538,577              | 7,600                     | 11,926                     | 8,717                            | 28,243               | 1,510,334                       | 1.452                            | 1.222                       | 1.495                               | 1.382                              | 73                           | 20,075                                      | 27,749                                   | 1,538,084                            |
| Average   |                                  |                                  |                        |                           |                            |                                  |                      |                                 |                                  |                             |                                     |                                    |                              |                                             |                                          | 1,305,107                            |

Table No. 2  
Willistown Township  
5-year Flow Projections

| Project Name                                                   | Status      | Projected<br>EDU's | Projected Connections |           |           |           |           |
|----------------------------------------------------------------|-------------|--------------------|-----------------------|-----------|-----------|-----------|-----------|
|                                                                |             |                    | 2021                  | 2022      | 2023      | 2024      | 2025      |
| Troutbeck Farm                                                 | Preliminary | 36                 |                       | 12        | 12        | 12        |           |
| 59 Grubb Road                                                  | Preliminary | 1                  |                       |           |           |           |           |
| 107 Central Avenue                                             | Preliminary | 1                  |                       |           |           |           |           |
| 1 Greenbriar Lane                                              | Preliminary | 4                  |                       |           |           |           |           |
| 2291 South Valley Road                                         | Preliminary | 4                  | 1                     | 1         | 1         | 1         |           |
| Projected Annual EDU's                                         |             |                    | 1                     | 13        | 13        | 13        | 0         |
| Projected Annual Flow @275 gallons per EDU (GPD)               |             |                    | 275                   | 3,575     | 3,575     | 3,575     | 0         |
| Projected Cumulative EDU's                                     |             |                    | 1                     | 14        | 27        | 40        | 40        |
| Projected Cumulative flow @275 gallons per EDU (GPD)           |             |                    | 275                   | 3,850     | 7,425     | 11,000    | 11,000    |
| Existing Average Daily Flow January 2016 - December 2020 (GPD) |             |                    | 1,227,956             | 1,227,956 | 1,227,956 | 1,227,956 | 1,227,956 |
| Projected Average Daily Flow (GPD)                             |             |                    | 1,228,231             | 1,231,806 | 1,235,381 | 1,238,956 | 1,238,956 |



Legend

Drainage Areas

Tredyffrin Township 1

Tredyffrin Township 2

Tredyffrin Township 3

Easttown Township 1

Easttown Township 2

Pressure Sewer

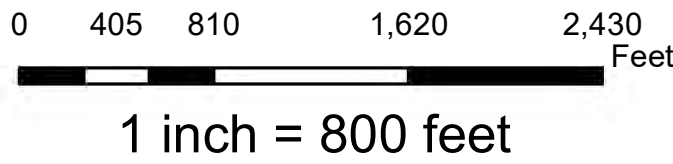
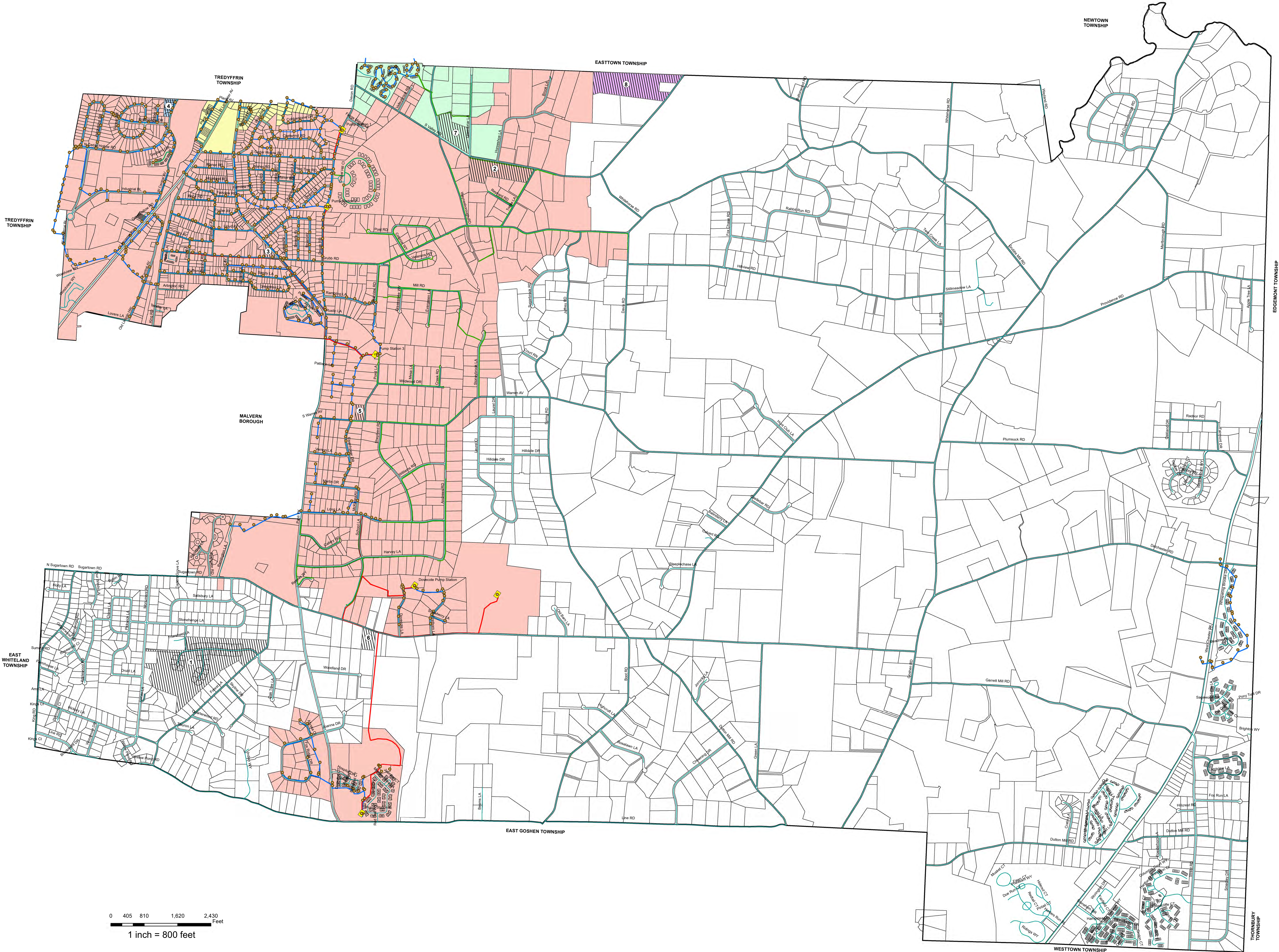
Gravity

Force Main

Manholes

Pump Stations

| Map Identifier | Project Name           | Status      | Projected EDUs |
|----------------|------------------------|-------------|----------------|
| 1              | Trotbeck Farm          | Preliminary | 38             |
| 3              | 59 Grubb Road          | Preliminary | 1              |
| 4              | 107 Central Avenue     | Preliminary | 1              |
| 7              | 1 Greenbriar Lane      | Preliminary | 4              |
| 8              | 2291 South Valley Road | Preliminary | 4              |



WASTEWATER FACILITIES PLAN

CHAPTER 94 REPORT

VALLEY FORGE SEWER AUTHORITY

DRAINAGE AREA

SITUATED IN:

WILLISTOWN TOWNSHIP

CHESTER COUNTY, PENNSYLVANIA

PREPARED FOR:

WILLISTOWN TOWNSHIP

688 SUGARTOWN ROAD

MALVERN, PENNSYLVANIA 19355

Carroll Engineering Corporation

9401 Evans Road

Warrington, PA 18976

Phone: 215-343-5700

Fax: 215-343-0875

600 Franklin Highway, 3rd Fl.

King of Prussia, PA 19151

Phone: 610-409-5100

www.carrollengineering.com

105 Maple Boulevard, Suite 206

Edinboro, PA 16744

Phone: 800-254-7560

Fax: 800-474-5762

101 Lindenwood Drive, Suite 225

Malvern, PA 19355

Phone: 484-875-3075

DATE: 01/05/21

SUB NO: 13-5022-08

SCALE: 1" = 800'



**AQUA RESOURCES, INC.**  
**VALLEY CREEK TRUNK SEWER**  
**SANITARY SEWER COLLECTION SYSTEM**  
**CHESTER COUNTY**

**CHAPTER 94**  
**MUNICIPAL WASTELOAD MANAGEMENT**  
**ANNUAL REPORT**  
**FOR CALENDAR YEAR 2020**

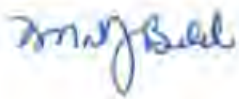
**Prepared By:**  
Aqua Resources, Inc.  
762 West Lancaster Avenue  
Bryn Mawr, PA 19010

Aqua Resources, Inc.  
762 West Lancaster Avenue  
Bryn Mawr, PA 19010

Valley Creek Trunk Sewer  
Sanitary Sewer Collection System  
Chester County

This Chapter 94 Report for calendar year 2020 has been prepared by Aqua Resources, Inc. for the Valley Creek Trunk Sewer Sanitary Sewer Collection System in Chester County.

Respectfully Submitted,



---

Mark J. Bubel, P.E.  
Project Engineer III - Wastewater  
Aqua Resources, Inc.



---

Kyle Roberts  
Manager, Wastewater Operations  
Aqua Resources, Inc.



Aqua Resources, Inc.  
Valley Creek Trunk Sewer  
Sanitary Sewer Collection System  
Chester County

Chapter 94 Municipal Wasteload Management Annual Report 2020

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## **1. INTRODUCTION**

In December 2018, Aqua Resources, Inc. (Aqua) acquired the Valley Creek Trunk Sewer (VCTS). The assets included are: Valley Creek Trunk Sewer (VCTS), Wilson Road Force Main (WRFM) and Wilson Road Pumping Station (WRPS), Darby Road Pumping Station (DRPS) and Force Main. The facilities included in this Chapter 94 document are those assets included in the 2018 system sale.

## **2. SEWER EXTENSIONS**

There were no sewer extensions of the VCTS in 2020 and there are no proposed sewer extensions within the next five years. Partner municipalities will be submitting their own Chapter 94 reports to Valley Forge Sewer Authority (VFSA) with detailed information on their proposed sewer connections/extensions. Aqua will be requesting a copy of these Chapter 94 reports to monitor flow and connections into the VCTS. Projected flows within the VCTS are based on the 2017 Act 537 Supplement for the Wilson Road Force Main as shown in **Table 2**.

## **3. SEWER SYSTEM MONITORING, MAINTENANCE, AND REPAIR**

Routine maintenance and monitoring of the sewer system was conducted in 2020. There were no major repairs required during the 2020 operating year. There are two flow meters that are utilized for flow monitoring. One meter is located at the DRPS and the other is located at the WRPS. The WRPS is critical because that is the final flow monitoring location within the VCTS sewer shed prior to entering the WRFM and finally the VFSA Pawling Road Plant for treatment.

In 2020, Aqua began working with Brown and Caldwell to develop a hydraulic model of the VCTS system in order to make more informed capacity evaluations. This model is currently being used for capacity evaluations for Act 537 Sewage Facility Planning Modules.

## **4. CONDITION OF THE SEWER**

The rehabilitation of the WRFM was completed in December 2016. No SSO occurred in the VCTS system in 2020. In general, the system is in good condition with consistent maintenance activities being performed.

## 5. SEWAGE PUMPING STATIONS

Within the VCTS System, there are two pumping stations that contribute flow to the VFSA Pawling Road Wastewater Treatment Plant. Those two stations are Darby Road and Wilson Road Pumping Stations. **Table 1** presents the Permitted Capacity, Present Flow, and the 2-Year Projected Flow for each Pump Station. **Table 2** shows the flow projections for each pump station for the next five years. And, **Table 3** shows the monthly flow data for both pump stations for 2019 and 2020.

### Wilson Road Pump Station

The Wilson Road Pump Station has three (3) pump and a design capacity of 14,000 GPM. This pump station conveys all flow from the VCTS to the VFSA WWTP. Based on the 2020 flow, the pump station is not hydraulically overloaded, and it's not projected to be overloaded within the next 2 years.

Pump station influent is divided between two channels, each housing a high-flow sewage grinder. In 2020, one of the grinders failed and was subsequently replaced. During grinder down time, influent channels could be isolated, and flow was sent through a single channel. A temporary secondary backup generator and an accompanying temporary switchgear were also installed in 2020 which allowed for upgrade of the existing backup generator. A generator control panel was also installed to allow operations staff to toggle between generators and utility power. Planned future upgrades include the replacement of the temporary switchgear and generator with permanent fixtures as well as an upgraded PLC.

### Darby Road Pump Station

The Darby Road Pump Station has two (2) pumps and a design capacity of 700 GPM. Based on 2020 flows, the pump station is not hydraulically overloaded, and it's not projected to be overloaded within the next 2 years. Additionally, there are no major upgrades anticipated at this time.

## 6. INDUSTRIAL WASTES

Industrial wastes are managed by the VFSA as part of their Industrial Pretreatment Program.

## **7. CORRECTIVE ACTION PLAN**

No Corrective Action Plan is warranted for the collection system and pump stations.

## **8. METER CALIBRATION REPORTS**

Aqua maintains meters at the Darby Road Pump Station and Wilson Road Pump Station. These flow meters are that regularly calibrated, and **Appendix A** contains the meter calibration reports for 2020.

**Table 1: Pump Station Present/Projected Flows**

| Pump Station                    | Pump Station Capacity <sup>1</sup> |                       | Present Flows             |                      |                                     | 2-Year Projected Flows                 |                                   |                                     |
|---------------------------------|------------------------------------|-----------------------|---------------------------|----------------------|-------------------------------------|----------------------------------------|-----------------------------------|-------------------------------------|
|                                 | Design Capacity (MGD)              | Design Capacity (GPM) | Annual Average Flow (MGD) | Max Month Flow (MGD) | Peak Hourly Flow (GPM) <sup>2</sup> | Annual Average Flow (MGD) <sup>3</sup> | Max Month Flow (MGD) <sup>4</sup> | Peak Hourly Flow (GPM) <sup>2</sup> |
| <b>Wilson Road Pump Station</b> | 20.16                              | 14,000                | 5.34                      | 6.46                 | 8,525                               | 5.70                                   | 7.05                              | 9,102                               |
| <b>Darby Road Pump Station</b>  | 1.008                              | 700                   | 0.307                     | 0.382                | 534                                 | 0.328                                  | 0.416                             | 570                                 |

**Notes:**

1. Design capacities according to WQM permit No. 1571407 T-1.
2. Peak Hourly Flow was calculated using a peaking factor of 2.3 for the Wilson Road Pump Station and 2.5 for the Darby Road Pump Station
3. See Table 2 for future flow projections.
4. See Table 3 for Max Month to Annual Average Flow Ratio calculation.



| <b>Table 2: Flow Projections</b> |                                        |                                                             |                                        |                                                             |
|----------------------------------|----------------------------------------|-------------------------------------------------------------|----------------------------------------|-------------------------------------------------------------|
|                                  | <b>Wilson Road Pump Station</b>        |                                                             | <b>Darby Road Pump Station</b>         |                                                             |
|                                  | <b>Actual/Projected<br/>Flow (MGD)</b> | <b>Projected<br/>Increase in Flow<br/>(MDG)<sup>2</sup></b> | <b>Actual/Projected<br/>Flow (MGD)</b> | <b>Projected<br/>Increase in Flow<br/>(MDG)<sup>3</sup></b> |
| <b>2020<sup>1</sup></b>          | 5.34                                   |                                                             | 0.31                                   |                                                             |
| <b>2021</b>                      | 5.52                                   | 0.1807                                                      | 0.32                                   | 0.010                                                       |
| <b>2022</b>                      | 5.70                                   | 0.1807                                                      | 0.33                                   | 0.010                                                       |
| <b>2023</b>                      | 5.88                                   | 0.1807                                                      | 0.34                                   | 0.010                                                       |
| <b>2024</b>                      | 6.06                                   | 0.1807                                                      | 0.35                                   | 0.010                                                       |
| <b>2025</b>                      | 6.24                                   | 0.1807                                                      | 0.36                                   | 0.010                                                       |

**Notes:**

1. Actual flows from 2020, see table 3
2. Projected flow based on Act 537 linear projection of 0.1807 MGD per increase for the Wilson Road PS
3. Projected flow increase per year for the Darby Road PS is 5.76% of the projection for the Wilson Road PS. This percentage is the 2020 Darby Rd PS flow divided by the 2020 Wilson Rd PS flows.

| <b>Table 3: Pump Station Monthly Flow Data</b>     |                                             |             |                                            |             |
|----------------------------------------------------|---------------------------------------------|-------------|--------------------------------------------|-------------|
| <b>Month</b>                                       | <b>Wilson Road Pump Station<sup>1</sup></b> |             | <b>Darby Road Pump Station<sup>1</sup></b> |             |
|                                                    | <b>2019</b>                                 | <b>2020</b> | <b>2019</b>                                | <b>2020</b> |
| <b>Jan</b>                                         | 7,538,146                                   | 5,175,664   | 408,958                                    | 276,552     |
| <b>Feb</b>                                         | 6,868,244                                   | 5,441,979   | 327,043                                    | 303,039     |
| <b>Mar</b>                                         | 7,336,703                                   | 5,300,408   | 364,532                                    | 312,694     |
| <b>Apr</b>                                         | 6,104,184                                   | 6,147,236   | 356,717                                    | 335,622     |
| <b>May</b>                                         | 6,496,086                                   | 5,643,927   | 330,483                                    | 311,481     |
| <b>Jun</b>                                         | 6,527,558                                   | 5,104,476   | 291,010                                    | 319,267     |
| <b>Jul</b>                                         | 6,357,218                                   | 4,986,043   | 407,281                                    | 288,523     |
| <b>Aug</b>                                         | 5,147,039                                   | 5,425,162   | 285,055                                    | 320,132     |
| <b>Sep</b>                                         | 4,727,014                                   | 4,632,663   | 277,897                                    | 277,897     |
| <b>Oct</b>                                         | 4,562,321                                   | 4,608,627   | 233,268                                    | 258,235     |
| <b>Nov</b>                                         | 4,639,715                                   | 5,125,251   | 241,267                                    | 303,520     |
| <b>Dec</b>                                         | 5,177,742                                   | 6,457,927   | 277,897                                    | 381,552     |
| <b>Annual Average Flow</b>                         | 5,956,831                                   | 5,337,447   | 316,784                                    | 307,376     |
| <b>Max Month</b>                                   | 7,538,146                                   | 6,457,927   | 408,958                                    | 381,552     |
| <b>Avg to Max Ratio</b>                            | 1.27                                        | 1.21        | 1.29                                       | 1.24        |
| <b>Average Max Month to Annual Avg Flow Ratio:</b> |                                             | <b>1.24</b> |                                            | <b>1.27</b> |

**Notes:**

1. Monthly flow data for the Wilson Rd PS and Darby Rd PS were not provided in previous Chapter 94 Reports and Aqua does not have monthly flow records for these pump station prior to taking ownership in December 2018.

## **Appendix A: Flow Meter Calibration Reports**

1. Flow Meter Calibration Report for Darby Road Pump Station: 3/23/2020
2. Flow Meter Calibration Report for Darby Road Pump Station: 6/11/2020
3. Flow Meter Calibration Report for Darby Road Pump Station: 9/10/2020
4. Flow Meter Calibration Report for Wilson Road Pump Station: 3/23/2020
5. Flow Meter Calibration Report for Wilson Road Pump Station: 6/11/2020
6. Flow Meter Calibration Report for Wilson Road Pump Station: 9/10/2020

Certificate # 5310**ALLIED CONTROL SERVICES, INC.**

611 Garfield Avenue • P.O. Box 234, West Point, PA 19486  
24 Hour Emergency Service 800-441-4844  
Fax 215-699-9030

**CERTIFICATE OF CALIBRATION**CUSTOMER: H. J. K. Co.LOCATION: 20013 RD Pump StationLOOP OR SYSTEM ID: Pump Station FlowCALIBRATED RANGE: 0-1400 GPM TOTALIZER MULTIPLIER: X100

The following equipment has been accurately calibrated under ambient conditions at an ambient temperature of 50 deg. F,  
in accordance with the manufacturers documented procedures and specifications.

| ITEM     | MANUFACTURER             | MODEL #       | SERIAL #              | DESCRIPTION                |
|----------|--------------------------|---------------|-----------------------|----------------------------|
| <u>1</u> | <u>Brooks</u>            | <u>3573</u>   | <u>9803-27785-1-2</u> | <u>MAGNETIC FLOW METER</u> |
| <u>2</u> | <u>Precision Digital</u> | <u>PD6200</u> | <u>1103-0032163</u>   | <u>TOTALIZER</u>           |
|          |                          |               |                       |                            |
|          |                          |               |                       |                            |
|          |                          |               |                       |                            |
|          |                          |               |                       |                            |

REMARKS:  CALIBRATION DATE: 3/23/2020 TECHNICIAN: Benjamin**TEST EQUIPMENT USED:**

| MANUFACTURER | DESCRIPTION | MODEL      | SERIAL #       |
|--------------|-------------|------------|----------------|
| <u>Fuke</u>  | <u>Dum</u>  | <u>787</u> | <u>7701022</u> |
|              |             |            |                |
|              |             |            |                |



Certificate #

5151

**ALLIED CONTROL SERVICES, INC.**

611 Garfield Avenue • P.O. Box 234, West Point, PA 19486

24 Hour Emergency Service 800-441-4844

Fax 215-699-9030

**CERTIFICATE OF CALIBRATION**CUSTOMER: KBX GoldenLOCATION: DARBY RDLOOP OR SYSTEM ID: Pump Station FlowCALIBRATED RANGE: 0-1400 GPM TOTALIZER MULTIPLIER X100

The following equipment has been accurately calibrated under ambient conditions at an ambient temperature of 70 deg. F, in accordance with the manufacturers documented procedures and specifications.

| ITEM | MANUFACTURER         | MODEL #      | SERIAL #  | DESCRIPTION                      |
|------|----------------------|--------------|-----------|----------------------------------|
| 1    | <u>Beck</u>          | <u>3570</u>  | <u>NA</u> | <u>SIGNAL CONVERTER</u>          |
| 1    | <u>Brüel Digital</u> | <u>PDG57</u> | <u>NA</u> | <u>DIGITAL DISPLAY/TOTALIZER</u> |
|      |                      |              |           |                                  |
|      |                      |              |           |                                  |
|      |                      |              |           |                                  |
|      |                      |              |           |                                  |

REMARKS: NO PROBLEMS FOUNDCALIBRATION DATE: 6 / 11 / 2000 TECHNICIAN: Ing. Rescher**TEST EQUIPMENT USED:**

| MANUFACTURER | DESCRIPTION       | MODEL      | SERIAL #      |
|--------------|-------------------|------------|---------------|
| <u>Fluke</u> | <u>DMM</u>        | <u>787</u> | <u>776102</u> |
| <u>Rock</u>  | <u>CALIBRATOR</u> |            |               |
|              |                   |            |               |

WHITE - ORIGINAL

YELLOW - CUSTOMER COPY





Certificate #

5153

**ALLIED CONTROL SERVICES, INC.**

611 Garfield Avenue • P.O. Box 234, West Point, PA 19486

24 Hour Emergency Service 800-441-4844

Fax 215-699-9030

**CERTIFICATE OF CALIBRATION**CUSTOMER: KBR SoldiersLOCATION: DARBY RD Pump StationLOOP OR SYSTEM ID: EstHuesCALIBRATED RANGE 0-1400 GPM TOTALIZER MULTIPLIER 1.00

The following equipment has been accurately calibrated under ambient conditions at an ambient temperature of \_\_\_\_\_ deg. F, in accordance with the manufacturers documented procedures and specifications.

| ITEM     | MANUFACTURER             | MODEL #      | SERIAL #           | DESCRIPTION              |
|----------|--------------------------|--------------|--------------------|--------------------------|
| <u>1</u> | <u>Brooks</u>            | <u>3570</u>  | <u>7802-7485-2</u> | <u>MAGNETIC</u>          |
| <u>2</u> | <u>Precision Digital</u> | <u>PDG57</u> |                    | <u>Digital Totalizer</u> |
|          |                          |              |                    |                          |
|          |                          |              |                    |                          |
|          |                          |              |                    |                          |
|          |                          |              |                    |                          |
|          |                          |              |                    |                          |

REMARKS: no problems foundCALIBRATION DATE: 9/10/35 TECHNICIAN: George Boudin**TEST EQUIPMENT USED:**

| MANUFACTURER  | DESCRIPTION       | MODEL      | SERIAL #       |
|---------------|-------------------|------------|----------------|
| <u>Fluke</u>  | <u>DVM</u>        | <u>787</u> | <u>7701022</u> |
| <u>Brooks</u> | <u>calibrator</u> |            |                |
|               |                   |            |                |

WHITE - ORIGINAL

YELLOW - CUSTOMER COPY

# SIEMENS MAGFLO® Verification Certificate

## Customer:

Name kbx golden  
Address kennett square pa  
  
  
Phone 610 444 3551  
Email

## MAGFLO® Identification:

TAG No./Name 0  
Sensor Code No. 7ME658  
Sensor Serial No. 046401U400  
Transmitter Code No. 7ME691  
Transmitter Serial No. 091030U400  
Location wilson rd p.s.

## Results:

Verification file name or No. Wilson rd  
Transmitter

Passed

Sensor Insulation

Passed

Magnetic Circuit

Passed

| Velocity    | Current Output |         |           | Frequency Output |          |           |
|-------------|----------------|---------|-----------|------------------|----------|-----------|
| Theoretical | Theoretical    | Actual  | Deviation | Theoretical      | Actual   | Deviation |
| 0.5m/s      | 4.800mA        | 4.799mA | -0.11%    | 0.500kHz         | 0.498kHz | -0.34%    |
| 1.0m/s      | 5.600mA        | 5.597mA | -0.16%    | 1.000kHz         | 0.998kHz | -0.22%    |
| 3.0m/s      | 8.800mA        | 8.800mA | 0.00%     | 3.000kHz         | 3.001kHz | 0.04%     |

Current Output 4-20mA

Frequency Output 0-10kHz

## Transmitter Settings:

**Basic** Qmax. 20000.0 US G /min  
Flow Direction Positive  
Low flow Cut-off 1.50%  
Empty Pipe OFF

**Output** Current Output ON (4-20mA)  
Time Constant 10.0 Sec.  
Relay Output Error Level

Digital Output OFF  
Frequency Range N/A  
Time Constant N/A  
Volume/pulse 0.0 m³/p  
Pulse width 0.066 sec.  
Pulse polarity Positiv

Totalizer 1 value before test 17320.57588481 US MG  
Totalizer 1 value after test 17320.57588481 US MG  
Totalizer 2 value before test 15718.35019534 US MG  
Totalizer 2 value after test 15718.35019534 US MG  
Operating time in days 3265

## Sensor Details:

Size DN 600 24 IN

Cal. Factor 323.94500732

Correction Factor 1.0

Excitation Freq. 1.875Hz

## Vericator Details (083F5061)

Serial No. N1J6120001

Device No. 170020

Software Version 1.40

PC-Software Version 5.01

Cal. date 2018.07.02

ReCal. date 2019.07.02

## Comments

These tests verify that the flowmeter is functioning within 2% deviation of the original test parameters.  
Verification is traceable to National and International Standards.

Date and signature

2020.03.24

George Buchser

# SIEMENS MAGFLO® Verification Certificate

## Customer:

Name kbr golden  
Address \_\_\_\_\_  
\_\_\_\_\_  
mike  
Phone 484 431 4616  
Email \_\_\_\_\_

## MAGFLO® Identification:

TAG No./Name 0  
Sensor Code No. 7ME658  
Sensor Serial No. 046401U400  
Transmitter Code No. 7ME691  
Transmitter Serial No. 091030U400  
Location wilson rd

## Results:

Verification file name or No. wilson rd

Transmitter

Passed

Sensor Insulation

Passed

Magnetic Circuit

Passed

| Velocity    | Current Output |         |           | Frequency Output |          |           |
|-------------|----------------|---------|-----------|------------------|----------|-----------|
| Theoretical | Theoretical    | Actual  | Deviation | Theoretical      | Actual   | Deviation |
| 0.5m/s      | 4.800mA        | 4.797mA | -0.40%    | 0.500kHz         | 0.498kHz | -0.46%    |
| 1.0m/s      | 5.600mA        | 5.599mA | -0.04%    | 1.000kHz         | 1.000kHz | -0.01%    |
| 3.0m/s      | 8.800mA        | 8.798mA | -0.04%    | 3.000kHz         | 3.001kHz | 0.03%     |

Current Output 4-20mA

Frequency Output 0-10kHz

## Transmitter Settings:

**Basic** Qmax. 20000.0 US G /min  
Flow Direction Positive  
Low flow Cut-off 1.50%  
Empty Pipe OFF

**Output** Current Output ON (4-20mA)  
Time Constant 10.0 Sec.  
Relay Output Error Level

Digital Output OFF  
Frequency Range N/A  
Time Constant N/A  
Volume/pulse 0.0 m³/p  
Pulse width 0.066 sec.  
Pulse polarity Positiv

Totalizer 1 value before test 17780.15706141 US MG  
Totalizer 1 value after test 17780.15706141 US MG  
Totalizer 2 value before test 16177.93137193 US MG  
Totalizer 2 value after test 16177.93137193 US MG  
Operating time in days 3342

## Sensor Details:

Size DN 600 24 IN

Cal. Factor 323.94500732

Correction Factor 1.0

Excitation Freq. 1.875Hz

## Vericator Details (083F5061)

Serial No. N1J6120001

Device No. 170020

Software Version 1.40

PC-Software Version 5.01

Cal. date 2018.07.02

ReCal. date 2019.07.02

## Comments

These tests verify that the flowmeter is functioning within 2% deviation of the original test parameters.  
Verification is traceable to National and International Standards.

Date and signature

2020.06.11

george buchser

# SIEMENS MAGFLO® Verification Certificate

## Customer:

Name kbr golden  
 Address \_\_\_\_\_  
 \_\_\_\_\_  
mike  
 Phone 484 431 4616  
 Email \_\_\_\_\_

## MAGFLO® Identification:

TAG No./Name 0  
 Sensor Code No. 7ME658  
 Sensor Serial No. 046401U400  
 Transmitter Code No. 7ME691  
 Transmitter Serial No. 091030U400  
 Location wilson 9-2020

## Results:

Verification file name or No. Wilson rd 9-2020  
 Transmitter

Passed

Sensor Insulation

Passed

Magnetic Circuit

Passed

| Velocity    | Current Output |         |           | Frequency Output |          |           |
|-------------|----------------|---------|-----------|------------------|----------|-----------|
| Theoretical | Theoretical    | Actual  | Deviation | Theoretical      | Actual   | Deviation |
| 0.5m/s      | 4.800mA        | 4.796mA | -0.44%    | 0.500kHz         | 0.498kHz | -0.45%    |
| 1.0m/s      | 5.600mA        | 5.599mA | -0.06%    | 1.000kHz         | 1.000kHz | 0.00%     |
| 3.0m/s      | 8.800mA        | 8.798mA | -0.05%    | 3.000kHz         | 3.001kHz | 0.05%     |

Current Output 4-20mA

Frequency Output 0-10kHz

## Transmitter Settings:

**Basic** Qmax. 20000.0 US G /min  
 Flow Direction Positive  
 Low flow Cut-off 1.50%  
 Empty Pipe OFF

**Output** Current Output ON (4-20mA)  
 Time Constant 10.0 Sec.  
 Relay Output Error Level

Digital Output OFF  
 Frequency Range N/A  
 Time Constant N/A  
 Volume/pulse 0.0 m³/p  
 Pulse width 0.066 sec.  
 Pulse polarity Positiv

Totalizer 1 value before test 18247.08856119 US MG  
 Totalizer 1 value after test 18247.08856119 US MG  
 Totalizer 2 value before test 16644.86392841 US MG  
 Totalizer 2 value after test 16644.86392841 US MG  
 Operating time in days 3432

## Sensor Details:

Size DN 600 24 IN

Cal. Factor 323.94500732

Correction Factor 1.0

Excitation Freq. 1.875Hz

## Vericator Details (083F5061)

Serial No. N1J6120001

Device No. 170020

Software Version 1.40

PC-Software Version 5.01

Cal. date 2018.07.02

ReCal. date 2019.07.02

## Comments

These tests verify that the flowmeter is functioning within 2% deviation of the original test parameters.  
 Verification is traceable to National and International Standards.

Date and signature

2020.09.10

george buchser