Application of SUEZ Water Pennsylvania Inc. for the Acquisition of the Wastewater Assets of the Township of Mahoning Pursuant to 66 Pa. C.S. §1329
Application Filing Checklist – Wastewater
Docket No. A-2018-_____

20. Proof of Compliance. Provide proof of compliance with applicable design, construction and operation standards of DEP or of the county health department, or both, including:

c. For **wastewater** system acquisitions, provide a copy of the Chapter 94 Municipal Wasteload Management Report that was most recently submitted to DEP.

RESPONSE:

c. See enclosed Chapter 94 Municipal Wasteload Management Report for the Township of Mahoning.

Danville Municipal Authority
Montour County, Pennsylvania

2017 Municipal Wasteload Management Report for the Danville Wastewater Treatment Plant

March 2018

Gannett Fleming

Excellence Delivered As Promised

Contents

PADEP Chapter 94 Report Form (3800-FM-BPNPSM0507)

2017 Municipal Wasteload Management Report

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pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

CHAPTER 94 MUNICIPAL WASTELOAD MANAGEMENT ANNUAL REPORT

For Calendar Year: 2017

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

GENERAL INFORMATION			
Permittee Name:	**Danville Borough**	Permit No.:	**PA0023531 A-1**
Mailing Address:	**P.O Box 308**	Effective Date:	**August 1, 2015**
City, State, Zip:	**Freeburg, PA 17827**	Expiration Date:	**July 31, 2020**
Contact Person:	**Shannon Berkey**	Renewal Due Date:	**February 2, 2020**
Title:	**Danville Borough Manager & Secretary**	Municipality:	**Danville Borough**
Phone:	**570-275-3091 x 4**	County:	**Montour County**
Email:	**sberkey@danvilleboro.org**	Consultant Name:	**Ronald A. Jager, P.E. Gannett Fleming, Inc.**

CHAPTER 94 REPORT COMPONENTS

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

   Check the appropriate boxes:
   ☒ Line graph for flows attached (**See Figure 1 in the attached report**)
   ☐ DEP Chapter 94 Spreadsheet used ( )
   ☐ 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 (**See Figure 2 in the attached report**)
   ☐ DEP Chapter 94 Spreadsheet used ( )
   ☐ 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 Section 3 of the attached report.

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 (**See Appendix**)

☐ List summarizing each extension or project attached.

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

Comments:

No new sewer extensions were constructed in 2017, nor are any new sewer extensions currently planned for the future. See Section 4.0 in attached 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))

See Section 5.0 of the attached 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:

See Section 6.0 of the attached 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 – **3**)
☒ Discussion of condition of each pump station attached (**See Section 7.0 in the attached report**)

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

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 ( )

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 (**See Exhibit F in the attached report**)

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 ( )

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 (**See Exhibit G of the attached report**)

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).

Richard Johns
Name of Responsible Official

Signature

(570) 275 5309
Telephone No.

3/20/18
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).

Steven Parse
Name of Preparer

Signature

717-763-7212 x 2908
Telephone No.

3/15/18
Date

1.0 INTRODUCTION

1.1 Governing Regulations

Regulations established under Pennsylvania Code Title 25 Chapter 94, titled "Municipal Wasteload Management," require that certain planning information be provided in an Annual Report to be submitted to the Pennsylvania Department of Environmental Protection (PADEP) by March 31 of each year. The purpose of the Annual Report is to ensure that necessary wastewater conveyance and treatment capacities will be provided to meet anticipated growth demands. A 5-year planning interval is used for Wastewater Treatment Plants (WWTPs), and a 2-year planning interval is utilized for pumping stations. If the WWTPs or pumping stations are found to be, or are projected to be, hydraulically or organically overloaded within the planning period, specific steps are required to alleviate or prevent this overload condition.

This Annual Report is prepared in accordance with the requirements of Pennsylvania Code Title 25 Chapter 94, and includes hydraulic and organic loading projections; a summary of constructed and proposed sewer connections and extensions; a description of sewer system monitoring, maintenance, and repair efforts; a discussion of the condition of the sewer system; a discussion relating to industrial users, a discussion on a previous overload reduction plan, a sewage sludge management inventory, and a discussion on the nutrient mass load limit offsets.

1.2 Description of Wastewater Collection, Conveyance, and Treatment Facilities

The Danville Municipal Authority (DMA) conveyance system receives sewage from sanitary sewers serving the Danville Borough (Borough), Riverside Borough, Mahoning Township, and Valley Township. Valley Township was connected to the DMA system in June 2016. The DMA system also includes three (3) pumping stations.

The DMA treats wastewater from the Borough of Danville (Borough), Riverside Borough, Mahoning Township, and Valley Township at its WWTP. The DMA owns and the Borough staff operates the WWTP and the wastewater collection and conveyance system that serves the Borough of Danville. Mahoning Township Authority (Mahoning Township), Riverside Borough, and Valley Township Municipal Authority (Valley Township) own and operate their own wastewater collection systems. There are no known combined sanitary/stormwater collection sewers or diversion chambers in the Borough of Danville, Mahoning Township, Riverside Borough, or Valley Township sewer systems.

The Danville WWTP is permitted for Annual Average Flow of 3.62 million gallons per day (mgd), a Design Hydraulic Capacity of 3.79 mgd, and a Design Organic Capacity of 7,860 lbs Biochemical Oxygen Demand (BOD_5) per day as per Water Quality Management Permit No. 4709402 issued on November 9, 2009. The facility operates under National Pollutant Discharge Elimination System (NPDES) Permit No. PA0023531 A-1 and discharges treated effluent into the North Branch of the Susquehanna River.

The principle components of the treatment system include:

1. Preliminary Screening (Mechanical Barscreen and Votex Grit Removal);
2. Primary Clarifiers;
3. Modified Ludzack-Ettinger (MLE) Activated Sludge Process;
4. Chemical Phosphorus Removal utilizing Aluminum Sulfate;
5. Secondary Clarifiers;
6. Chlorination; and
7. Effluent Discharge to North Branch of Susquehanna River.

The principle components of the solids handling and treatment system include:

1. Anaerobic Digestion;
2. Dewatering via Belt Filter Press (BFP);
3. Post Lime Treatment; and
4. Agricultural Utilization.

The WWTP conditions its biosolids through a two-stage high-rate anaerobic digestion process. The DMA applies Class B biosolids to the State Hospital Farm site under General Permit No. PAG-08-4802.

Operation and routine maintenance activities at the WWTP are performed in-house by operations personnel. Laboratory analyses required for NPDES Permit compliance purposes are completed by an outside laboratory service. Analyses for process control are performed in-house by the laboratory staff.

2.0 HISTORICAL HYDRAULIC AND ORGANIC LOADINGS

2.1 Hydraulic Loadings

Hydraulic loadings for 2013 through 2017 are summarized in *Exhibit A*. The hydraulic loading data are also presented graphically on *Figure 1*. The annual average wastewater flow to the WWTP during 2017 was 1.909 mgd, with a maximum consecutive 3-month average flow of 2.509 mgd (March, April and May 2017). The ratio of the maximum consecutive 3-month average flow to the annual average flow for 2017 was 1.31. The WWTP's 3.79 mgd Design Hydraulic Capacity was not exceeded as a monthly average in 2017. The WWTP influent flowmeter is calibrated once per year, and a copy of the flowmeter calibration certification is included in *Appendix G*.

2.2 Organic Loadings

Organic loadings for 2013 through 2017 are summarized in *Exhibit B*. The organic loading data are also presented graphically on *Figure 2*. The annual average organic loading to the WWTP during 2017 was 2,213 lbs. BOD_5/day with a maximum monthly average loading of 2,819 lbs. BOD/day (April 2017). The ratio of the maximum month organic loading to the annual average organic loading for 2017 was 1.27. The 7,860 lbs. BOD_5/day Design Organic Capacity of the WWTP was not exceeded as a monthly average during 2017.

3.0 PROJECTED HYDRAULIC AND ORGANIC LOADINGS

3.1 Hydraulic Loading Projections

Anticipated hydraulic loading resulting from new connections in planned developments in the service area for the 5-year projection period (2018 to 2022) are presented in *Exhibit C*. The projected annual average flows are based on the anticipated growth and the respective estimated flow contribution. The 5-year collection system average annual flow, from 2013 to 2017, of 1.618 mgd was used as the base flow rate for projecting hydraulic loadings to the WWTP through 2022. Each projected annual flow increase resulting from new development was added to the preceding annual average flow to estimate the projected annual average flow. The maximum 3-month average flows for the projection period were estimated by applying the historical 5-year average maximum 3-month average flow-to-annual average flow ratio (1.24). Based on the data

presented in *Exhibit D*, the 2022 maximum 3-month average flow is projected to be 2.305 mgd, which is less than the WWTP's 3.79 mgd Design Hydraulic Capacity, as shown on *Figure 1*.

Contributing Municipality Worksheets from the Mahoning Township Authority, Riverside Borough, and the Valley Township Authority, which project future hydraulic loads for these municipalities, are provided in *Appendices A*, *B*, and *C,* respectively. The Valley Township Authority abandoned their WWTP in June 2016 and constructed a pumping station and force main to deliver their flow to the Danville facilities. One (1) additional municipality (Cooper Township) has completed PADEP Act 537 Planning to provide additional flows to the Danville WWTP and is included in the projections. Cooper Township flow is anticipated to be initiated in 2019, as shown in *Exhibit C*.

3.2 Organic Loading Projections

The 5-year (2013 to 2017) annual average organic loading of 2,248 lbs. BOD_5/day was used as the base loading rate for projecting the organic loadings to the WWTP through 2022. The projected annual average BOD_5 increase for each year of the projection period is calculated using the annual average flow projections from *Exhibit C* and the annual average equivalent BOD_5 concentration. Typical domestic waste within the DMA's collection system was estimated to average 167 milligrams per Liter BOD_5, as shown in *Exhibit B*. This average equivalent BOD_5 concentration was calculated based on the historical 5-year (2013 to 2017) annual average flow to the WWTP from *Exhibit A* (1.618 mgd) and the historical 5-year (2013 to 2017) annual average organic loading from *Exhibit B* (2,248 lbs. BOD_5/day).

Contributing Municipality Worksheets from the Mahoning Township Authority, Riverside Borough, and the Valley Township Authority, which project future organic loads for these municipalities, are provided in *Appendices A*, *B*, and *C* respectively. *Exhibit D* includes Cooper Township projected organic loadings.

4.0 WASTEWATER COLLECTION SYSTEM EXTENSIONS

Proposed developments in the Borough of Danville, Mahoning Township, and Riverside Borough are shown in *Exhibit C*. Equivalent dwelling units (EDUs) and hydraulic loading increases are provided for the projection period. None of these municipalities had sewer extensions connected to their systems in 2017.

5.0 WASTEWATER COLLECTION SYSTEM MONITORING, MAINTENANCE, REPAIR, AND REHABILITATION

The DMA is responsible for its own collection system monitoring, maintenance, and repair. Borough staff direct maintenance activities within the collection system. The Borough flushes several clog-prone sewer mains on a regular basis as a preventative maintenance measure. Maintenance of the collection system was historically responsive in nature, although recent progress to a proactive investigation and maintenance schedule will allow for appropriate budgeting of capital improvement projects.

The capital improvement projects include the Main Interceptor Project, which began construction in Spring 2015. The Project consists of the construction of approximately 9,900 linear feet of 6-inch through 42-inch gravity sewer line, approximately 960 linear feet of 6-inch sewer force main, one submersible lift pump station, sewer rehabilitation and lining of approximately 3,340 linear feet of 12-inch through 36-inch sewers, and approximately 134 service lateral reconnections. The Main Interceptor Project is further discussed in *Section 9.2*.

6.0 CONDITION OF WASTEWATER COLLECTION SYSTEM

The condition of the DMA wastewater collection system during 2017 was generally satisfactory. There are no known combined sanitary and stormwater sewers in the system. *Section 9.0* discusses two (2) areas of on-going work within the collection system. The first area involves a Corrective Action Plan (CAP) to identify and eliminate a previous Sanitary Sewer Overflow (SSO) along the Spring Street Interceptor near the Danville Borough municipal boundary with Mahoning Township. The second area involves collection system maintenance, repair, and capacity expansion necessary to convey flows from regional stakeholders to the WWTP.

7.0 CONDITION OF PUMPING STATIONS

The DMA collection system includes three (3) wastewater pumping stations. Another pump station, the Riverside Pumping Station is located on the southern, or opposite, shore of the Susquehanna River from the WWTP. This facility, which is located in Riverside Borough, Northumberland County, was previously owned and maintained by the DMA. In 2014, Riverside

Pumping Station ownership was transferred to Riverside Borough; however, it is still maintained by the DMA and included within the text write-up of this Report.

The Fisher Court and the Railroad Street Pumping Stations are located near the flood protection levee on the northern shore of the Susquehanna River in the Borough of Danville. These facilities do not have flow meters to estimate flows. The Railroad Street Pumping Station is in satisfactory condition; the electrical controls were upgraded in 2014. In conjunction with the WWTP Upgrade, the pumps and electrical controls were replaced in 2012/2013.

The First Ward Pumping Station was installed with the Main Interceptor Replacement Project and replaced an old gravity sewer line that extended from the First Ward of Danville Borough to the front-end of the WWTP. This pump station is located within the Danville Public Works Yard and serves the west end of Danville from West Mahoning to West Market Streets.

The capacity of each of the four (4) pumping stations is identified in *Table 1*, along with the location and type of each pumping station.

Table 1: Summary of Pumping Stations

Pumping Station	Location (Intersection)	Type	Rated Capacity (mgd)
Riverside (now owned by Riverside)	1st Avenue and D & E Avenues	Dry Well/Wet Well	0.768
Railroad Street	Railroad and Cooper Streets	Submersible	0.144
Fisher Court	Fisher Court Mobile Home Village	Submersible	0.144
First Ward	Public Works Building Parking Lot	Submersible	0.272

The 2017 average daily flow from the Riverside Pumping Station was approximately 0.129 mgd, based on the Weekly Report of Operation provided in the DMA Discharge Monitoring Reports (DMRs) submitted monthly to the PADEP. The 2017 maximum recorded flow at the Riverside Pumping Station was 0.823 mgd on July 24, 2017. This high reading occurred simultaneously with a significant rainfall event. No major issues nor surcharging occurred near the Riverside Pump Station during this event. The Borough believes this is an isolated event, as the largest one-day flow experienced during a separate rain event over the past 2 years was 0.435 mgd on April 6, 2017. Using a maximum day flow of 0.435 mgd results in a peaking factor of 3.37. *Exhibit C* projects an 864 gallons per day increase in average daily flow from Riverside

through 2019, resulting in an anticipated peak flow of 0.438 mgd. The Borough will continue to monitor the performance of Riverside Pump Station going forward.

The Railroad Street Pumping Station houses two (2) submersible pumps and has a rated capacity of 0.144 mgd. The pumping station does not contain a flow meter or pump run time meters; therefore, flow from the pumping station is only estimated based on influent EDU counts.

The Fisher Court Pumping Station serves the Fisher Court Mobile Home Park and the surrounding neighborhood. The pumping station consists of two (2) dry pit submersible pumps and has a rated capacity of 0.144 mgd. The pumping station does not contain a flow meter. The pumps at the Fisher Court Pumping Station operate approximately 90 minutes every day.

The First Ward Pumping Station contains two (2) submersible pumps and has a rated capacity of 0.272 mgd. The pumping station contains a magnetic flow meter that records flow parameters. The 2017 average daily flow was 0.067 mgd and the maximum daily flow was 0.137 mgd, both well below the rated capacity of 0.272 mgd.

8.0 INDUSTRIAL WASTE INFORMATION

The Danville WWTP receives primarily domestic wastewater, in addition to negligible quantities of commercial, institutional, and industrial wastes. The Borough has determined that there is no need to implement an Industrial Waste Control Program at this time and continues to review applicable information to determine if any future actions are warranted. The Borough has not encountered any specific problems in the wastewater collection system or at the Danville WWTP that are known or suspected to be caused by industrial waste discharges.

Section 7 of the 1970 Intermunicipal Agreement between Riverside Borough and the Borough of Danville notes that only "normal water-carried toilet waste" from Merk and Co., Inc. may be discharged into the Danville system. Sections 21 through 27 of the 1985 Intermunicipal Agreement between the Borough of Danville and Mahoning Township also identify allowable industrial discharges and monitoring within the Mahoning Township contributory system. The ordinance identifying acceptable discharges to the DMA collection system from contributing municipalities and DMA customers is contained in Chapter 108 Subsection 31 of the Code of the Borough of Danville and may be downloaded from the elibrary found on the Borough of Danville's Codes and Zoning website.

9.0 OVERLOAD REDUCTION PLAN

9.1 Spring Street Interceptor

On August 19, 2009, a SSO incident occurred at Manhole (MH) 221 along the Borough's 12-inch Spring Street Interceptor as a result of over 3.8 inches of rainfall. This manhole is located on Spring Street near the intersection of C Street along Blizzard Run and is immediately downstream of the Mahoning Township connection point.

As a result of sewer inspections and investigations, the DMA determined that the primary cause of overflows at MH 221 was excessive storm-related flow from Mahoning Township. The DMA notified Mahoning Township that implementation of improvements to reduce inflow and infiltration in their collection system contributory to MH 221 would be required to remove the moratorium on new connections in Mahoning Township. The Mahoning Township Authority indicated that since internal repairs to contributory areas were initiated in 2011 there have been no reported overflows in this area. Detailed information on the contributory system is provided in Item 5 of the Mahoning Township Authority Worksheet, included as *Appendix A*.

Through years of planning, design, and construction work, the DMA replaced the old vitrified clay sanitary piping system (6-inch to 12-inch lines) within the Borough-owned Spring Street with a consistently sloped 15-inch diameter PVC pipe. This work was completed in 2015 and was a part of the Main Interceptor Replacement Project. A collection system flow meter was also added at the Mahoning/DMA connection point to monitor flows.

No overflows have occurred since 2009 in this area and the DMA respectfully requests that Danville Borough's CAP and tap ban moratorium for the Spring Creek Interceptor within Danville Borough be officially closed. This request was made in the 2016 Wasteload Management Report, but no official closure recognition from the PADEP was received.

9.2 Main Interceptor Replacement Project

In early 2012, the DMA began planning work to upgrade several areas of their sanitary sewer system. Requests by Valley and Cooper Townships to convey flows to the DMA system for treatment were the primary factors driving site selection of the upgrades. Subsequently, the DMA contracted with Gannett Fleming, Inc. for the design and rehabilitation of several trunk and intercepting sewers within the system, including:

- Valley Township / State Route 54 Corridor;

- Cooper Township / DL&W Corridor, including Spring Street (refer to Section 9.1);
- Rooney Avenue / Main Interceptor Corridor;
- West Market Street / West Mahoning Street Sewershed; and
- WWTP Outfall to the Susquehanna River.

Construction began in the Spring of 2015, all piping systems were installed by the end of 2016, and final restoration and demobilization occurred in 2017. The project also included permanent flow monitoring of a number of contributory stakeholders, which will allow for the management of peak flows.

10.0 SEWAGE SLUDGE MANAGEMENT INVENTORY

As required in Part C.II.C of DMA's NPDES Permit, a "Sewage Sludge Management Inventory" is to be submitted by March 31 of each calendar year. The Sewage Sludge Management Inventory is intended to compare the expected solids production with the reported solids production for the previous year. Refer to *Exhibit E* for the Sewage Sludge Management Inventory calculations for 2017. As reported on the monthly DMRs, approximately 295 dry tons of biosolids were dewatered on the DMA belt filter press between January and December 2017 and land applied at the Hospital Farm site. The estimated amount of solids generation based on raw influent loadings and generalized biomass production is approximately 251 dry tons. The percent difference between the reported dewatered volume and the estimated volume is approximately 15%.

The solids accountability analysis appears to support and confirm that the reported biosolids beneficial use volume is reasonably similar to the expected solids production volume. The lack of complete correlation can be attributed to seasonal operational efficiency variations of the WWTP process and raw influent characterization assumptions.

11.0 NUTRIENT MASS LOAD LIMIT OFFSETS

The DMA WWTP's NPDES Permit contains annual mass loading limits for Total Nitrogen (TN) and Total Phosphorus of 66,118 and 8,816 pounds, respectively, on a compliance year basis (from October 1 through September 30). The DMA receives a 25 lb "offset" that can be applied towards the NPDES Permit TN mass load limit for each On-Lot Disposal System removed from service and connected to the collection system. A summary of those offset is shown in *Exhibit F*.

Exhibits

EXHIBIT A
BOROUGH OF DANVILLE

HISTORICAL HYDRAULIC LOADING SUMMARY

Month	2013		2014		2015		2016		2017	
January	1.802		1.730		1.308		1.530		1.819	
February	1.724		1.596		1.264		2.362	*	1.762	
March	1.712		1.795	*	1.805	*	1.679	*	2.421	*
April	1.491		2.304	*	1.884	*	1.657	*	2.841	*
May	1.538	*	2.051	*	1.341	*	1.639		2.265	*
June	2.113	*	1.579		1.563		1.527		1.734	
July	2.038	*	1.389		1.642		1.451		2.556	
August	1.195		1.331		1.191		1.585		1.772	
September	1.323		1.172		1.220		1.333		1.500	
October	1.523		1.157		1.303		1.341		1.467	
November	1.288		1.108		1.322		1.253		1.420	
December	1.599		1.486		1.464		1.455		1.352	
Annual Average Flow	1.612		1.558		1.442		1.568		1.909	
5-Year Annual Average Hydraulic Loading									1.618	
Maximum 3-Month Average Flow	1.896		2.050		1.677		1.899		2.509	
Ratio (Maximum 3-Month Average to Annual Average)	1.18		1.32		1.16		1.21		1.31	
Average Ratio to be used to project future Maximum 3-Month Average Flows									1.24	

* Maximum 3-Month Average Flow Period

ALL FLOWS IN MILLION GALLONS PER DAY (mgd)

EXHIBIT B
BOROUGH OF DANVILLE

HISTORICAL ORGANIC LOADING SUMMARY

Month	2013	2014	2015	2016	2017
January	2,827	1,947	1,451	2,473	2,139
February	2,626	1,855	1,744	***3,707***	2,526
March	2,068	***3,019***	2,086	2,467	2,046
April	1,702	1,965	2,489	2,327	**2,819**
May	1,764	2,246	1,719	2,921	1,897
June	***3,914***	2,042	2,198	2,924	2,296
July	3,553	2,227	2,037	2,829	2,115
August	1,902	2,170	1,776	2,719	1,654
September	2,124	1,463	1,784	2,136	2,123
October	2,194	2,037	***2,789***	2,034	2,320
November	1,962	1,772	2,460	1,832	2,223
December	1,368	2,452	2,250	1,989	2,394
Annual Average Loading	2,334	2,100	2,065	2,530	2,213
5-Year Annual Average Organic Loading					2,248
5-Year Equivalent Organic Concentration (mg/L)					167
Maximum Month	3,914	3,019	2,789	3,707	2,819
Ratio (Maximum Month to Annual Average)	1.68	1.44	1.35	1.47	1.27
Average Ratio to be used to project future Maximum Month Loadings					1.44

ALL ORGANIC LOADINGS IN POUNDS PER DAY (lbs/day)

EXHIBIT C

BOROUGH OF DANVILLE

PROJECTED HYDRAULIC LOADING FROM NEW CONNECTIONS

Developments	Type of Development	EDUs			Projected EDUs				
		Total Planned	Connected 2017	Connected as 12/31/2017	2018	2019	2020	2021	2022
Borough of Danville [1]									
Jacob's Landing Condominiums	Residential	28	0	12	16	0	0	0	0
Lodgic Properties-Buttonwood Apts	Residential	72	24	36	12	24	0	0	0
Bower-Strausser	Residential	10	0	0	2	2	2	2	2
Miscellaneous	Residential	13	6	11	2	0	0	0	0
Subtotal EDUs		*123*	*30*	*59*	*32*	*26*	*2*	*2*	*2*
Subtotal Annual Average Flow Increase, gpd [2]		*22,878*	*5,580*	*10,974*	*5,952*	*4,836*	*372*	*372*	*372*
Borough of Riverside [3]									
Sunbury Road Extension	Residential	4		0	4	0	0	0	0
Miscellaneous	Residential	---	1	0	0	0	0	0	0
Subtotal EDUs		*4*	*1*	0	*4*	*0*	*0*	*0*	*0*
Subtotal Annual Average Flow Increase, gpd [4]		*864*	*216*	*0*	*864*	*0*	*0*	*0*	*0*
Mahoning Township [5]									
Woods of Welsh	Residential	45	2	41	0	0	0	0	0
Strawberry Fields	Residential	58	1	60	0	0	0	0	0
Whisper Hills	Residential	57	0	30	2	2	2	2	2
Woodbine Place	Residential	23	0	23	0	0	0	0	0
Hawkins	Residential	2	0	2	0	0	0	0	0
Miscellaneous	Residential	20	7	0	2	2	2	2	2
Subtotal EDUs		*205*	*10*	*156*	*4*	*4*	*4*	*4*	*4*
Subtotal Annual Average Flow Increase, gpd [6]		*31,980*	*1,560*	*24,336*	*624*	*624*	*624*	*624*	*624*
Valley Township Mun. Authority [7]									
Miscellaneous	Residential	100	0	0	20	20	20	20	20
Subtotal EDUs		*100*	*0*	*0*	*20*	*20*	*20*	*20*	*20*
Subtotal Annual Average Flow Increase, gpd [8]		*23,100*	*0*	*0*	*4,620*	*4,620*	*4,620*	*4,620*	*4,620*
Cooper Township [9]									
Connection to DMA System	Residential	0	0	0	0	200	400	200	93
Subtotal EDUs		*0*	*0*	*0*	*0*	*200*	*400*	*200*	*93*
Subtotal Annual Average Flow Increase, gpd [10]		*0*	*0*	*0*	*0*	*45,000*	*90,000*	*45,000*	*20,925*
Total EDUs		---	**41**	---	**60**	**250**	**426**	**226**	**119**
Total Annual Average Flow Increase, MGD		---	**0.007**	---	**0.012**	**0.055**	**0.096**	**0.051**	**0.027**

Notes:

(1) Provided by the Borough of Danville.

(2) Additional flow increases are calculated using an estimated discharge of 186 gpd/EDU usage, based on the average household size of the municipality from the 2010 U.S. Census data (2.07 people per household) and a usage of 90 gallons per day per person.

(3) Provided by the Borough of Riverside.

(4) Additional flow increases are calculated using an estimated discharge of 216 gpd/EDU usage, based on the average household size of the municipality from the 2010 U.S. Census data (2.40 people per household) and a usage of 90 gallons per day per person.

(5) Provided by Mahoning Township.

(6) Additional flow increases are calculated using an estimated discharge of 156 gpd/EDU usage, based on information from Mahoning Township (Appendix A).

(7) Provided by the Valley Township Authority.

(8) Additional flow increases are calculated using an estimated discharge of 231 gpd/EDU usage, based on the average household size of the municipality from the U.S. Census data (2.57 people per household) and a usage of 90 gallons per day per person.

(9) Projected connections are based upon ongoing discussions between Danville and Cooper Township

(10) Additional flow increases are calculated using an estimated discharge of 225 gpd/EDU usage.

EXHIBIT D
BOROUGH OF DANVILLE

HYDRAULIC AND ORGANIC LOADING PROJECTIONS

HYDRAULIC LOADING PROJECTIONS

	2018	2019	2020	2021	2022
Previous Year's Annual Average Flow (mgd) [1]	1.618	1.630	1.685	1.781	1.832
Projected Annual Average Flow Increase (mgd) [2]	0.012	0.055	0.096	0.051	0.027
Projected Annual Average Flow (mgd)	1.630	1.685	1.781	1.832	1.859
Maximum 3-Month Average Flow Ratio [3]	1.24	1.24	1.24	1.24	1.24
Projected Maximum 3-Month Average Flow (mgd)	2.021	2.089	2.208	2.272	2.305

ORGANIC LOADING PROJECTIONS

	2018	2019	2020	2021	2022
Previous Year's Annual Average Organic Loading (lbs BOD/day) [4]	2,248	2,265	2,342	2,476	2,547
Projected Annual Average Organic Loading Increase (lbs BOD/day) [5]	17	77	134	71	38
Projected Annual Average Organic Loading (lbs BOD/day)	2,265	2,342	2,476	2,547	2,585
Maximum Month Organic Loading Ratio [6]	1.44	1.44	1.44	1.44	1.44
Projected Maximum Month Organic Loading (lbs BOD/day)	3,262	3,372	3,565	3,668	3,722

Notes:

[1] Base flow for 2018 is the 5-Year Annual Average Flow from *Exhibit A*.

[2] Projected flow increases from *Exhibit C*.

[3] From *Exhibit A*.

[4] Base loading for 2018 is the 5-Year Annual Average Organic Loading from *Exhibit B*.

[5] Projected organic loading increases based on the 5-Year Equivalent Organic Concentration from *Exhibit B* and the projected Annual Average Flow Increases from *Exhibit C*.

[6] From *Exhibit B*.

EXHIBIT E
BOROUGH OF DANVILLE
2017 MUNICIPAL WASTELOAD MANAGEMENT REPORT

SOLIDS MANAGEMENT INVENTORY

1. Raw Wastewater Characterization

a.	Q	=	1.568	mgd		
b.	BOD_5	=	2,530	lbs/day		
c.	TSS	=	2,041	lbs/day		
d,	VSS	=	1,735	lbs/day	Assume VSS/TSS =	0.85
e.	FSS	=	306	lbs/day		
f.	nbVSS	=	520	lbs/day	Assume nbVSS/VSS =	0.30

2. Primary Clarifier Effluent (WWTP does not have Primary Clarifiers)

a.	Percent Removal	BOD	25%	*(Assumption)*
		TSS	55%	*(Assumption)*
b.	Primary Effluent	BOD_5	1,898	lbs/day
		TSS	918	lbs/day
		VSS	781	lbs/day
		FSS	138	lbs/day
		nbVSS	234	lbs/day

3. Estimated Activated Sludge Excess Mixed Liquor Biomass Suspended Solids

a. BioVSS = Y (BOD Load) / [1 + kd(SRT)]
= [Y / [1 + kd(SRT)]] ▲BOD
= 347 lbs/day

Y	=	0.64	VSS/BOD
kd	=	0.10	VSS/VSS•day
SRT	=	**25.0**	days

b. BioTSS = BioVSS / 0.85
= 408 lbs/day

d. Cell debris VSS
= Y (BOD Load)[kd(SRT)]fd / (1 + kd(SRT))
= 87 lbs/day

fd = 0.10 lb/lb

e. Cell Debris TSS = Cell Debris VSS / 0.85
= 102 lbs/day

EXHIBIT E
BOROUGH OF DANVILLE
2017 MUNICIPAL WASTELOAD MANAGEMENT REPORT

SOLIDS MANAGEMENT INVENTORY

4. Estimated Excess Biomass Production

a. Biomass Characterization

Biomass TSS		=	408	lbs/day
Biomass VSS		=	347	lbs/day
Cell Debris Mass =	cdmTSS	=	102	lbs/day
	cdmVSS	=	87	lbs/day
Primary Effluent Inert TSS		=	138	lbs/day
Primary Effluent nbVSS			234	lbs/day

b. xMLSS = Biomass TSS + cdmTSS + nbVSS+Pri Effl iSS
= 882 lbs/day

c. xMLVSS = bdVSS + cdmVSS + nbVSS
= 668 lbs/day

d. xMLVSS / xMLSS = 0.757

5. Average Effluent Total Suspended Solids

a. Eff TSS	=	**93**	lbs/day	
b. Eff VSS	=	71	lbs/day	= xMLVSS/xMLSS
c. Eff iSS	=	23	lbs/day	

6. Estimated Sludge Production

a. Primary Sludge	TSS	1,123	lbs/day		
	VSS	954	lbs/day		
	iSS	168	lbs/day		
b. Waste Activated	TSS	789	lbs/day	=xMLSS - Eff TSS	
	VSS	597	lbs/day	=xMLVSS - Eff VSS	
	iSS	192	lbs/day	=xMLSS - xMLVSS	

7. Estimated Chemical Sludge Production (Ref: USEPA Phosphorus Design Manual, page 89)

a. Total Phosphorus Characterization

Raw Wastewater TP	=	44.9	lbs/day	(Estimated)
TP Removal	=	78.8%	lbs/day	
Final Effluent TP	=	9.5	lbs/day	(Measured)
Total Phosphorus Removed	=	35.4	lbs/day	

b. Estimted Biological Phosphorus Uptake = 8.7 lbs/day
= P Synthesis % * (bdVSS + cdmVSS)

Phosphorus Synthesis Rate = 2%

c. Estimated $AlPO_4$ Sludge Production = **105** lbs/day
(TP to be Removed) * (wt $AlPO_4$ / wt P)

Atomic Weight of $AlPO_4$ = 122.0 lb/mole

Atomic Weight of P = 30.974 lb P / mole P

EXHIBIT E
BOROUGH OF DANVILLE
2017 MUNICIPAL WASTELOAD MANAGEMENT REPORT

SOLIDS MANAGEMENT INVENTORY

Annual Avg Aluminum Sulfate Feed Rate	=	70.0	gpd
Density of Aluminum Sulfate Solution	=	11.1	lbs/gal
Aluminum Sulfate mass fraction	=	48%	
Al^{3+} mass fraction	=	9%	
Al^{3+} Dosage	=	33.9	lbs Al^{3+}/day
	=	2.6	mg Al^{3+}/L
Al^{3+} consumed for P Removal	=	23.2	lb Al^{3+}/day
Mole Aluminum Ion per Mole TP	=	1.0	mole Al / mole P
Atomic Weight of P	=	30.974	lb P / mole P
Atomic Weight of Al	=	26.982	lb Al / mole Al
Excess Al produced	=	10.70	lb Al/day
Atomic Weight of Al(OH)3	=	77.979	lb / mole
$Al(OH)_3$ Sludge Production	=	31	lbs/day

e. Estimated Total Chemical Sludge Production = $AlPO_4$ Sludge + $Al(OH)_3$ Sludge
= **105** lbs/day

8. Anaerobic Digestion Volatile Solids Reduction

a. Digester Operations

Solids Retention Time	=	50.6	days	
Digester Volume	=	505,810	gallons	
Co-mingled Primary & WAS	=	10,000	gpd	
Temperature	=	35.5	°C	(95.5 F)
SRT * Temp	=	1,795.6		
Volatile Solids Destruction	=	59.1%	*	

* VS % reduction based on estimates from USEPA Solids Handling Manual

b. Estimated Digester Feed Solids

	Primary	WAS	Chemical Sludge	Total	
TSS	1,123	789	105	2,016	lbs/day
iSS	168	192	105	465	lbs/day
VSS	954	597	0	1,551	lbs/day
%VS	85%	76%	0%	77%	

c. Estimated Digester Output (Net Solids Production)

TSS	1,100	lbs/day
iSS	465	lbs/day
VSS	635	lbs/day
%VS	58%	

9. Quick Lime Addition

a. Lime : Net Solids Feed Rate	=	0.25	
b. Lime	=	275	lbs/day

10. Net Solids Production Comparison

Estimated Biosolids Production	251	dry tons/year
Reported Biosolids Hauled Off-Site	295	dry tons/year
% Difference: Reported v. Estimated	15%	

EXHIBIT F

BOROUGH OF DANVILLE

ON-LOT DISPOSAL SYSTEM (OLDS) REMOVAL AND NUTRIENT CREDIT ADJUSTMENT

Chesapeake Bay Nutrient Requirements are outlined in Section II of the NPDES Permit, beginning on page 17 of 22. Subsections C.10.b and D outline the 25 pound-TN-per-year offset available per home removed from an OLDS and connected to the collection system. The offset applies to connections where OLDS were in place prior to January 1, 2003 and connected to the sewage collection system after January 1, 2003.

Table F.1: Total Nitrogen Cap Adjustments

Original Total Nitrogen Annual Limit:	66,118	lbs TN/year
Danville offsets, this reporting period:	-	lbs TN/year
Danville offsets, previous reporting periods:	-	lbs TN/year
Mahoning Township offsets, this reporting period:	-	lbs TN/year
Mahoning offsets, previous reporting periods:	225	lbs TN/year
Riverside offsets, this reporting period:	-	lbs TN/year
Riverside offsets, previous reporting period:	-	lbs TN/year
Adjusted Total Nitrogen Limit:	**66,343**	**lbs TN/year**

Table F.2: Offsets to Report to DEP, this Reporting Period
Offsets must be reported to DEP using DMR-Supplemental-Nitrogen form

Project	Tax Parcel ID/Address	Municipality	Date of:		EDUs	Total Offset @ 25lbs/EDU
			Connection to Collection System	Original Construction		
	None reported this period	Danville				
	None reported this period	Mahoning Twp.				
	None reported this period	Riverside				

Table F.3: Total Offsets, Danville Borough

Year	Tax Parcel ID/Address	Date of:		EDUs	Total Offset @ 25lbs/EDU
		Connection to Collection System	Original Construction		
2003-17	None reported this period				

Table F.4: Total Offsets, Mahoning Township

Year	Tax Parcel ID/Address	Date of:		EDUs	Total Offset @ 25lbs/EDU
		Connection to Collection System	Original Construction		
2011-17	None reported this period				
2010	129 Upper Street	2010	Pre-2003	1	25
2010	1103 Red Lane	2010	Pre-2003	1	25
2010	1109 Red Lane	2010	Pre-2003	1	25
2010	1111 Red Lane	2010	Pre-2003	1	25
2010	1209 Red Lane	2010	Pre-2003	1	25
2010	1211 Red Lane	2010	Pre-2003	1	25
2009*	565 Railroad Street	7/7/2009	Pre-2003	1	25
2009*	567 Railroad Street	7/7/2009	Pre-2003	1	25
2009*	569 Railroad Street	7/7/2009	Pre-2003	1	25
2003-08	None reported this period				
	Subtotal:			*9*	*225*

* Application for credits was not made in 2010 for 2009 offsets. Nine (9) homes represents 2009 and 2010 connections.

Table F.5: Total Offsets, Riverside Borough

Year	Tax Parcel ID/Address	Date of:		EDUs	Total Offset @ 25lbs/EDU
		Connection to Collection System	Original Construction		
2003-17	None reported this period				

Exhibit G

Proof of Flowmeter Calibration

Instrumentation & Calibration, LLC

Report of Calibration

Customer: Danville Wastewater
Address: Northumberland Rd
Danville PA 17821
Manufacturer: Endress & Hauser
Model: Promag
Serial: DA01C56000
Description: Belt Press Flowmeter
I. D. Number: s/n
Method: Direct Comparison

Work Order: 1588,1589
Date Received: 3/9/2017
Calibration Date: 3/9/2017
Due Date: 9/9/2017
Temp. : 14°C
Humidity: 50 %RH
Unit Received: Pass
Unit Returned: Pass
Report No.: 00147

Test Standard:	Calibration Due:	Model #:	S/N:
Aaliant	1/8/2019	FLCA1012	A0B3552T

The equipment described above has been tested for accuracy. The test instrument(s) used in the calibration has been checked for conformance and traceability to National Institute of Standards and Technology (N.I.S.T.). Calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2000 and MIL-STD-45662A.

Comments:

Jason Scarcella

Calibrated By: Jason Scarcella

Instrumentation & Calibration, LLC

Report of Calibration

Customer: Danville Wastewater
Address: Northumberland Rd
Danville PA 17821
Manufacturer: Endress & Hauser
Model: FMU 90
Serial: LIT-372
Description: Magnesium Hydroxide
I. D. Number: s/n
Method: Direct Comparison

Work Order: 1588,1589
Date Received: 3/9/2017
Calibration Date: 3/9/2017
Due Date: 9/9/2017
Temp. : 14°C
Humidity: 50 %RH
Unit Received: Pass
Unit Returned: Pass
Report No.: 00147

Test Standard:	Calibration Due:	Model #:	S/N:
Level Mesurement			

The equipment described above has been tested for accuracy. The test instrument(s) used in the calibration has been checked for conformance and traceability to National Institute of Standards and Technology (N.I.S.T.). Calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2000 and MIL-STD-45662A.

Comments:

Jason Scarcella

Calibrated By: Jason Scarcella

Instrumentation & Calibration, LLC

Report of Calibration

Customer: Danville Wastewater
Address: Northumberland Rd
Danville PA 17821
Manufacturer: Endress & Hauser
Model: FMU 90
Serial: LIT-371
Description: Magnesium Hydroxide
I. D. Number: s/n
Method: Direct Comparison

Work Order: 1588,1589
Date Received: 3/9/2017
Calibration Date: 3/9/2017
Due Date: 9/9/2017
Temp. : 14°C
Humidity: 50 %RH
Unit Received: Pass
Unit Returned: Pass
Report No.: 00147

Test Standard:	Calibration Due:	Model #:	S/N:
Level Mesurement			

The equipment described above has been tested for accuracy. The test instrument(s) used in the calibration has been checked for conformance and traceability to National Institute of Standards and Technology (N.I.S.T.). Calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2000 and MIL-STD-45662A.

Comments:

Jason Scarcella

Calibrated By: Jason Scarcella

Instrumentation & Calibration, LLC

Report of Calibration

Customer: Danville Wastewater
Address: Northumberland Rd
Danville PA 17821
Manufacturer: Endress & Hauser
Model: FMU 90
Serial: LIT-411
Description: Ferric Tank
I. D. Number: s/n
Method: Direct Comparison

Work Order: 1588,1589
Date Received: 3/9/2017
Calibration Date: 3/9/2017
Due Date: 9/9/2017
Temp. : 14°C
Humidity: 50 %RH
Unit Received: Pass
Unit Returned: Pass
Report No.: 00147

Test Standard:	Calibration Due:	Model #:	S/N:
Level Mesurement			

The equipment described above has been tested for accuracy. The test instrument(s) used in the calibration has been checked for conformance and traceability to National Institute of Standards and Technology (N.I.S.T.). Calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2000 and MIL-STD-45662A.

Comments:

Jason Scarcella

Calibrated By: Jason Scarcella

Instrumentation & Calibration, LLC

Report of Calibration

Customer: Danville Wastewater
Address: Northumberland Rd
Danville PA 17821
Manufacturer: Endress & Hauser
Model: FMU 90
Serial: LIT-412
Description: Aluminum Sulfate
I. D. Number: s/n
Method: Direct Comparison

Work Order: 1588,1589
Date Received: 3/9/2017
Calibration Date: 3/9/2017
Due Date: 9/9/2017
Temp. : 14°C
Humidity: 50 %RH
Unit Received: Pass
Unit Returned: Pass
Report No.: 00147

Test Standard:	Calibration Due:	Model #:	S/N:
Level Mesurement			

The equipment described above has been tested for accuracy. The test instrument(s) used in the calibration has been checked for conformance and traceability to National Institute of Standards and Technology (N.I.S.T.). Calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2000 and MIL-STD-45662A.

Comments:

Jason Scarcella

Calibrated By: Jason Scarcella

Instrumentation & Calibration, LLC

Report of Calibration

Customer: Danville Wastewater
Address: Northumberland Rd
Danville PA 17821
Manufacturer: Toshiba
Model: LF622FAC211E
Serial: 126224164
Description: Riverside
I. D. Number: s/n
Method: Direct Comparison

Work Order: 1588,1589
Date Received: 3/9/2017
Calibration Date: 3/9/2017
Due Date: 9/9/2017
Temp. : 14°C
Humidity: 50 %RH
Unit Received: Pass
Unit Returned: Pass
Report No.: 00147

Test Standard:	Calibration Due:	Model #:	S/N:
Aaliant	1/8/2019	FLCA1012	A0B3552T

The equipment described above has been tested for accuracy. The test instrument(s) used in the calibration has been checked for conformance and traceability to National Institute of Standards and Technology (N.I.S.T.). Calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2000 and MIL-STD-45662A.

Comments:

Jason Scarcella

Calibrated By: Jason Scarcella

Instrumentation & Calibration, LLC

Report of Calibration

Customer: Danville Wastewater
Address: Northumberland Rd
Danville PA 17821
Manufacturer: Endress & Hauser
Model: Promag 50
Serial: E204B816000
Description: WAS
I. D. Number: s/n
Method: Direct Comparison

Work Order: 1588,1589
Date Received: 3/9/2017
Calibration Date: 3/9/2017
Due Date: 9/9/2017
Temp. : 14°C
Humidity: 50 %RH
Unit Received: Pass
Unit Returned: Pass
Report No.: 00147

Test Standard:	Calibration Due:	Model #:	S/N:
Aaliant	1/8/2019	FLCA1012	A0B3552T

The equipment described above has been tested for accuracy. The test instrument(s) used in the calibration has been checked for conformance and traceability to National Institute of Standards and Technology (N.I.S.T.). Calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2000 and MIL-STD-45662A.

Comments:

Jason Scarcella

Calibrated By: Jason Scarcella

Instrumentation & Calibration, LLC

Report of Calibration

Customer: Danville Wastewater
Address: Northumberland Rd
Danville PA 17821
Manufacturer: Endress & Hauser
Model: Promag 50
Serial: E2051016000
Description: RAS #4
I. D. Number: s/n
Method: Direct Comparison

Work Order: 1588,1589
Date Received: 3/9/2017
Calibration Date: 3/9/2017
Due Date: 9/9/2017
Temp. : 14°C
Humidity: 50 %RH
Unit Received: Pass
Unit Returned: Pass
Report No.: 00147

Test Standard:	Calibration Due:	Model #:	S/N:
Aaliant	1/8/2019	FLCA1012	A0B3552T

The equipment described above has been tested for accuracy. The test instrument(s) used in the calibration has been checked for conformance and traceability to National Institute of Standards and Technology (N.I.S.T.). Calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2000 and MIL-STD-45662A.

Comments:

Jason Scarcella

Calibrated By: Jason Scarcella

Instrumentation & Calibration, LLC

Report of Calibration

Customer: Danville Wastewater
Address: Northumberland Rd
Danville PA 17821
Manufacturer: Endress & Hauser
Model: Promag 50
Serial: E2050E16000
Description: RAS #3
I. D. Number: s/n
Method: Direct Comparison

Work Order: 1588,1589
Date Received: 3/9/2017
Calibration Date: 3/9/2017
Due Date: 9/9/2017
Temp. : 14°C
Humidity: 50 %RH
Unit Received: Pass
Unit Returned: Pass
Report No.: 00147

Test Standard:	Calibration Due:	Model #:	S/N:
Aaliant	1/8/2019	FLCA1012	A0B3552T

The equipment described above has been tested for accuracy. The test instrument(s) used in the calibration has been checked for conformance and traceability to National Institute of Standards and Technology (N.I.S.T.). Calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2000 and MIL-STD-45662A.

Comments:

Jason Scarcella

Calibrated By: Jason Scarcella

Instrumentation & Calibration, LLC

Report of Calibration

Customer: Danville Wastewater
Address: Northumberland Rd
Danville PA 17821
Manufacturer: Endress & Hauser
Model: Promag 50
Serial: E2051116000
Description: RAS #2
I. D. Number: s/n
Method: Direct Comparison

Work Order: 1588,1589
Date Received: 3/9/2017
Calibration Date: 3/9/2017
Due Date: 9/9/2017
Temp. : 14°C
Humidity: 50 %RH
Unit Received: Pass
Unit Returned: Pass
Report No.: 00147

Test Standard:	Calibration Due:	Model #:	S/N:
Aaliant	1/8/2019	FLCA1012	A0B3552T

The equipment described above has been tested for accuracy. The test instrument(s) used in the calibration has been checked for conformance and traceability to National Institute of Standards and Technology (N.I.S.T.). Calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2000 and MIL-STD-45662A.

Comments:

Jason Scarcella

Calibrated By: Jason Scarcella

Instrumentation & Calibration, LLC

Report of Calibration

Customer: Danville Wastewater
Address: Northumberland Rd
Danville PA 17821
Manufacturer: Endress & Hauser
Model: Promag 50
Serial: E2050F16000
Description: RAS #1
I. D. Number: s/n
Method: Direct Comparison

Work Order: 1588,1589
Date Received: 3/9/2017
Calibration Date: 3/9/2017
Due Date: 9/9/2017
Temp. : 14°C
Humidity: 50 %RH
Unit Received: Pass
Unit Returned: Pass
Report No.: 00147

Test Standard:	Calibration Due:	Model #:	S/N:
Aaliant	1/8/2019	FLCA1012	A0B3552T

The equipment described above has been tested for accuracy. The test instrument(s) used in the calibration has been checked for conformance and traceability to National Institute of Standards and Technology (N.I.S.T.). Calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2000 and MIL-STD-45662A.

Comments:

Jason Scarcella

Calibrated By: Jason Scarcella

Instrumentation & Calibration, LLC

Report of Calibration

Customer: Danville Wastewater
Address: Northumberland Rd
Danville PA 17821
Manufacturer: Rosemount
Model: 3490
Serial: 3491L031004
Description: Riverside Flow
I. D. Number: s/n
Method: Head vs. Flow

Work Order: 1588,1589
Date Received: 3/9/2017
Calibration Date: 3/9/2017
Due Date: 9/9/2017
Temp. : 14°C
Humidity: 50 %RH
Unit Received: Pass
Unit Returned: Pass
Report No.: 00147

Test Standard:	Calibration Due:	Model #:	S/N:
Isco Flow Book		6th edition	

The equipment described above has been tested for accuracy. The test instrument(s) used in the calibration has been checked for conformance and traceability to National Institute of Standards and Technology (N.I.S.T.). Calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2000 and MIL-STD-45662A.

Comments:

Jason Scarcella

Calibrated By: Jason Scarcella

Instrumentation & Calibration, LLC

Report of Calibration

Customer: Danville Wastewater
Address: Northumberland Rd
Danville PA 17821
Manufacturer: Endress & Hauser
Model: FMU90
Serial: 83003F01DE6
Description: Effluent Flow
I. D. Number: s/n
Method: Head vs Flow

Work Order: 1588,1589
Date Received: 3/9/2017
Calibration Date: 3/9/2017
Due Date: 9/9/2017
Temp. : 14°C
Humidity: 50 %RH
Unit Received: Pass
Unit Returned: Pass
Report No.: 00147

Test Standard:	Calibration Due:	Model #:	S/N:
Isco Flow Book		6th edition	

The equipment described above has been tested for accuracy. The test instrument(s) used in the calibration has been checked for conformance and traceability to National Institute of Standards and Technology (N.I.S.T.). Calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2000 and MIL-STD-45662A.

Comments:

Jason Scarcella

Calibrated By: Jason Scarcella

Instrumentation & Calibration, LLC

Report of Calibration

Customer: Danville Wastewater
Address: Northumberland Rd
Danville PA 17821
Manufacturer: Endress & Hauser
Model: Promag 50
Serial: E2050D16000
Description: Primary Sludge
I. D. Number: s/n
Method: Direct Comparison

Work Order: 1588,1589
Date Received: 3/9/2017
Calibration Date: 3/9/2017
Due Date: 9/9/2017
Temp. : 14°C
Humidity: 50 %RH
Unit Received: Pass
Unit Returned: Pass
Report No.: 00147

Test Standard:	Calibration Due:	Model #:	S/N:
Aaliant	1/8/2019	FLCA1012	A0B3552T

The equipment described above has been tested for accuracy. The test instrument(s) used in the calibration has been checked for conformance and traceability to National Institute of Standards and Technology (N.I.S.T.). Calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2000 and MIL-STD-45662A.

Comments:

Jason Scarcella

Calibrated By: Jason Scarcella

Instrumentation & Calibration, LLC

Report of Calibration

Customer: Danville Wastewater
Address: Northumberland Rd
Danville PA 17821
Manufacturer: Endress & Hauser
Model: Promag 50
Serial: E2052516000
Description: Influent Flow
I. D. Number: s/n
Method: Direct Comparison

Work Order: 1588,1589
Date Received: 3/9/2017
Calibration Date: 3/9/2017
Due Date: 9/9/2017
Temp. : 14°C
Humidity: 50 %RH
Unit Received: Pass
Unit Returned: Pass
Report No.: 00147

Test Standard:	Calibration Due:	Model #:	S/N:
Aaliant	1/8/2019	FLCA1012	A0B3552T

The equipment described above has been tested for accuracy. The test instrument(s) used in the calibration has been checked for conformance and traceability to National Institute of Standards and Technology (N.I.S.T.). Calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2000 and MIL-STD-45662A.

Comments:

Jason Scarcella

Calibrated By: Jason Scarcella

Figures

Figure 1
Hydraulic Loading Graph
BOROUGH OF DANVILLE

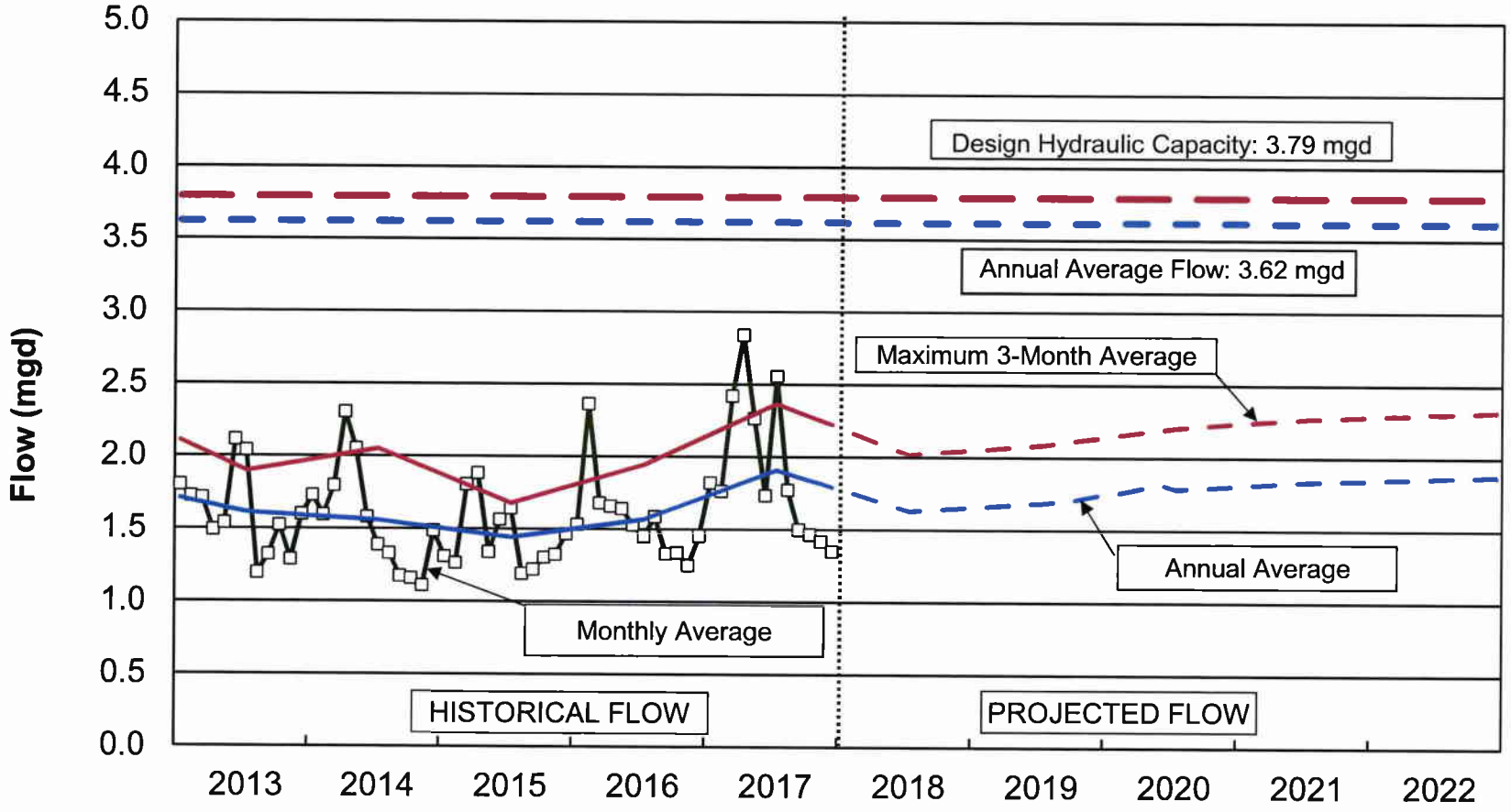
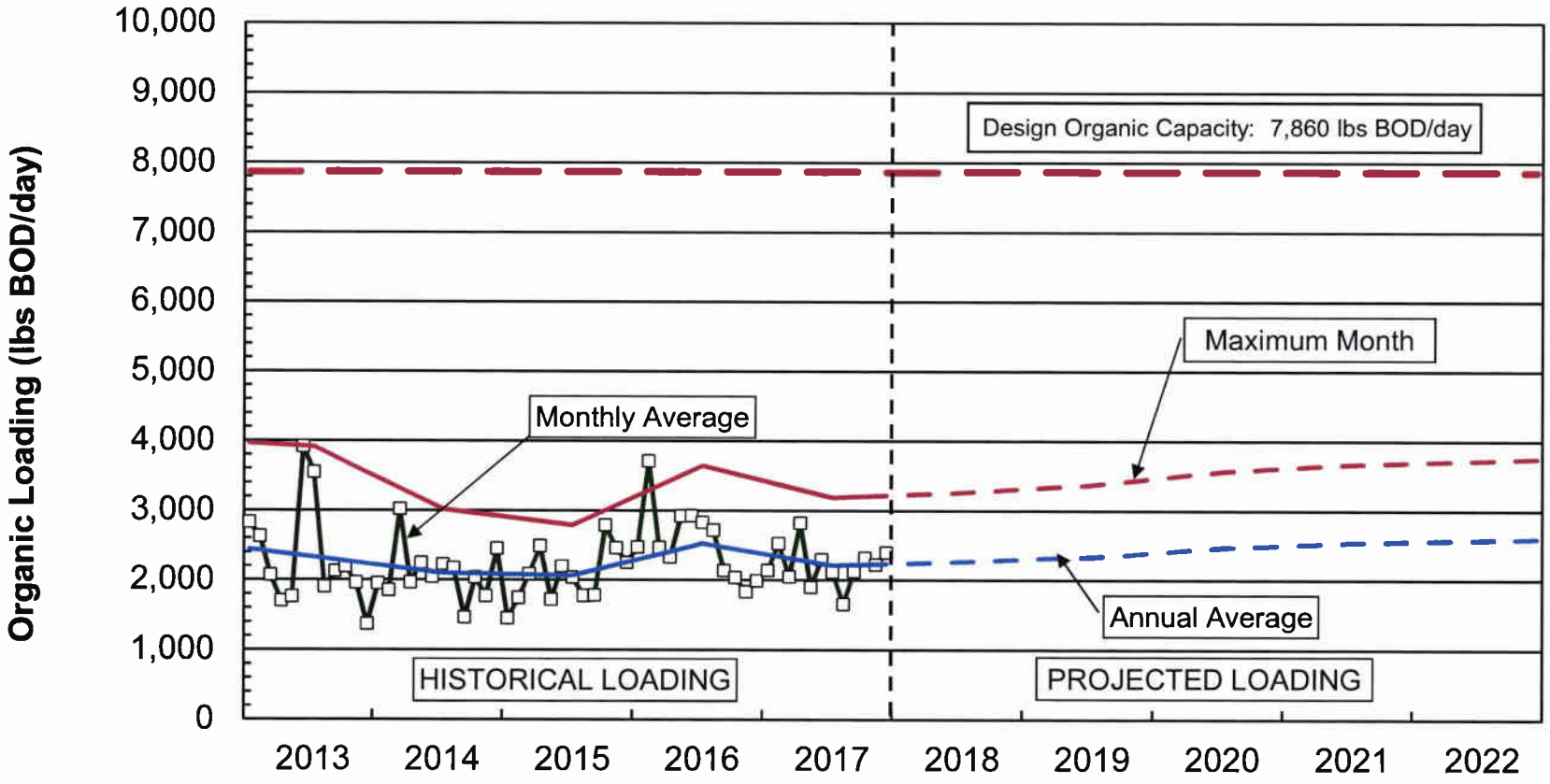


Figure 2
Organic Loading Graph
BOROUGH OF DANVILLE



Appendices

Appendix A

Mahoning Township Authority

Contributing Municipality Worksheet

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

CHAPTER 94 MUNICIPAL WASTELOAD MANAGEMENT ANNUAL REPORT

For Calendar Year:

☐ 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:	**Mahoning Township**	Permit No.:	**PA**
Mailing Address:	**849 Bloom Road**	Effective Date:	
City, State, Zip:	**Danville, PA 17821**	Expiration Date:	
Contact Person:	**Bret LeVan**	Renewal Due Date:	
Title:	**Chief Operator**	Municipality:	**Mahoning Township**
Phone:	**(570) 275-5521 ext 6**	County:	**Montour**
Email:	**blevan@mahoningtownship.org**	Consultant Name:	**Larson Design Group**

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 attached for Mahoning Township EDU projections

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:

No sewer extensions were completed in 2017 and none are planned at this time.

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 item $ on attached

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:

The sewer collection conveyance and pumping stations are in good condition.

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 – 3)
☒ Discussion of condition of each pump station attached (**Attachment 6**)

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).

David Walters — Name of Responsible Official

Signature

570 651-1546 — Telephone No.

2/20/2018 — 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).

David Walters — Name of Preparer

Signature

570 651-1546 — Telephone No.

2/20/2018 — Date

Appendix B

Riverside Borough

Contributing Municipality Worksheet

3800-FM-BPNPSM0507 4/2014
Chapter 94 Report

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

CHAPTER 94 MUNICIPAL WASTELOAD MANAGEMENT ANNUAL REPORT

For Calendar Year:

☐ 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:	Borough of Riverside	Permit No.:	PA
Mailing Address:	415 Dewart St, P O Box 307	Effective Date:	
City, State, Zip:	Riverside,PA 17868-0307	Expiration Date:	
Contact Person:	Deborah Bausch	Renewal Due Date:	
Title:	Secretary	Municipality:	Borough of Riverside
Phone:	570 275-1751	County:	Northumberland
Email:	Dbausch@RiversideBorough.Org	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**)
   - ☐ 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))

   N/A

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:

Sunbury Road construction project has one home under construction but not occupied.

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))

Cleaned Pump Stations
Flushed Lines
Duke's Root Control for continued maintenance

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.
- ☒ XX 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)

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).

Deborah Bausch	Deborah Bausch
Name of Responsible Official	Signature
570 275-1751	January 31, 2018
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).

Name of Preparer	Signature
Telephone No.	Date

Appendix C

Valley Township Authority

Contributing Municipality Worksheet

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

CHAPTER 94 MUNICIPAL WASTELOAD MANAGEMENT ANNUAL REPORT

For Calendar Year: 2017

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

GENERAL INFORMATION			
Permittee Name:	**Valley Township Municipal Authority**	Permit No.:	**PA**
Mailing Address:	**P.O. Box 307**	Effective Date:	
City, State, Zip:	**Danville, PA 17821**	Expiration Date:	
Contact Person:	**Steve Traub**	Renewal Due Date:	
Title:	**Executive Director**	Municipality:	**Valley Township**
Phone:	**570-275-8633**	County:	**Montour**
Email:	**vtma1247@ptd.net**	Consultant Name:	**Larson Design Group**

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))

N/A

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:

There were no sewer extensions constructed in 2017.

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))

refer to Attachment 1

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 – **6**)

☒ Discussion of condition of each pump station attached (**Attachment 1**)

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).

Steve Traub	
Name of Responsible Official	Signature
570-275-8633	
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).

David Walters	
Name of Preparer	Signature
570-323-6603	**2/27/2018**
Telephone No.	Date

DESCRIPTION OF THE WASTEWATER SYSTEM

The original private collection system and wastewater treatment plant (WWTP) were developed to service the commercial development at the Route 54 / I-80 interchange. Additions to the collection system to serve residential development in the Village of Mausdale were completed in May 1991, and the Valley Township Municipal Authority (VTMA) was formed and officially became the owner/operator of the system in June 1991. The Valley Green subdivision is served by a sewer extension that was completed in 1992. In 2002, the Cloverleaf Extension was completed. The Route 642 Sewer Extension was completed in December 2004. The Authority's collection system is a sanitary sewer system.

The VTMA pump station and force main project was constructed at the existing WWTP site to convey wastewater flow previously received at the WWTP to the Danville WWTP. Construction was completed in the summer of 2016 and the Valley Township Municipal WWTP was decommissioned in July 2016.

PUMP STATIONS

The Authority's Collection system currently utilizes six duplex pump stations. Five of the pump stations are equipped with run-time meters and the VTMA pump station has a flow meter. Pump stations 1 and 2 are part of the sewer extension serving the Liberty Valley School area. Both of these stations are equipped with pumps that have a 100 gpm capacity. Pump station 3 is located along Indian Run and serves the Cloverleaf Extension. Pump station 3 is equipped with pumps that have a 30 gpm capacity. Pump station 4 is located near the intersection of SR 54 and SR 642 and is equipped with pumps that have a 320 gpm capacity. Pump station 5 is located near I-80 along SR 642 and is equipped with pumps that have a 97 gpm capacity. The VTMA pump station is equipped with pumps that have a 434 gpm capacity.

The required two-year hydraulic load projections for the pump stations will be similar to the current conditions since there are no plans to add a substantial amount of connections in the next two years to those areas served by the pump stations.

***Pump Capacity and Present Flow Comparison**

Pump Station Number	Maximum Daily Pumping Capacity (GPD)	Maximum Present (2017) Flow (GPD)
1	230,400	8,751
2	230,400	9,527
3	69,120	4,834
4	737,280	140,160
5	223,488	21,601
*VTMA Pump Station	624,960	58700

*Flows for all pump stations are from January 1, 2017 through December 31, 2017.

The data shows that the pump stations are operating well below their maximum capacity. There were two wet weather events that caused flow at the VTMA Pump Station to exceed 0.5MGD. The annual average flow at this pump station was 0.123 MGD.

SEWER SYSTEM MONITORING, MAINTENANCE, AND REPAIRS

The Authority contracts for equipment and services as needed to clean manholes, inlets, and sewer lines. There was no sewer maintenance or repairs completed in 2017.

SANITARY SEWER REGULATORS AND BYPASSES

There are no designated bypass points in the Authority's system.

CONDITION OF THE COLLECTION SYSTEM

The I-80 interchange and Mausdale collection systems were constructed in 1973 and 1990 of asbestos cement & nickel steel and PVC pipe, respectively. The Route 642 Sewer Extension was constructed of PVC pipe in 2004. The new force main to the Danville WWTP is constructed of PVC pipe and was constructed in 2015/2016.

All new sewer lines are subjected to a low pressure air test prior to acceptance by the Authority, and all new manholes are vacuum tested.

Overall, the I & I reduction study conducted during 2009 showed the older parts of the system to be in good condition, but had a few locations, mostly at joints or abandoned laterals, that were leaking. The spots in the system most prone to allowing infiltration were repaired as discussed in previous Chapter 94 reports.

OPERATIONAL PROBLEMS

The Authority contracts with local contractors for repairs that are beyond the capability of the operator.

J. Pfirman

Flow Calibration Report

Moyer Instruments, Inc

Customer: Valley Township Municipal Auth.
Address: 1131 Continental Dr
Danville,PA 17821
Manufacturer: Endress Hauser
Model: 50XM
Serial: KC011116000
Description: Mag Meter
I. D. Number: KC011116000
Method: Direct Comparison

Job/PO No: 17678
Flow Element: 6in. Mag Meterr
Calibration Date: 2/12/2018
Due Date: 2/12/2019
Temp. : 5°C
Humidity: 50%RH
Unit Received: In Spec
Unit Returned: In Spec
Report No.: 18116BH

Test Standard:	Calibration Due:	Model #:	S/N:
GE Sensing	4/27/2019	PT878	12110420
na	na	na	na
na	na	na	na

The equipment herein described has been tested for accuracy of calibration by Moyer Instruments, Inc. The test instrument(s) used in said calibration has been checked for conformance and traceability to National Institute of Standards and Technology (N.I.S.T.). Calibrations, as applicable, are performed in compliance with the requirements of ANSI/NCSL Z540.3-2006(R2013) and ISO 10012:2003.

Comments: Checked flow @ 178 gpm meter read 180 gpm. Total times 1

Metrological Officer: Bob Hassler

MoyerInstruments

Since 1981

No. 17680

421 East Elm St. • Tamaqua, PA 18252
Phone (570) 668-2607 / Fax: (570) 668-4720
www.moyerinstruments.com

CUSTOMER'S ORDER NO.

DATE 2/12/2018

NAME Valley Township

PHONE NUMBER ( )

ADDRESS

Danville Pa

SOLD BY	CASH	C.O.D.	CHARGE	ON ACCT.	MDSE. RETD.	PAID OUT	
BH			/				9953

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	Perform Annual Calibration of Pump Station Flow Meter		
	Meter: Endress Hauser 50 s/n KC01/16000 check @ 178 gpm Meter Read 180 gpm Time Total Tested X1		

All claims and returned goods must be accompanied by this bill.

Received by Don Shubert

TAX

TOTAL

THANK YOU