



# **PETERS TOWNSHIP SANITARY AUTHORITY**

## **Chapter 94 Municipal Wasteload Management Report**

*for*

**Donaldson's Crossroads Water Pollution Control Plant  
NPDES Permit No. PA0028703**

**Operating Year 2013**

Submitted March 2014

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# PETERS TOWNSHIP SANITARY AUTHORITY

Washington County, Pennsylvania

## Donaldson's Crossroads Water Pollution Control Plant

### Chapter 94 – Municipal Wasteload Management Report Operating Year 2013

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**Donaldson's Crossroads Water Pollution Control Plant**

**Chapter 94 – Municipal Wasteload Management Report**  
**Operating Year 2013**

**SECTION 1 INTRODUCTION**

In compliance with Section 94.12, of Chapter 94, Title 25 of the Pennsylvania Code and the Rules and Regulations of the Pennsylvania Department of Environmental Protection (PADEP), this report is submitted by the Peters Township Sanitary Authority (Authority) as a summary of the loadings and conditions existing at the Donaldson's Crossroads Water Pollution Control Plant (WPCP), its associated pump stations, and its tributary sewage collection and conveyance sewer systems during the 2013 operating year. In addition, this report includes a projection of the anticipated loadings at the WPCP for the next five years (2014-2018) and at the sewage pumping stations for the next two years (2014-2015).

The Donaldson's Crossroads WPCP is owned, operated and maintained by the Peters Township Sanitary Authority, and operates under Water Quality Management Permit Nos. 6370416, 6369405-A1 and 6381406, and NPDES Permit No. PA0028703. The portions of the NPDES Permit which establish the discharge limits of the WPCP are contained in Appendix A. The NPDES Permit became effective on April 1, 2013.

The WPCP is located at the confluence of Little Chartiers Creek and Chartiers Creek, near the intersection of West McMurray Road and Oakwood Road in Peters Township, Washington County. The location of the plant is shown in Figure 1, below. The WPCP provides advanced secondary treatment. The treatment process consists of screening, the conventional activated sludge process, disinfection and dechlorination, and effluent aeration. Biological solids produced during the treatment process are stabilized by aerobic digestion, trucked to

the Authority's Brush Run WPCP where the stabilized biosolids are dewatered by belt filter pressing and disposed of at a sanitary landfill.



**Figure 1: Donaldson's Crossroads WPCP Location Map**

The hydraulic design capacity of the Donaldson's Crossroads WPCP is 1.2 million gallons per day (MGD) and the organic design capacity is 1,954 lbs BOD/day. The original plant was constructed in 1964 and had been expanded several times. The most recent significant upgrade was placed into operation in 1998 at its current capacity. The Donaldson's Crossroads WPCP consistently met its permitted effluent limits during the 2013 operating year. The Authority prepared an Act 537 Sewage Facilities Plan Update associated with a plant expansion. The Act 537 Plan was completed in 2010, with PADEP approval on March 17, 2011. The expansion project is expected to be completed in 2017.

The Authority's management, operating and maintenance personnel hold the operator certifications required for operation of the WPCP. Table 1 contains a listing of the wastewater operator certificate numbers, class and subclass under the Pennsylvania Department of Labor and Industry.

**Table 1: Peters Township Sanitary Authority – Operator Certificates**

Employee	Class - Subclass	Issued	Expiration	Client ID	Cert #
James J. Miskis - Responsible Operator in Charge	A,E 1,2,3,4	7/1/2012	6/30/2015	196324	T1676
Mark A. Chucuddy	A,E 1,2,3,4	1/1/2012	12/31/2014	196953	T1630
Robert F. Paff Jr.	A,E 1,2,3,4	7/1/2012	6/30/2015	194018	T1739
Mike C. Anesetti	A,E 1,2,3,4	7/1/2012	6/30/2015	199541	T3960
Anthony M. Strelecki	B,E 1,2,3,4	1/1/2013	12/31/2014	193516	S8777
William J. Carlisle	B,E 1,2,3,4	1/1/2013	12/31/2014	197332	T3662

Class	Subclass
A = > 5 MGD	1 = Activated Sludge/SBR
B = 5 MGD or Less	2 = Trickling Filters & RBC
C = 1 MGD or Less	3 = Ponds and Lagoons
D = < 0.1 MGD	4 = Pretreatment
E = Collection Systems	



## SECTION 2 HYDRAULIC LOADING

In accordance with § 94.12(a)(1) and (3)

The hydraulic design capacity of the Donaldson's Crossroads WPCP is 1.2 MGD. The historical hydraulic loadings by month for the past five years of operation (2009-2013) are shown in Table 2. Table 2 also provides the number of equivalent dwelling units (EDUs) served during each operating year. Detailed data for EDU projections has been included in Appendix B. The wastewater flow generated per EDU is calculated for each year. A five-year average flow per EDU is used to project future influent flows.

**Table 2: Donaldson's Crossroads WPCP Hydraulic Loadings (2009-2013)**

Year	Actual Hydraulic Loading				
	Monthly Average Flows (MGD)				
	2009	2010	2011	2012	2013
January	0.815	0.813	0.614	0.919	0.898
February	0.812	0.654	1.195	0.693	0.769
March	0.624	1.066	1.231	0.828	0.758
April	0.672	0.616	1.272	0.536	0.573
May	0.732	0.589	0.994	0.552	0.485
June	0.655	0.614	0.501	0.483	0.561
July	0.608	0.493	0.447	0.509	0.795
August	0.511	0.469	0.491	0.463	0.430
September	0.529	0.488	0.537	0.453	0.421
October	0.589	0.503	0.621	0.663	0.438
November	0.472	0.707	0.771	0.505	0.490
December	0.637	0.707	0.798	0.865	0.780
<b>Annual Average Flow (MGD)</b>	0.638	0.643	0.789	0.622	0.617
<b>Maximum 3-Month Average Flow (MGD)</b>	0.750	0.844	1.233	0.813	0.808
<b>Ratio of Max. 3-Month to Annual Average</b>	1.18	1.31	1.56	1.31	1.31
<b>Total EDUs</b>	2,557	2,621	2,620	2,651	2,807
<b>Residential EDUs</b>	1,795	1,798	1,795	1,807	1,818
<b>Nonresidential EDUs</b>	762	823	825	844	989
<b>Flow per EDU (gpd/EDU)</b>	250	245	301	235	220

Note: Flows in RED are the highest arithmetic mean of three (3) consecutive months for that particular year.

Monthly average flows entering the WPCP ranged from 0.421 MGD to a maximum of 0.898 MGD during the 2013 operating year. Maximum monthly flows have historically been experienced in the late winter and early spring months (January through May), whereas the remaining months generally experience flows closer to the annual average flow or less. The monthly average flow entering the WPCP did not exceed the hydraulic design capacity during any single month or consecutive three-month period in 2013. ***Therefore, the Donaldson's Crossroads WPCP was not hydraulically overloaded during the 2013 operating year.***

It should be noted that the large increase in Non-Residential EDUs in 2013 was due to a combination of moderate increased usage by existing non-residential customers, and the method used by the Authority to calculate Non-Residential EDUs. This method divides the Total Non-Residential Annual Water Consumption by the Annual Average Residential Water Consumption to arrive at Non-Residential EDUs. For 2013, the Average Residential Water Consumption decreased substantially, thereby substantially increasing the calculated Non-Residential EDUs. There were only 2 new Non-Residential EDUs connected to the sewer system during 2013.

The historical loading data is used to project future average monthly flows for the next five years. Average monthly flows are used to calculate the annual average daily flow for each year during the past five years and two maximum flow values are then calculated for each year; the maximum month and the maximum three-month average. The maximum month flow is relevant because Chapter 94 regulations define the hydraulic design capacity of a treatment works as the maximum monthly design flow. Furthermore, the regulations define a hydraulic overload condition as occurring when the monthly average flow entering a plant exceeds the hydraulic design capacity for three consecutive months. A consecutive three-month period during which the monthly average flow of each month exceeds the hydraulic design capacity of the WPCP indicates that the plant may be operating beyond its hydraulic

design capacity. The plant would therefore be deemed hydraulically overloaded, requiring that corrective measures be initiated.

Table 3 is a summary of the hydraulic loading over the past five years (2009 – 2013). The five-year annual average of flows will be used as the basis for determining the projected annual average flows. The maximum three-month flows for the next five years (2014-2018) will be projected based on the five-year average of the ratios of maximum three-month average flows to annual average flows.

**Table 3: Donaldson's Crossroads WPCP Hydraulic Loading Summary (2009-2013)**

Summary of Hydraulic Loading	
5-Year Annual Average of Flows (MGD)	0.662
5-Year Annual Average of Ratios	1.334
5-Year Average of Flows per EDU (gpd)	250
Design Capacity (MGD)	1.20

The maximum monthly average hydraulic loadings are largely dependent on precipitation patterns with flows increasing as precipitation increases due to groundwater infiltration and inflow. A relatively accurate estimate of precipitation influence on the monthly average flow can be calculated assuming that the best predictor of the future 5-year precipitation influence is the most recent historical 5-year precipitation influence. The influence of climate in the future will be more or less equivalent to the influence experienced in the recent past.

Using the five-year average flow as the starting point (0.662 MGD) and adding flows from new EDUs annually, the hydraulic loading for the next five years is projected. The number of growth EDUs is multiplied by the five-year average flow per EDU (250 gpd/EDU) to determine the increase in flow due to growth for each year. The projected annual average flows are shown in Table 4.



**Table 4: Donaldson's Crossroads WPCP Projected Hydraulic Loadings (2014-2018)**

Projected Hyrdraulic Loading				
Year	Previous Flow (MGD)	Additional EDUs (250 gpd/EDU)	Additional Increase in Flow (MGD)	Projected Flow (MGD)
2014	0.662	33	0.008	0.670
2015	0.670	16	0.004	0.674
2016	0.674	15	0.004	0.678
2017	0.678	18	0.005	0.682
2018	0.682	16	0.004	0.686

It is important to note that the EDU growth projections for each of the next five years take the current condition of the economy into consideration. Housing starts have been recovering to some extent while a depressed economy may still be occurring. Therefore, projected new customers per year are considerably less than the recent historical average, with greater recovery in housing starts expected in 2014 or 2015. Thirty three (33) new customers are expected to connect in 2014, with ten (10) of them being part of the Anthony Farms developments.

To determine the three-month maximum flows for the next five years, the projected annual average flow is multiplied by the average of the ratios from the past five years (1.334). This ratio is the maximum three-month average flow to the five-year annual average of flows. The projected flows are contained in Table 5.

**Table 5: Donaldson's Crossroads WPCP Projected 3-Month Maximum Flows (2014-2018)**

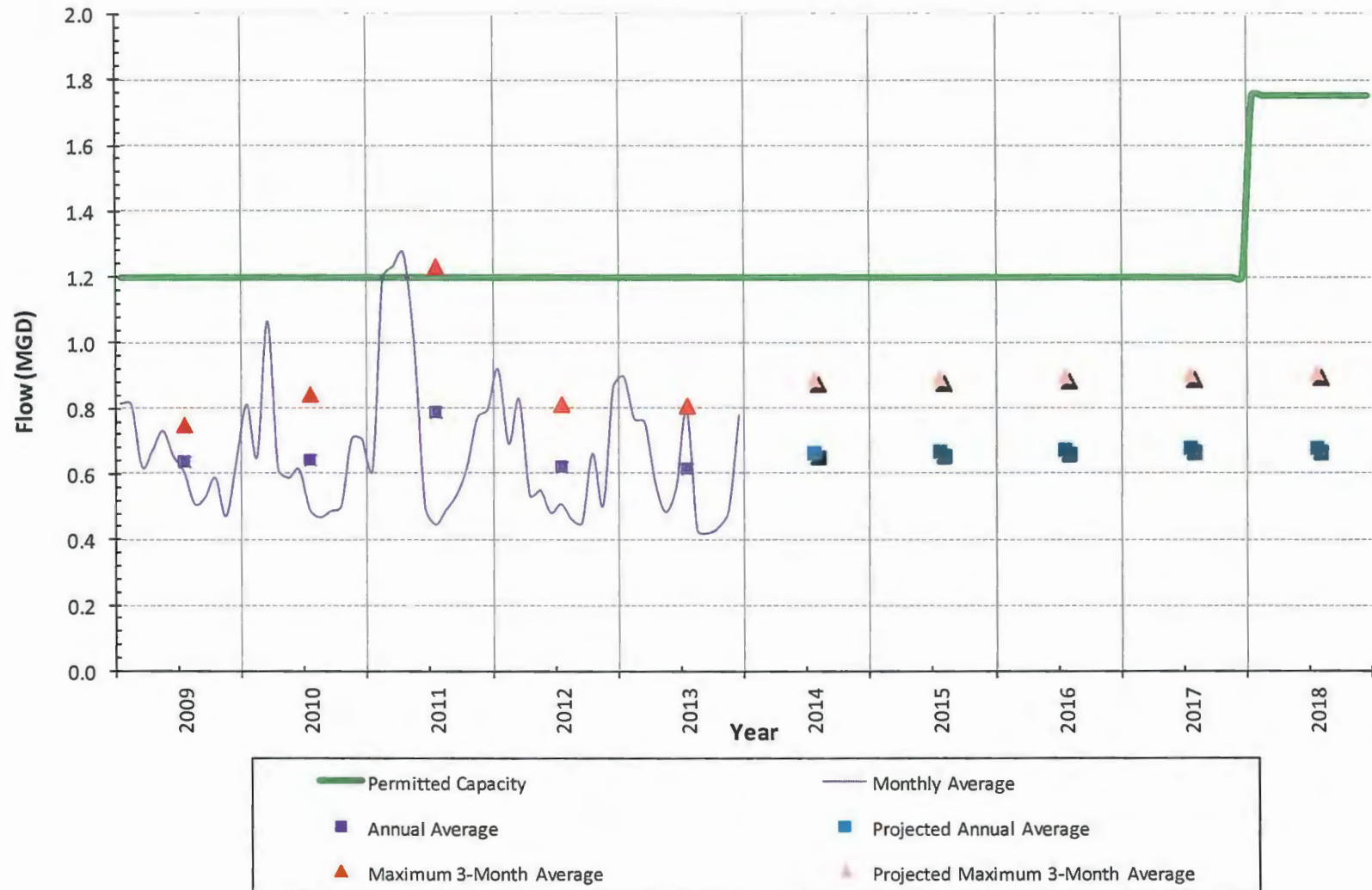
Projected Maximum 3-Month Flows			
Year	Projected Flow (MGD)	Average of 5-Year Ratios	Max 3-Month Projected Flow (MGD)
2014	0.670	1.334	0.894
2015	0.674	1.334	0.899
2016	0.678	1.334	0.904
2017	0.682	1.334	0.910
2018	0.686	1.334	0.915

The hydraulic loading graph on Page 9 illustrates the hydraulic design capacity; the monthly average, annual average, and maximum three-month average flow for the past five years (2009-2013); the projected annual and maximum three-month average flows for the next five years (2014-2018). As evident in the above charts and the graph, the maximum three-month average flows are not expected to exceed the hydraulic design capacity of 1.2 MGD in the next five years. The maximum three-month average flow in 2018 is projected to be 0.915 MGD and it is not likely that the plant will experience flows that exceed the hydraulic capacity before that time. Furthermore, the planned expansion of the WPCP is scheduled to be completed in 2017, which would increase the hydraulic capacity to 1.75 MGD. ***Therefore, the Donaldson's Crossroads WPCP is not projected to be hydraulically overloaded within the next five years.***

Appendix C contains a table comparing the previous years' projected maximum three-month average flows with actual flows since 1999. Referring to the 2008 projected flows for 2013, the Authority projected in the 2008 Wasteload Management Report that the maximum three-month average flow in 2013 would be 1.011 MGD. The actual flow was 0.808 MGD. The 2008 projection was 80% of the actual flow.

# Donaldson's Crossroads Water Pollution Control Plant Hydraulic Loading

Design Capacity = 1.2 MGD  
Increased Design Capacity = 1.75 MGD



### SECTION 3 ORGANIC LOADING

In accordance with § 94.12(a)(2) and (3)

The organic design capacity of the Donaldson's Crossroads WPCP is 1,954 lbs BOD/day. The historical organic loadings by month for the past five years of operation (2009-2013) are shown in Table 6. The organic loading generated per EDU is calculated for each year. A five-year average loading per EDU is used to project future organic loadings.

**Table 6: Donaldson's Crossroads WPCP Organic Loadings (2009-2013)**

Year	Actual Organic Loading				
	Monthly Average BOD <sub>5</sub> Loads (lbs/day)				
	2009	2010	2011	2012	2013
January	2,018	1,686	1,682	1,529	1,847
February	1,923	1,702	1,552	2,247	2,230
March	1,763	1,843	1,462	1,524	1,458
April	1,529	1,350	2,068	1,597	1,366
May	1,519	1,264	2,081	1,779	1,556
June	1,414	1,418	1,605	1,741	1,785
July	1,951	1,452	1,305	1,541	1,639
August	1,324	1,331	1,497	1,675	1,494
September	1,471	1,361	1,347	1,469	1,441
October	1,483	1,594	1,341	1,677	1,524
November	1,563	1,525	1,485	1,605	1,751
December	1,955	1,895	1,902	1,887	1,731
Annual Average Loading	1,659	1,535	1,611	1,689	1,652
Maximum Month Average Loading	2,018	1,895	2,081	2,247	2,230
Ratio of Max. Month to Annual Average	1.22	1.23	1.29	1.33	1.35
Total EDUs	2,557	2,621	2,620	2,651	2,807
Residential EDUs	1,795	1,798	1,795	1,807	1,818
Nonresidential EDUs	762	823	825	844	989
Load per EDU (lbs/day)	0.649	0.586	0.615	0.637	0.589

Note: Load in RED is the highest value for that particular year.



The maximum monthly average organic loading during the 2013 operating year was 2,230 lbs BOD/day, above the design capacity of 1,954 lbs BOD/day. ***Therefore, the Donaldson's Crossroads WPCP was organically overloaded during the 2013 operating year.***

The methodology used to calculate the historical and projected organic loadings is similar to the procedure used for hydraulic loadings with the exception that maximum month organic loadings are used in place of the maximum three-month average loadings. Unlike hydraulic loadings which are dependent on precipitation patterns and the condition of the sewer system, the source of organic loadings is strictly from customers. Organic loadings are expected to incrementally increase as new customers connect to the sewer system. Some inherent variability in organic loadings may exist due to business activity from non-residential sources such as restaurants or the public school system, as does inherent variability due to raw sewage sampling and the analytical procedure used to calculate the BOD concentration of the influent raw sewage. Chapter 94 of the Municipal Wasteload Management regulations defines a facility's organic design capacity as the highest daily organic load at which the facility is expected to provide a specified level of treatment. The regulations define organic overload as occurring when the average daily organic load exceeds the organic design capacity. The average daily organic load is defined as the mean of all samples collected over a calendar month. Any monthly average exceeding the design organic capacity would indicate the facility is operating in an overloaded condition.

While the reported organic loadings exceeded the permitted organic loading capacity during the 2013 operating year, the Authority does not consider the plant to be organically overloaded, but only that it is at its design organic loading, with a projected overload for the following reasons:

1. While we tend to think of all of the values as absolute, the BOD analysis has a coefficient of variation of 15%. Therefore, we may report a BOD loading of 2,250 lbs/day, but we must recognize that the true value may be as low as 1,900 lbs/day.

2. Influent BOD loadings are often influenced by wet weather. High flows after a prolonged dry period may create a first flush event causing a single wet weather day loading to be abnormally high. This, in conjunction with the limited frequency of sampling (usually twice per week) can skew the reported monthly average BOD loadings to appear to be greater than the actual loadings. This is what occurred in February 2013, the only month that influent BOD loadings exceeded the design during 2013. Prior to the wet weather event on February 26<sup>th</sup>, the influent BOD loading for the month averaged only 1,700 lb/days. The wet weather event on February 26<sup>th</sup>, consisting of a first flush after a prolonged dry period, pushed the average BOD loading over 2,000 lbs/day. The Authority now conducts increased sampling frequency during months with wet weather influence to better characterize the true monthly average influent loadings, however the February 26<sup>th</sup> event occurred too late in the month to allow increased frequency of sampling.
3. Although the maximum month loading exceeded the organic design capacity of the WPCP, all final plant effluents were in compliance with the NPDES Permit discharge limits.
4. The WPCP does not generate the pounds of biosolids that would be expected from the reported organic loadings, suggesting that the Authority's raw influent sampling and analysis may be over quantifying the true BOD loadings.

The Authority recognizes that a plant expansion and upgrade will be required to ensure that adequate capacity is available to provide for the potential growth in the service area, while continuing to comply with the NPDES Permit discharge limits. An Act 537 Plan Update was completed in 2010, with PADEP approval in March 2011. The WPCP expansion is expected to be completed in 2017. The WPCP expansion will result in an increase in organic capacity to 2,900 lbs BOD/day, eliminating the current and projected organic overload conditions.

Table 7 is a summary of the organic loading over the past five years (2009 – 2013). The five-year annual average of organic loadings will be used as the basis for determining the projected annual average loadings. The maximum month loadings for the next five years

(2014-2018) will be projected based on the five-year average of the ratios of maximum month loadings to annual average loadings.

**Table 7: Donaldson's Crossroads WPCP Organic Loading Summary (2009-2013)**

Summary of Organic Loading	
5-Year Annual Avg. of Loads (lbs/day)	1,629
5-Year Annual Average of Ratios	1.285
5-Year Avg. of Loads per EDU (lbs/day)	0.615
Design Capacity (lbs/day)	1,954

Using the five-year average load as the starting point (1,629 lbs BOD/day) and then adding loads from new EDUs annually, the organic loadings for the next five years are projected. The number of growth EDUs is multiplied by the five-year average load per EDU (0.615 lbs BOD/day) to determine the increase in organic loading due to growth for each year. The projected annual average organic loadings are shown in Table 8.

**Table 8: Donaldson's Crossroads WPCP Projected Organic Loadings (2014-2018)**

Projected Organic Loadings				
Year	Previous BOD <sub>5</sub> Load (lbs/day)	Additional EDUs (0.615 ppd/EDU)	Additional BOD <sub>5</sub> Load (lbs/day)	Projected BOD <sub>5</sub> Load (lbs/day)
2014	1,629	33	20.3	1,650
2015	1,650	16	9.8	1,659
2016	1,659	15	9.2	1,669
2017	1,669	18	11.1	1,680
2018	1,680	16	9.8	1,690

To determine the maximum month loadings for the next five years, the projected annual average loads are multiplied by the average of the ratios from the past five years (1.285). This ratio is the maximum month average load to annual average. The projected loadings are contained in Table 9.

**Table 9: Donaldson's Crossroads WPCP**  
**Projected Maximum Month Organic Loadings (2014-2018)**

Projected Maximum Month Organic Loading			
Year	Projected BOD <sub>5</sub> Load (lbs/day)	Average of Ratios	Max. Month Projected Load (lbs/day)
2014	1,650	1.285	2,119
2015	1,659	1.285	2,132
2016	1,669	1.285	2,143
2017	1,680	1.285	2,158
2018	1,690	1.285	2,170

The organic loading graph on Page 16 illustrates the organic design capacity; the monthly average, annual average and maximum month loads for the past five years (2009-2013); the projected annual and maximum month load for the next five years (2014-2018). As evident in the charts and the graph, the maximum month loads are expected to exceed the organic design capacity of 1,954 lbs BOD/day in the next five years. The maximum month average loading in 2018 is projected to be 2,170 lbs BOD/day and it is likely that the plant will experience loadings that exceed the organic capacity before that time. ***Therefore, the Donaldson's Crossroads WPCP is projected to be organically overloaded within the next five years.***

The WPCP expansion is expected to be completed in 2017. The WPCP expansion will result in an increase in organic capacity to 2,900 lbs BOD/day, eliminating the current and projected organic overload conditions.

The 2013 annual average organic loading per EDU was 0.589 lbs/day BOD with the historical 5-year average loading at the value of 0.615 lb BOD/day. The service area includes a substantial number of restaurants located along Route 19 in the Township. These establishments are believed to be a source of high organic loadings.

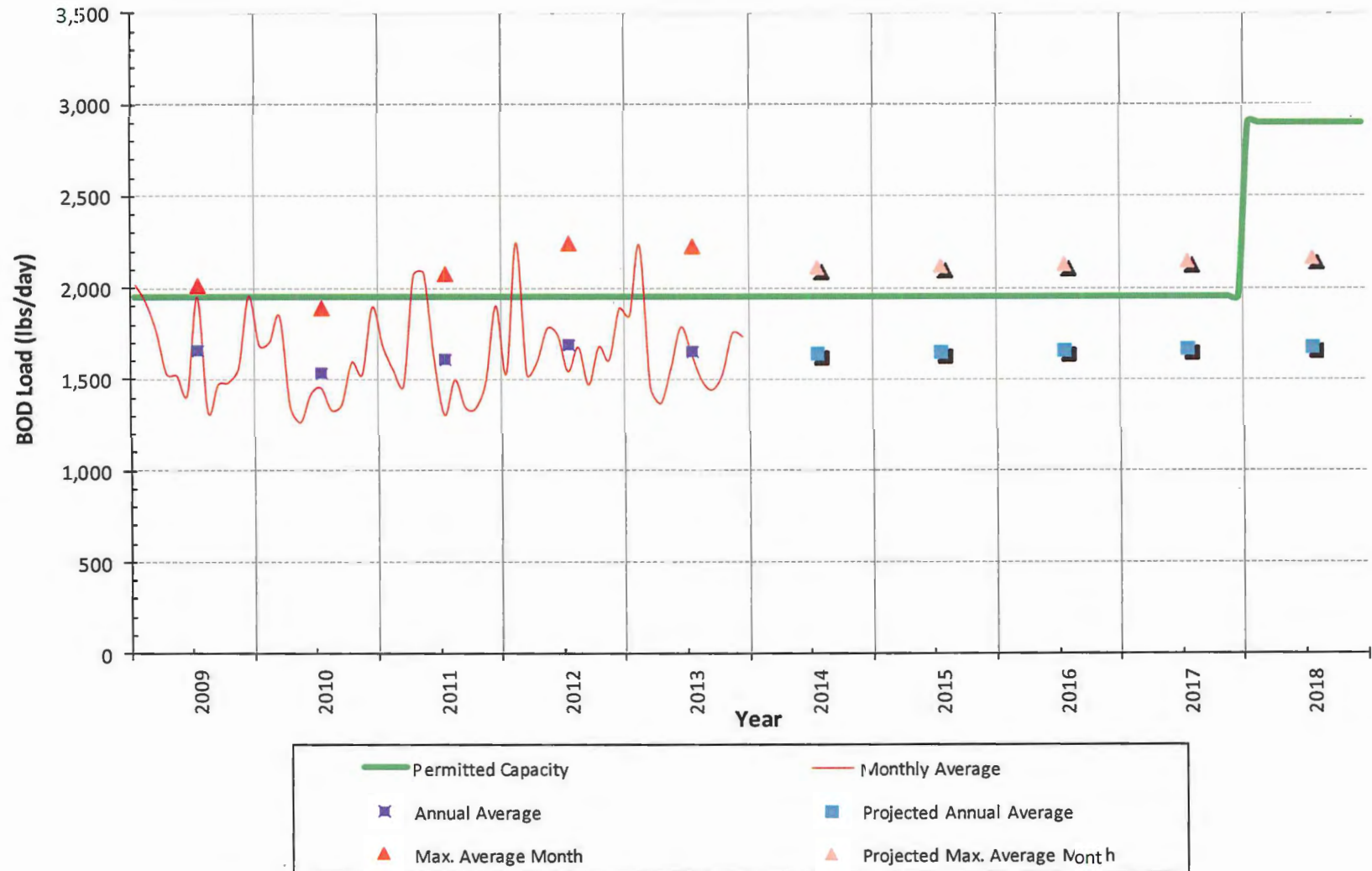


Based on 2010 census data, the average household in Peters Township has 2.88 persons/household. Therefore, the 2013 annual average BOD per EDU translates to 0.20 lbs/person. This value compares reasonably with PADEP design standards which suggest 0.22 lbs/capita.

The Authority has adopted a Tap and Organic Loading Management Plan attempting to further reduce organic loadings at the Donaldson's Crossroads WPCP. Appendix D presents an amended Tap and Organic Loading Management Plan. During the 2013 operating year, 14.5 taps were sold, consisting of 12 residential and 2 non-residential taps. The Tap and Organic Loading Management Plan continues efforts targeting BOD source reduction by stricter enforcement of the Authority's restaurant grease trap maintenance requirements and public outreach to the restaurant managers to use best management practices to limit the food waste BOD entering the sanitary sewer system. In 2013, a total of 39 grease traps were inspected in the Donaldson's Crossroads sewershed. The Authority adopted Resolution 07-11-09 strengthening its enforcement pertaining to pretreatment requirements for food service establishments. A copy of the Resolution is included in Appendix D.

# Donaldson's Crossroads Water Pollution Control Plant Organic Loading

Design Capacity = 1,954 lbs/day  
Increased Design Capacity = 2,900 lbs/day



## **SECTION 4     BIOSOLIDS DISPOSAL**

Liquid waste biosolids from the WPCP's aerobic treatment process are conveyed to aerobic digesters where they are mixed and aerated until stabilized. The stabilized biosolids from Donaldson's Crossroads WPCP are periodically loaded to a tanker truck and transferred to the Authority's Brush Run WPCP. The biosolids liquid is off-loaded to the Brush Run digester and is withdrawn for dewatering by a belt filter press. Dewatered solids are conveyed to a roll-off dumpster that is periodically transported to Arden Landfill in Washington County.

Annual biosolids production and processing data is included in Appendix E of this report. In 2013 the Donaldson's Crossroads WPCP produced a total of 118 dry tons.

A more detailed discussion of biosolids dewatering can be found in the Brush Run Municipal Wasteload Management Report. This included the Specific Oxygen Uptake Rate (SOUR) testing of the digested liquid biosolids prior to dewatering, and the % dry solids created by the dewatering process and transported for off-site disposal.

## **SECTION 5     INDUSTRIAL WASTE**

In accordance with § 94.12(a)(8)

The collection and conveyance system primarily serves residential customers, with service to a number of commercial customers, consisting of office, retail and food service establishments. Currently, there are no industrial discharges to the Donaldson's Crossroads WPCP or Sewer System; therefore, industrial waste regulations have not been included in the appendices to this report.

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

In accordance with § 94.12(a)(6)

The overall condition of the collector and interceptor sewers in the Donaldson's Crossroads sewershed is considered fair to good. The Authority's major concern with the condition of the sewer system is infiltration and inflow (I&I). A substantial portion of the public and private

building sewers in the Authority's sewer system were constructed 30 to 45 years ago, and contribute substantial volumes of I&I during and immediately after substantial precipitation events.

In 1997 the Authority initiated an aggressive systematic review of its sewer system, and now routinely invests \$500,000 to \$700,000 annually on sewer system rehabilitation, repair and replacement projects. While this effort has produced measurable reductions in infiltration volume, wet weather peak flows are of the same magnitude as they were in 1997. During unusually heavy rainfall events, short term, localized interceptor surcharging occurs, and during the most severe events, manhole overflows are experienced at two locations. In response to these issues, the Authority initiated an expansion of its program to manage wet weather flows. This includes the development of a building sewer inspection program to identify excess infiltration originating on private property and the elimination of such. A new supervisory staff position was created to develop and manage the inspection program. Furthermore, the Authority's interceptor capacity will be expanded in conjunction with the planned WPCP expansion, reducing or eliminating the wet weather surcharge conditions. The Donaldson's Crossroads Act 537 Plan Update includes provisions for interceptor capacity augmentation. The PADEP approved the Act 537 Plan Update on March 17, 2011. The WPCP expansion is expected to be completed in 2017.

## **SECTION 7     PUMPING STATIONS**

In accordance with § 94.12(a)(7)

The Authority owns, operates and maintains two sewage pumping stations in the Donaldson's Crossroads Sewer System. These pumping stations are listed as follows:

- Stratford Manor
- Waterdam Plaza

More information, including statistics, permit numbers and homes served is included in Appendix F. Table 10 identifies the station design capacity, actual maximum pumping rate,



present maximum monthly daily average flow and the projected two-year maximum month daily average flow for each station.

**Table 10: 2013 Pump Station Summary for the Donaldson's Crossroads Sewershed**

Pump Station	Stratford	Waterdam
Pump Rate (gpm) <sup>1</sup>	136.0	134.0
Actual Station Capacity (gpd) <sup>2</sup>	195,840	192,960
Design Station Capacity (gpd)	144,000	223,000
Total Annual Run Hours <sup>3</sup>	768.53	822.00
Run Time (% of available hours)	8.8%	9.4%
Annual Average Daily Pumped Volume (gpd)	17,181	18,085
Max Month Run Hours	115.4	83.9
Run Time (% of available hours)	15.5%	11.3%
Max Month Average Daily Pumped Volume (gpd)	30,376	21,760
Projected 2-year Max Month Average Day Volume (gpd)	30,500	22,000

<sup>1</sup>Pump Rate was determined from the annual pump test and is the average pump rate of the two pumps.

<sup>2</sup>Actual Station Capacity is the Pump Rate multiplied by 1,440 minutes/day.

<sup>3</sup>Total Annual Run Hours are recorded on the panel meter and is the total run time for both service pumps.

As can be seen from the table, the maximum month daily flow for each pump station ranges from 11% to 15% of the station design capacity, indicating there is substantial reserve capacity at both pump stations.

The flow data presented in Table 10 was obtained from a combination of permanent flow meters at the Stratford Manor pump station, run time meters and draw down tests for the Waterdam Station using an electronic pump station analyzer. Pump station statistics and station analyzer reports can be found in Appendix F.

Each pump station is equipped with an automatic telephone dialer for automatic notification of equipment failure, loss of power and high wet well level. The dialers are programmed to call the Authority's emergency cell phone so that crews can be dispatched immediately regardless of the time of day to investigate the cause of the fault and correct it.

## **SECTION 8 SEWER EXTENSIONS**

In accordance with § 94.12(a)(4)

The sewer extensions accepted include the following:

- Sewer extensions completed in 2013
  - None
- Pending sewer extensions
  - Anthony Farms II – 3,858 LF of 8" PVC serving 20 EDUs

## **SECTION 9 SEWER SYSTEM MONITORING, MAINTENANCE, REPAIR AND REHABILITATION**

In accordance with § 94.12(a)(5)

The Authority is responsible for operation, maintenance, administration, sampling and monitoring of the Donaldson's Crossroads WPCP. Operations generally fall into three categories; permit compliance, process optimization, and facilities operations.

Permit Compliance: Treatment process monitoring and sampling is performed in accordance with State and Federal NPDES requirements and the specific requirements of NPDES Permit No. PA0028703. Table 11 lists the wastewater and treated effluent parameters that are monitored and analyzed to satisfy these requirements. The NPDES permit discharge limits for the Donaldson's Crossroads facility are included in Appendix A.

**Table 11: Donaldson's Crossroads WPCP Monitoring Requirements**

Parameter	Frequency	Sample Type	Sample Location
Total Flow	Continuous	Recorder	Influent
BOD5	2 per week	24-hr composite	Influent
CBOD5	2 per week	24-hr composite	Influent & Effluent
Suspended Solids	2 per week	24-hr composite	Influent & Effluent
Ammonia-Nitrogen	2 per week	24-hr composite	Influent & Effluent
Dissolved Oxygen	5 per week	Grab	Influent & Effluent
Fecal Coliform	2 per week	Grab	Effluent
pH	Daily	Grab	Influent & Effluent
Total Residual Chlorine	Daily	Grab	Effluent

During 2013, PTSA's on-site laboratory maintained Environmental Laboratory Accreditation under Title 25, Chapter 252, of the Pennsylvania Code. The Brush Run WPCP's accreditation certificate number was 006-002 during the 2013 operating year. Certificate 006-002 had an expiration date of January 31, 2014. The Authority has since received Certificate 007-001, expiring January 31, 2015. The PADEP Lab Number at the Brush Run WPCP is 63-00908. The Donaldson's Crossroads WPCP laboratory, where process monitoring and DMR grab sample analyses are performed, has accreditation by rule. The PADEP Lab Number is 63-00909.

Process Optimization: The Authority's operators also regularly collect samples and monitor parameters in addition to those identified in the table above in order to ensure proper operation of the treatment process. Examples of process optimization monitoring include sampling the treatment process between the plant influent and final effluent sampling locations, tracking mixed liquor suspended solids and volatile solids, and settleable solids. Sample locations include the aeration tanks, clarifiers, and aerobic digesters. Third-party, independent calibration reports for the WPCP flow meters are included in Appendix G.

Facility Equipment Operations: The Authority staff also maintains and operates the necessary mechanical equipment that drives the process, including blowers, pumps and other equipment. The scope of operation and maintenance for this equipment covers both preventive maintenance and repairs. The Authority maintains a computerized equipment maintenance database and inventory. All equipment, including standby equipment, is kept

operational all times. When an equipment failure occurs, it is either repaired immediately by staff, or if necessary, sent out to a qualified equipment repair shop for immediate repair. All equipment is considered to be in satisfactory condition and properly maintained.

The Authority is also responsible for the maintenance and repair of approximately 42.25 miles of public sewer in the Donaldson's Crossroads Sewer System. A copy of the PTSA System Index Map is provided in Appendix H. The sewer system is maintained, monitored and rehabilitated by the Authority's staff, which consists of six maintenance personnel under the direction of the Authority Manager. Equipment owned by the Authority for maintenance and repair includes the following:

- High-Pressure Jet Cleaning and Vacuum Truck
- Closed-Circuit Video System with both main line and lateral cameras
- 4,000 Gallon Tanker Truck
- Trailer Mounted Emergency Generator (capable of providing power to any of the Authority's pump stations)
- 6-inch Trailer Mounted Diesel Trash Pump (emergency backup for pump stations)
- 4-inch, 3-inch and 2-inch gasoline powered trash pumps
- 7 Open Channel Flow Meters
- 2 automatic composite samplers

Furthermore, the Authority maintains a Geographical Information System (GIS) in conjunction with Peters Township, wherein all public sanitary sewers are graphically displayed along with properties, roads, streams and contours. The Authority continues to expand its GIS system to enhance its maintenance records and sewer mapping abilities.

The Authority defines maintenance as either preventive or emergency maintenance. Preventive maintenance operations include routine inspections of manholes and sewers, and scheduled inspections of all pump stations two times each week. Manholes are inspected with greater frequency during high ground water periods. When leaks are found, they are



documented and repaired. The Authority's preventative maintenance goal includes closed circuit television inspection of 24,000 LF of sewer (Brush Run and Donaldson's Crossroads Sewer Systems combined) on an annual basis, which provides for a 15-year re-inspection cycle for its non-PVC sewer segments. Beginning in 2009, the Authority began regular inspection of PVC sewers. During 2013, 10,667 LF of sewer was inspected with closed circuit television (CCTV) equipment. Of the 10,667 LF televised in 2013, 1,125 LF was in the Donaldson's Crossroads sewershed.

Emergency maintenance operations would include the repair of broken sewers or force mains, cleaning and debris removal from blocked sewer lines, and repair of damaged manholes. The Authority's maintenance plan includes a target of rehabilitating and/or replacing 12,000 linear feet of sewer annually. Rehabilitation methods routinely used include point repairs followed by test and grout of sewer joints; Cured-in-Place (CIP) lining; and complete in-trench replacement of sewer and manholes.

Tasks undertaken by the Authority in 2013 in regards to sanitary sewer rehabilitation and maintenance in both the Brush Run and Donaldson's Crossroads sewersheds are described as follows:

- Three (3) inflow protectors were installed in manholes.
- Ten (10) manholes were excavated and adjusted to grade.
- Televised a total of 10,667 feet of public sewer including 5,463 feet of the East Edgewood Drive sanitary sewers.
- Staff performed two repairs on the Rutledge Drive Pump Station's force main.
- Upgraded the motor starters at the Stratford Drive Pump Station. This will allow for automatic restart of the pumps upon power failure, and thereby minimize staff callouts for short-duration power failures.

- Procured a portable generator and a grinder pump control panel for responding to prolonged power failures for our Irishtown Road customers served by Authority owned grinder pumps.
- Staff replaced approximately 8 LF of sanitary sewer along Marble Drive along with manhole invert improvements.
- Completed stream bank stabilization to area eroded during the July 10, 2013 100-year flood on Brush Run to protect our Valleybrook Interceptor in the vicinity of 539 Valleybrook Road.
- Cleaned the Waterdam Plaza Pump Station force main. The cleaning reduced the pumps' total dynamic head, which will serve to minimize pump wear as well as power consumption.
- Replaced the Waterdam Plaza Pump station automatic telephone dialer.
- Completed testing, grouting and trenchless Cured-in-Place Pipe (CIPP) repairs in the Stratford Manor area.
- Applied chemical root control to 2,132 LF of sewers previously found to have heavy root intrusion. The root control application will be placed on a 5-year recurring basis, unless the sewers with heavy root intrusion are either CIPP lined or replaced.
- Staff performed 225 dye tests on homes for property transfers. Of the testing performed 21.33% of the properties failed due to a major inflow or infiltration source, compared to the prior long-term average of 13%.
- Replaced the signal cable on the building sewer camera.
- Uncovered 5 manholes located on individuals properties with an additional 4 in the process of notification or repair. This work is at the property owners' cost.
- Performed 52 Grease trap inspections of food service establishments.
- Conducted post-repair contracted flow monitoring of the Friar Lane and East Edgewood sewers for the pilot project, and continued flow monitoring through mid-summer with the Authority's open channel flow monitors. Preliminary evaluation of the flow monitoring results indicates measurable reduction of peak flow infiltration in the Friar Lane sewers when compared to the reference sewershed (East Edgewood).

## SECTION 10 REVIEW OF OVERLOAD CONDITIONS

In accordance with § 94.12(a)(9)

As previously discussed, the Donaldson's Crossroads WPCP was not hydraulically overloaded during the 2013 operating year, nor is it projected to be hydraulically overloaded in the next five years (2014-2018). Furthermore, the WPCP expansion will result in an increase in hydraulic capacity to 1.75 MGD.

The Donaldson's Crossroads WPCP was organically overloaded during the 2013 operating year, and is projected to be organically overloaded in the next five years (2014-2018). As previously discussed, the Authority considers the WPCP to be organically loaded to capacity, but not overloaded. However, by PADEP definition, the plant is organically overloaded. The Authority is actively working to eliminate this overload condition through various efforts including an expansion of the WPCP expected to be completed in 2017. The WPCP expansion will result in an increase in organic capacity to 2,900 lbs BOD/day, eliminating the current and projected organic overload conditions.

## SECTION 11 CERTIFICATION

In accordance with § 94.12(a)

I certify that the information provided in this report is true and correct to the best of my knowledge and belief.



James J. Miskis, Manager  
Peters Township Sanitary Authority



Chad E. Hanley, P.E., Reviewer  
KLH Engineers, Inc.



Samuel R. Gibson, E.I.T., Preparer  
KLH Engineers, Inc.

# **APPENDIX A**

## **NPDES Permit Discharge Limits**



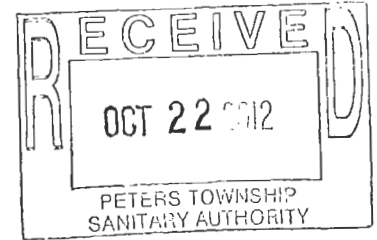


# pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office

OCT 19 2012



**CERTIFIED MAIL NO. 7000 1670 0005 1017 7567**

COPY

James Miskis  
Peters Township Sanitary Authority  
111 Bell Drive  
Memurray, PA 15317-6403

Re: Sewage  
Donaldson Crossroads WPCP  
NPDES Permit No. PA0028703  
APS ID No. 788809  
Peters Township  
Washington County

Dear Mr. Miskis:

Your Permit is enclosed. Review it carefully, with special attention to the effluent limitations, monitoring requirements, and other requirements in Part C of the permit.

Please note that this NPDES permit renewal has an effective date of April 1, 2013. The terms and conditions of your present permit, which bears an expiration date of March 31, 2013, will remain in full force and effect until the effective date of your new permit.

In response to your October 15, 2012 the definitions for "Indirect Discharger" and "Industrial User" are consistent with the definitions described in the Code of Federal Regulations (CFR). We do not have the authority to revise definitions listed in the CFR. You are correct however, in assuming wastewater discharge of a domestic nature from commercial facilities do not transform such commercial facilities into industrial users. Reference is made to the current Long Form NPDES Application. That application makes clear that only Pollutant Group 1 parameters are required to be analyzed and provided with the application if only sanitary wastewater is discharged into the conveyance system.

A Discharge Monitoring Report (DMR) and Supplemental Reporting Forms are included. The master DMR will be prepared and distributed by the U.S. Environmental Protection Agency (EPA) in the near future. Use the enclosed DMR Form until you receive a master from EPA. The reporting forms must be submitted to the Department and the EPA Regional Office as instructed in the permit and the enclosed Instruction Sheet.

A copy of an original "Discharge Monitoring Report - Supplemental Sewage Sludge Report" is enclosed. You should make a supply of copies for future use. Please follow the instructions and submit copies of the completed form, as an attachment to the DMR, to each of the addresses listed in Part C of the permit.

Please note that on October 9, 2010, new NPDES regulations at 25 Pa. Code Chapter 92a became effective. These regulations represent an extensive reorganization of Chapter 92 such that it follows the organization of the corresponding Federal regulations set forth in 40 CFR Part 122. The regulations also set forth a new NPDES fee structure designed to cover the Commonwealth's share of administering the NPDES program. In addition, several new provisions incorporating recent requirements established under the Federal program have been added, and minimum treatment requirements based on the secondary treatment standard for discharges of treated sewage have been established. Please review your permit closely so that you are familiar with the changes that resulted from these new regulations.

Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 Pa. C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, PO Box 8457, Harrisburg, PA 17105-8457, 717.787.3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800.654.5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in braille or on audiotape from the Secretary to the Board at 717.787.3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST REACH THE BOARD WITHIN 30 DAYS. YOU DO NOT NEED A LAWYER TO FILE AN APPEAL WITH THE BOARD.

IMPORTANT LEGAL RIGHTS ARE AT STAKE, HOWEVER, SO YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD (717.787.3483) FOR MORE INFORMATION.

If you have any questions, please call me at 412.442.4056.

Sincerely,



Donald Leone, P.E.  
Environmental Engineer Manager  
Clean Water Program

Enclosures

cc: U. S. Environmental Protection Agency

pennsylvania  
DEPARTMENT OF ENVIRONMENTAL PROTECTIONCOMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENTAUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
DISCHARGE REQUIREMENTS FOR PUBLICLY OWNED  
TREATMENT WORKS (POTWs)

NPDES PERMIT NO: PA0028703

In compliance with the provisions of the Clean Water Act, 33 U.S.C. Section 1251 *et seq.* ("the Act") and Pennsylvania's Clean Streams Law, as amended, 35 P.S. Section 691.1 *et seq.*,

Peters Township Sanitary Authority  
111 Bell Drive  
McMurray, PA 15317-6403

is authorized to discharge from a facility known as Donaldson Crossroads Water Pollution Control Plant, located in Peters Township, Washington County, to Chartiers Creek in Watershed 20-F in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts A, B and C hereof.

THIS PERMIT SHALL BECOME EFFECTIVE ON APRIL 1, 2013THIS PERMIT SHALL EXPIRE AT MIDNIGHT ON MARCH 31, 2018

The authority granted by this permit is subject to the following further qualifications:

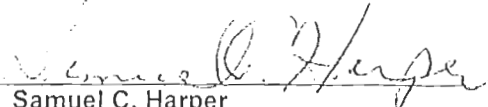
1. If there is a conflict between the application, its supporting documents and/or amendments and the terms and conditions of this permit, the terms and conditions shall apply.
2. Failure to comply with the terms, conditions or effluent limitations of this permit is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. (40 CFR 122.41(a))
3. A complete application for renewal of this permit, or notice of intent to cease discharging by the expiration date, must be submitted to DEP at least 180 days prior to the above expiration date (unless permission has been granted by DEP for submission at a later date), using the appropriate NPDES permit application form. (40 CFR 122.41(b), 122.21(d))

In the event that a timely and complete application for renewal has been submitted and DEP is unable, through no fault of the permittee, to reissue the permit before the above expiration date, the terms and conditions of this permit, including submission of the Discharge Monitoring Reports (DMRs), will be automatically continued and will remain fully effective and enforceable against the discharger until DEP takes final action on the pending permit application. (25 Pa. Code 92a.7(b), (c))

4. This NPDES permit does not constitute authorization to construct or make modifications to wastewater treatment facilities necessary to meet the terms and conditions of this permit.

DATE PERMIT ISSUED OCT 19 2012

ISSUED BY

  
Samuel C. Harper  
Clean Water Program Manager  
Southwest Regional Office

**PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS**

I. A. For Outfall 001, Latitude 40° 16' 41.00", Longitude 80° 8' 10.00", River Mile Index 27.12, Stream Code 36777

Receiving Waters: Chartiers Creek

Type of Effluent: Treated Sewage

1. The permittee is authorized to discharge during the period from Permit Effective Date through Permit Expiration Date.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	2/week	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	2/week	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.5	XXX	1.6	30/month	Grab
CBOD5	250.4	375.5	XXX	25	37.5	50	2/week	8-Hr Composite
BOD5								8-Hr
Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/week	Composite
Total Suspended Solids								8-Hr
Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/week	Composite
Total Suspended Solids	300.4	450.6	XXX	30	45	60	2/week	8-Hr Composite
Fecal Coliform (CFU/100 ml)								
May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/week	Grab

Outfall 001, Continued (from Permit Effective Date through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/week	Grab
Ammonia-Nitrogen May 1 - Oct 31	90.1	135.2	XXX	9.0	13.5	18.0	2/week	8-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	200.3	300.4	XXX	20.0	30.0	40.0	2/week	8-Hr Composite

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001



## PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

I. B STORM WATER OUTFALLS\*

- A. The permittee is authorized to discharge during the period from Effective Date through Expiration Date.
- B. The outfalls listed below are permitted to discharge uncontaminated storm water runoff from areas in and around the treatment plant.

[illegible]

\* Refer to Part C for specific requirements associated with storm water outfalls.

## **APPENDIX B**

### **EDU Calculations**

PETERS TWP SANITARY AUTHORITY

Non-Residential EDU Equivalent Calculation

YEAR	Total Non Res Consump (actual data) from PTSA budget report	Ann Avg Res Consump (actual data) from PTSA budget report	QRTLY K gal.	Non Res EDUs (calculated)	Proportional split based on 1999 data	
					BR (35%)	DC (65%)
1997	60,300,000	68800	17.2	876	307	570
1998	64,535,000	67200	16.8	960	336	624
1999	66,695,000	70000	17.5	953	333	619
2000	65,325,000	67200	16.8	972	340	632
2001	67,317,000	66400	16.6	1014	355	659
2002	66,003,000	66800	16.7	988	346	642
2003	67,400,000	64100	16.0	1051	368	683
2004	70,300,000	61400	15.4	1145	401	744
2005	80,539,000	63000	15.8	1278	447	831
2006	72,819,000	60700	15.2	1200	420	780
2007	79,714,000	61400	15.4	1298	454	844
2008	69,750,000	58,980	14.7	1183	414	769
2009	68,134,000	58,100	14.5	1173	410	762
2010	72,806,227	57,515	14.4	1266	443	823
2011	73,644,657	58,038	14.5	1269	444	825
2012	74,029,500	57,000	14.25	1299	455	844
2013	80,945,735	53,200	13.30	1522	533	989

	BR RES	BR TOTAL		DC RES	DC TOTAL		GRAND TOTAL
1997	2955	3262		1701	2271		5532
1998	2991	3327		1703	2327		5654
1999	3053	3386		1713	2332		5719
2000	3144	3484		1729	2361		5845
2001	3201	3556		1740	2399		5955
2002	3274	3620		1755	2397		6017
2003	3365	3733		1770	2453		6186
2004	3459	3860		1790	2534		6394
2005	3553	4000		1802	2633		6633
2006	3631	4051		1821	2601		6652
2007	3667	4121		1828	2672		6793
2008	3704	4118		1831	2600		6718
2009	3768	4178		1795	2557		6736
2010	3790	4233		1798	2621		6854
2011	3811	4255		1795	2620		6875
2012	3859	4314		1807	2651		6965
2013	3883	4416		1818	2807		7223

## **APPENDIX C**

### **Comparison of Historical Projections**

Donaldson Crossroads WPCP  
Chapt 94 Projection vs Actual

3-month Max Flow					Max month BOD			
	Proj	Actual	Difference	% of Proj.	Proj	Actual	Difference	% of Proj.
<b>1999 Projected</b>								
2000	0.773	0.672	0.101	86.93%	1927	1670	257	86.66%
2001	0.777	0.722	0.055	92.92%	1937	1744	193	90.04%
2002	0.781	0.703	0.078	90.01%	1946	1637	309	84.12%
2003	0.785	0.890	-0.105	113.38%	1956	1676	280	85.69%
2004	0.789	0.954	-0.165	120.91%	1965	1847	118	93.99%
<b>2000 Projected</b>								
2001	0.775	0.722	0.053	93.16%	1924	1744	180	90.64%
2002	0.778	0.703	0.075	90.36%	1934	1637	297	84.64%
2003	0.782	0.890	-0.108	113.81%	1943	1676	267	86.26%
2004	0.786	0.954	-0.168	121.37%	1952	1847	105	94.62%
2005	0.789	1.200	-0.411	152.09%	1960	1949	11	99.44%
<b>2001 Projected</b>								
2002	0.761	0.703	0.058	92.38%	1904	1637	267	85.98%
2003	0.765	0.890	-0.125	116.34%	1914	1676	238	87.57%
2004	0.769	0.954	-0.185	124.06%	1923	1847	76	96.05%
2005	0.772	1.200	-0.428	155.44%	1932	1949	-17	100.88%
2006	0.776	0.763	0.013	98.32%	1940	2144	-204	110.52%
<b>2002 Projected</b>								
2003	0.744	0.890	-0.146	119.62%	1810	1676	134	92.60%
2004	0.749	0.954	-0.205	127.37%	1822	1847	-25	101.37%
2005	0.753	1.200	-0.447	159.36%	1831	1949	-118	106.44%
2006	0.756	0.763	-0.007	100.93%	1839	2144	-305	116.59%
2007	0.759	0.995	-0.236	131.09%	1847	2001	-154	108.34%
<b>2003 Projected</b>								
2004	0.779	0.954	-0.175	122.46%	1781	1847	-66	103.71%
2005	0.784	1.200	-0.416	153.06%	1792	1949	-157	108.76%
2006	0.788	0.763	0.025	96.83%	1801	2144	-343	119.04%
2007	0.792	0.995	-0.203	125.63%	1809	2001	-192	110.61%
2008	0.795	1.032	-0.237	129.81%	1816	2336	-520	128.63%
<b>2004 Projected</b>								
2005	0.799	1.200	-0.401	150.19%	1728	1949	-221	112.79%
2006	0.804	0.763	0.041	94.90%	1739	2144	-405	123.29%
2007	0.809	0.995	-0.186	122.99%	1750	2001	-251	114.34%
2008	0.814	1.032	-0.218	126.78%	1760	2336	-576	132.73%
2009	0.819	0.750	0.069	91.58%	1771	2337	-566	131.96%
<b>2005 Projected</b>								
2006	0.900	0.763	0.137	84.78%	1780	2144	-364	120.45%
2007	0.905	0.995	-0.090	109.94%	1790	2001	-211	111.79%
2008	0.911	1.032	-0.121	113.28%	1801	2336	-535	129.71%
2009	0.916	0.750	0.166	81.88%	1812	2018	-206	111.37%
2010	0.921	0.845	0.076	91.75%	1823	1895	-72	103.95%
<b>2006 Projected</b>								
2007	0.908	0.995	-0.087	109.58%	1859	2001	-142	107.64%
2008	0.913	1.032	-0.119	113.03%	1870	2336	-466	124.92%
2009	0.918	0.750	0.168	81.70%	1881	2018	-137	107.28%
2010	0.924	0.845	0.079	91.45%	1892	1895	-3	100.16%
2011	0.929	1.232	-0.303	132.62%	1903	2081	-178	109.35%
<b>2007 Projected</b>								
2008	0.949	1.032	-0.083	108.75%	1900	2336	-436	122.95%
2009	0.953	0.750	0.203	78.70%	1907	2018	-111	105.82%
2010	0.958	0.845	0.113	88.20%	1919	1895	24	98.75%
2011	0.964	1.232	-0.268	127.80%	1930	2081	-151	107.82%
2012	0.970	0.813	0.157	83.81%	1941	2247	-306	115.77%
<b>2008 Projected</b>								
2009	0.985	0.750	0.235	76.14%	2051	2018	33	98.39%
2010	0.990	0.845	0.145	85.35%	2061	1895	166	91.95%
2011	0.997	1.232	-0.235	123.57%	2076	2081	-5	100.24%
2012	1.006	0.813	0.193	80.82%	2094	2247	-153	107.31%
2013	1.011				2106			
<b>2009 Projected</b>								
2010	0.946	0.845	0.101	89.32%	2097	1895	202	90.37%
2011	0.966	1.232	-0.266	127.54%	2142	2081	61	97.15%
2012	0.977	0.813	0.164	83.21%	2167	2247	-80	103.69%
2013	0.985	0.808	0.177	82.03%	2185	2230	-45	102.06%
2014	0.994				2204			



Donaldson Crossroads WPCP  
Chapt 94 Projection vs Actual

<b>2010 Projected</b>								
2011	0.891	1.232	-0.341	138.27%	2119	2081	38	98.21%
2012	0.899	0.813	0.086	90.43%	2139	2247	-108	105.05%
2013	0.908	0.808	0.100	88.99%	2160	2230	-70	103.24%
2014	0.917				2180			
2015	0.925				2200			
<b>2011 Projected</b>								
2012	0.986	0.813	0.173	82.45%	2112	2247	-135	106.39%
2013	0.996	0.808	0.188	81.12%	2133	2230	-97	104.55%
2014	1.004				2150			
2015	1.012				2167			
2016	1.020				2184			
<b>2012 Projected</b>								
2013	0.942	0.808	0.134	85.77%	2147	2230	-83	103.87%
2014	0.950				2166			
2015	0.956				2179			
2016	0.963				2195			
2017	0.970				2211			
AVG. % of Proj. =				107.82%				106.26%

## **APPENDIX D**

### **Tap and Organic Loading Management Plan**

**PETERS TOWNSHIP  
SANITARY AUTHORITY**

111 BELL DRIVE  
McMURRAY, PA 15317-3415  
PHONE: 724-941-6709  
FAX: 724-941-2283  
Web Site: [ptsaonline.org](http://ptsaonline.org)



James J. Miskis, Manager  
Mark A. Chucuddy, Asst. Manager  
Gary A. Parks, Special Projects Manager  
Patricia L. Mowry, Financial Controller  
Diane L. Gregor, Administrative Asst.

**PETERS TOWNSHIP SANITARY AUTHORITY**

**DONALDSON'S CROSSROADS WATER POLLUTION CONTROL PLANT  
TAP AND ORGANIC LOADING MANAGEMENT PLAN**

**MARCH 2009**

**Adopted March 10, 2009**

**Amended March 9, 2010**

**Amended March 8, 2011**

**Amended March 27, 2012**

**Amended March 12, 2013**

**Amended March 11, 2014**

1. **Effective Date:** April 1, 2009
2. **Term:** April 1, 2009 and continuing until the new DC WPCP becomes operational tentatively in October 2017. The Tap and Organic Loading Management Plan (Tap Management Plan) expires when the new DC WPCP becomes operational. The following updated schedule applies to the Tap Management Plan.
  - a. PaDEP Act 537 Plan Approval --- June 2011
  - b. PaDEP Part II Permit Approval --- December 2014
  - c. Construction Completion --- October 2017
3. **Re-evaluation:** The provisions of the Tap Management Plan will be annually re-evaluated as part of the Annual Wasteload Management reporting process. PTSA reserves the right to suspend and/or modify the Tap Allocation, Tap Distribution and/or any other provision identified herein based on findings associated with the prior year's Wasteload Management report.
4. **Objectives:**
  - a. Maintain PTSA's proactive position relative to providing cost-effective sewage collection, conveyance and treatment for its current and future customer base.
  - b. Develop and implement the Tap Management Plan in a manner acceptable to PaDEP that does not unduly inhibit growth, development or building in the near future while maintaining reasonable confidence that compliance measures can be met.
  - c. Provide for equitable, reasonable and orderly distribution of taps.
  - d. Implement BOD source reduction through improved grease trap management.
  - e. Increase the frequency of treatment plant influent sampling and analyses to better define and understand influent organic loadings.

5. **Tap Allocation:** The PTSA Tapping Fee Refund and Permit Expiration Policy remains in full effect. Sewer tap allocation not utilized in a calendar year may be carried over and banked for use in subsequent years. The annual allocation is presented as follows:
- a. 2009: 40 Total [37 Transferred to Brush Run, 3 New]
    - Used 7, balance at end of year was 33
  - b. 2010: 25 new + 33 from 2009 balance = 58 Total
    - Use 32, balance at end of year was 26
  - c. 2011: 25 new + 26 from 2010 balance = 51 Total
    - Used 5, balance at end of year was 46
      - Transfer 26 to 2012 allocation
      - Transfer 20 to 2013 allocation
  - d. 2012: 25 new + 26 from 2011 balance = 51 Total
    - Used 26.65, balance at end of year was 25
      - Transfer 25 to 2014 allocation
  - e. 2013: 25 new + 20 from 2011 balance = 45 Total
    - Balance at end of year was 30.5
      - Transfer 30.5 to 2015 allocation
  - f. 2014: 25 new + 25 from 2012 balance = 50 Total
  - g. 2015: 25 new + 30.5 from 2013 balance = 55.5 Total
  - h. 2016: 25 new
  - i. 2017: 25 new (Expanded plant expected to be in service by October 2017)
6. **Tap Distribution:** The maximum number of taps issued to a single entity for a single family residential development shall be a total of 5 per month. Any commercial or multi-family residential development with a total of more than 5 EDUs in a single building will be evaluated on a case-by-case basis.
7. **Additional Considerations:** The following considerations are noted as complimentary components of the Tap Management Plan.
- a. Inter-basin Transfer: Inter-basin transfer of 37 existing EDUs from the Donaldson's Crossroads system to the Brush Run system was completed in 2009.
  - b. Internal Sampling Process Optimization/Flow Monitor Calibration: Internal sampling processes have been evaluated and revised to better represent influent/effluent loadings. More frequent raw influent BOD sampling has been initiated, including Sunday's in an effort to obtain more representative influent loadings. Also more frequent (quarterly in lieu of annual) flow monitor recalibration was conducted in 2009. Additional raw influent BOD sampling will be performed three days per week when conditions warrant it starting in March 2010. A new flow monitoring configuration was evaluated and implemented in

2010 to improve flow monitoring accuracies for the in-ground portion of the WPCP.

- c. Increased Blower Capacity: PTSA increased blower capacity for post Hurricane Ivan conditions. PTSA adjusted internal operations including use of a third blower to provide increased air capacity requiring relocation of lab and work space to a temporary job trailer.
- d. Developer Acknowledgments: A supplemental note to the Subdivision Plan and Developer's Agreement acknowledging existence of and compliance with Tap Management Plan is required. The required language follows. *"It is specifically noted that this Development is subject to the PTSA Tap Management Plan adopted in accordance with Pennsylvania Code, Title 25, Chapter 94 Municipal Wasteload Management requirements. The Tap Management Plan has specific tap allocations and tap distribution guidelines. You are hereby advised that this document does not guarantee that there is existing capacity available or warrant that Sewer Permits and subsequent taps will be available or can be issued at the time of application."*
- e. Improved Fats, Oils and Grease (FOG) Management: PTSA Special Projects Manager began implementation of enhanced FOG Management Program including more stringent exterior grease trap pumping/inspection requirements, increased operational presence toward source reduction of FOG, and public outreach programs. Future consideration will be given to adding stipulated penalties to current policies for non-compliance.
- f. Sewage Planning Modules Required: Sewage Planning Exemption is not available. All new land development projects tributary to the Donaldson's Crossroads Sewer System, including commercial expansion projects of existing facilities with planned sewage flows of 800 gallons/day or greater, are required to obtain PaDEP sewage planning approval through the completion of Sewage Planning Modules.
- g. Township Building Permit Integration: PTSA will follow the current "Sewer Extension Procedure Flow Diagram" that is attached hereto. If sufficient capacity exists, PTSA will issue a Capacity Availability letter during the Preliminary Planning process. It is acknowledged that the Capacity Availability letter is not a guarantee that capacity will exist when Sewer Permits are requested/issued/released. After completing the Preliminary Planning, Final Planning, Developer's Agreement and Required Securities and Construction processes and PTSA accepts dedication at a Public Meeting, Sewer Permits will be released in accordance with this Tap Management Plan. It is acknowledged that it is Peters Township's current policy to issue Building Permits prior to issuance of the Sewer Permit for bonded developments. However, a mechanism is currently in place for Township/PTSA coordination in this process.
- h. Facilities of Public Need Exemption: Facilities of public need as identified by PaDEP are excluded with respect to tap limitations identified herein.
- i. Replacement structures: In the event of re-development, the new development will be credited with the equivalent amount of taps currently allocated to the property in accordance with the PTSA's established policy and procedures.



## **APPENDIX E**

### **Annual Biosolids Production**

Peters Township Sanitary Authority  
Annual sludge production calculation using wet tons and cake solids

2013 Month	AVG. CAKE % SOLIDS	WET TONS [1]	CALC TOTAL	DC DRY TONS [2]	BR DRY TONS [3]	BR METRIC DRY TONS [3]	DC METRIC DRY TONS [2]
Jan	13.38	200.66	26.85	13.76	13.09	11.87	12.48
Feb	12.69	145.33	18.44	9.49	8.95	8.12	8.61
Mar	12.93	189.22	24.47	12.62	11.85	10.75	11.45
Apr	13.28	191.02	25.37	11.09	14.28	12.95	10.06
May	12.93	110.68	14.31	4.83	9.48	8.60	4.38
Jun	15.30	121.09	18.53	10.63	7.90	7.16	9.64
Jul	16.17	71.07	11.49	7.11	4.38	3.98	6.45
Aug	16.48	115.83	19.09	10.91	8.18	7.42	9.90
Sep	14.37	129.37	18.59	7.04	11.55	10.48	6.39
Oct	14.06	169.50	23.83	15.29	8.54	7.75	13.87
Nov	13.32	104.07	13.86	6.18	7.68	6.97	5.61
Dec	12.97	148.56	19.27	8.77	10.50	9.52	7.96
<b>Total</b>	<b>13.99</b>	<b>1696.40</b>	<b>234.10</b>	<b>117.72</b>	<b>116.38</b>	<b>105.58</b>	<b>106.80</b>

- 1) As reported received at landfill
- 2) DC (Donaldson Crossroads) dry tons is the dry tonnage removed from DC digesters and hauled to the Brush Run plant for dewatering and final disposal.
- 3) BR (Brush Run) dry tons is calculated as the difference between Total Dry Tons received at landfill minus DC dry tons received at BR for processing.

## **APPENDIX F**

### **Pump Station Operational Data**

2013

LOCATION Design Cap.	JAN.	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL RUN HOURS	MTH AVG	ACTUAL GPM PUMP OUTPUT	TOTAL GAL PUMPED	AVG GPD PER PUMP	AVG TOTAL GPD
<b>RUTLEDGE DR. 144,000 GPD</b>	26.70 27.50	24.20 24.80	27.80 28.60	22.50 23.20	21.30 22.10	22.80 28.80	43.20 43.90	22.70 22.90	15.70 15.80	14.70 14.70	17.80 17.60	34.30 34.40	293.70 304.30	24.48 25.36	116 115	2,044,152 2,099,670	5,600 5,753	11,353
<b>COLONY MANOR 115,000 GPD</b>	16.15 16.30	14.23 14.02	15.93 15.73	15.25 15.81	15.18 14.60	14.71 14.92	20.19 20.96	15.49 17.17	12.88 13.59	4.45 28.61	14.24 13.84	20.37 19.63	179.07 205.18	14.92 17.10	95 94	1,020,699 1,157,215	2,796 3,170	5,967
<b>STRATFORD 144,000 GPD</b>	35.33 35.60	29.40 29.60	35.30 33.00	29.20 26.10	24.30 25.60	31.10 77.00	42.10 42.50	20.60 21.00	17.50 16.90	18.20 18.00	22.50 22.30	58.30 57.10	363.83 404.70	30.32 33.73	136 136	2,968,853 3,302,352	8,134 9,048	17,181
<b>FAIRWAY EST. 36,000 GPD</b>	29.45 34.77	28.49 23.46	26.46 31.76	25.43 29.55	32.11 32.83	23.65 27.25	28.29 30.88	21.64 24.61	19.55 22.97	22.80 26.90	21.59 24.38	35.13 35.90	314.59 345.26	26.22 28.77	33 29	622,888 600,752	1,707 1,646	3,352
<b>SYLVANIA DR. 144,000 GPD</b>	19.10 102.60	12.50 30.00	25.90 47.00	9.40 13.20	7.70 11.90	9.40 13.70	20.50 29.00	8.50 12.20	10.30 14.40	9.90 14.10	13.40 17.70	21.30 29.60	167.90 335.40	13.99 27.95	58 45	584,292 905,580	1,601 2,481	4,082
<b>WATERDAM 223,000 GPD</b>	46.20 34.70	37.10 34.20	44.80 38.50	43.30 38.30	39.10 35.70	34.70 32.50	44.10 39.80	31.80 29.40	27.20 25.50	37.40 34.20	24.00 22.80	23.50 23.20	433.20 388.80	36.10 32.40	131 137	3,404,952 3,195,936	9,329 8,756	18,085
<b>HIDDEN BROOK 315,000 GPD</b>	46.87 45.80	69.67 95.90	42.67 68.40	40.93 41.10	37.70 57.80	38.49 35.50	58.42 54.60	41.38 38.50	31.11 29.40	36.45 34.50	36.67 34.70	71.73 68.60	552.09 604.80	46.01 50.40	213 213	7,055,710 7,729,344	19,331 21,176	40,507
<b>MAPLE LANE 216,000 GPD</b>	13.30 13.60	14.00 14.00	16.00 16.50	13.20 13.30	12.20 12.60	12.70 12.40	22.00 21.50	11.30 13.00	9.20 9.70	16.90 10.70	11.70 10.70	20.00 18.10	172.50 166.10	14.38 13.84	127 128	1,314,450 1,275,648	3,601 3,495	7,096

NOTE: MAY 7 discovered bad off float at Hiddenbrook

10/11/13 to 10/28/13: Colony Manor, Pump 1 out of service due to bad motor starter.

10/4/13: Maple Lane: found off float in bottom of well, pump #1 had run for a continuous 5 hours.

8/5/13 Waterdam F/M cleaned

**PETERS TOWNSHIP SANITARY AUTHORITY**  
**PUMPING STATION STATISTICS**  
Donaldson Crossroads Watershed  
Last Update: 5/15/12

**WATERDAM PLAZA:**

Wet Well Capacity	2008 Gal.
Additional storage capacity	0
Emergency Overflow	YES
Transfer switch/Generator Connection	YES/On Site Generator
Portable Pumping Connection	YES
Emergency Response Plan	<ul style="list-style-type: none"> <li>• Portable pumps to tanker truck</li> <li>• Portable generator via connection</li> <li>• Currently securing on-site generator</li> </ul>
Homes Served	95 EDUs (based upon actual consumption from previous year)
Permit Date	May 19, 1989
Permit No.	6389-412
Design Capacity	223,000 GPD

*W/W Capacity calculated to overflow elevation*

**STRATFORD MANOR:**

Wet Well Capacity	776 Gal.
Additional storage capacity	3257 Gal.
Emergency Overflow	YES
Transfer switch/Generator Connection	YES
Portable Pumping Connection	NO
Emergency Response Plan	<ul style="list-style-type: none"> <li>• Portable generator via connection</li> <li>▪ Portable pumps to tanker truck</li> </ul>
Homes Served	72
Permit Date	Oct. 23, 1970
Permit No.	6370-411
Design Capacity	144,000 GPD

*Holding tanks begin to fill with w/w after 7.65'*



# Summary Report for Station-Analyzer™

Report Date : 10/21/2013 Period : 12 Days  
Site : WATER\_DA Report From : 9/6/0113 12:52:00 PM  
Description : WATER DAM PLAZA L.S. Report To : 9/18/0113 12:59:00 PM

## Flow Information

Total Flow : 130130.98 Gallons  
Average Inflow Rate : 11.07 GPM  
Minimum Inflow Rate : 1.38 GPM @ 9/15/0113 6:17:36 AM  
Maximum Inflow Rate : 51.08 GPM @ 9/17/0113 11:18:48 AM

## Pump Information

Pump #	# of Starts	Run Hours	% Usage	Avg. Pump Rate
1	105	8.48	51.92%	130.52 GPM
2	104	7.86	48.08%	137.32 GPM
3	0	0.00	0.00%	0.00 GPM
4	0	0.00	0.00%	0.00 GPM

## Average Flow Rate for Pump Combinations

Pumps	Pump Rate	Pumps	Pump Rate	Pumps	Pump Rate	Pumps	Pump Rate
1,2	0.00 GPM	2,3	0.00 GPM	1,2,4	0.00 GPM	2,3,4	0.00 GPM
1,3	0.00 GPM	2,4	0.00 GPM	1,2,3	0.00 GPM	1,2,3,4	0.00 GPM
1,4	0.00 GPM	3,4	0.00 GPM	1,3,4	0.00 GPM		

## Station Information

Average Pump Time 3.29 Minutes  
Total # of Cycles 298  
Average Fill Time 36.14 Minutes

### Other Events

9/10/0113 9:30:03 AM- Maint. OFF

**PETERS TOWNSHIP SANITARY AUHTORITY**

**PUMPING STATIOINS TRIBUTARY TO  
Donaldson Crossroads WPCP**

Listed below is a summary of the data obtained from the permanent flow metering devices at the Authority's pumping stations equipped with such devices.

<b>Stratford Manor</b>	
Report Date:	<u>January 3, 2014</u>
Report Period:	<u>1/1/13 to 11/26/13</u>
Long term average pumping rate:	<u>136 GPM</u>
Maximum pumping rate:	<u>144 GPM</u>

PETERS TWP SANITARY AUTHORITY

Lift Station Historic Pump Rates

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
LOCATION																	
Design Cap.																	
RUTLEDGE DR. 144,000 GPD	105 105	136 98	145 130	153 154	119 116	106 98	117 114	123 123	132 132	125 125	117 117	117 117	111 111	108 108	116 116	119 119	116 115
COLONY MANOR 115,000 GPD	117 61	99 124	93 109	90 109	83 93	88 97	84 88	73 90	77 100	73 91	79 94	81 98	75 76	98 93	93 102	91 99	95 94
STRATFORD 144,000 GPD	85 95	112 87	94 79	51 75	144 130	176 184	210 211	132 132	131 131	140 140	130 130	138 138	140 140	134 134	134 134	139 139	136 136
FAIRWAY EST. 36,000 GPD	33 29	33 33	32 32	33	25 23	18 18	18 18	16 19	15 15	17 17	16 17	13 14	17 17	33 32	39 40	32 29	33 29
TIMBERCREST 144,000 GPD	94 129	108 120	48 23	149 138	105 100	107 101	101 81	67 51	118 123	117 116	117 117	118 118	n/a n/a	n/a n/a	n/a n/a	n/a n/a	n/a n/a
SYLVANIA DR. 144,000 GPD	73 53	26 72	65 72	61 146	103 150	148 103	63 37	66 55	84 89	88 94	71 66	102 122	72 66	58 56	57 48	54 39	58 45
WATERDAM 223,000 GPD	73 71	114 79	72 95	94 86	76 75		118 101	108 168	109 88	102 133	111 139	75 114	162 116	82 81	97 97	65 73	131 137
HIDDEN VALLEY 184,320 GPD					134 140	148 157	119 124	160 211	n/a n/a	n/a n/a	n/a n/a	n/a n/a	n/a n/a	n/a n/a	n/a n/a	n/a n/a	n/a n/a
HIDDENBROOK 315,000 GPD									245 245	239 239	241 232	222 221	207 203	217 217	201 204	215 215	213 213
MAPLE LANE 216,000 GPD													195 195	170 170	137 137	139 139	127 128

## **APPENDIX G**

### **Flow Meter Calibration Certificates**



## TOTAL INSTRUMENT MAINTENANCE

423 Stoneybrook Drive  
Elizabeth, PA 15037

DONALDSON CROSSROADS.

## FIELD CALIBRATION CERTIFICATE

**NOTE:** This is a multi-part form. For legible copies, please press firmly when entering data.Certificate No CC T.I.M.-1243

## Customer Information:

Ref PO No \_\_\_\_\_

Company P.T.S.ASite Address 111 Bell DrCity McMurrayState: PaZip 15317

## Contact Information:

Name Mark ChuddyTitle Asst. MGRStreet Address Same as above

City \_\_\_\_\_

State: \_\_\_\_\_

Zip \_\_\_\_\_

Tel [ ] \_\_\_\_\_

## Instrument Data:

Description WASTE Batch Meter (DC)Manufacturer KrohneModel No. IFC010F/D16Serial No. A9819244

Tag No. \_\_\_\_\_

## Calibration Data:

## Test Equipment:

Units of Measurement

- |                       |           |
|-----------------------|-----------|
| 1. <u>4-20 mA DC</u>  | 6. _____  |
| 2. <u>ft./per sec</u> | 7. _____  |
| 3. _____              | 8. _____  |
| 4. _____              | 9. _____  |
| 5. _____              | 10. _____ |

1. Krohne Flow simulator2. Fuke 8060A D.V. O.M.

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

## Reference Data:

Ambient temperature (°F): 75

Relative Humidity (%) \_\_\_\_\_

The instrumentation described above has been accurately calibrated under ambient conditions in accordance with the Manufacturer's documented procedures and specification. The test equipment used is calibrated and is traceable to the National Institute of Standards and technology.

Calibrated by:

Sam Crayford  
NAME27 Aug. 2013  
DATE





## TOTAL INSTRUMENT MAINTENANCE

423 Stoneybrook Drive  
Elizabeth, PA 15037

DONALD SON CROSSROADS

## FIELD CALIBRATION CERTIFICATE

**NOTE:** This is a multi-part form. For legible copies, please press firmly when entering data.Certificate No CC TIM-1243

## Customer Information:

Ref PO No \_\_\_\_\_

Company P.T.S.A.Site Address 111 Bell DrCity McMurrayState: PaZip 15317

## Contact Information:

Name Matt ChucudnyTitle Asst MgrStreet Address Same as above

City \_\_\_\_\_

State: \_\_\_\_\_

Zip \_\_\_\_\_

Tel [ ] \_\_\_\_\_

## Instrument Data:

Description Influent Pkgmts / Old Plant Mtr / Old Plant Trans + recorder (DC)Manufacturer B.B.B. / Data Gates + ChesleyModel No. 10DX3111ED-102/NA4393Serial No. 04U027354-A0713-1423 A063

Tag No. \_\_\_\_\_

D102387-001-01-01

## Calibration Data:

## Test Equipment:

## Units of Measurement

1. 4-20 M.A.P.C.
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_

1. Fuke 8060A D.V.O.M.2. Transmetron 1040

3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

## Reference Data:

Ambient temperature (°F): 75

Relative Humidity (%) \_\_\_\_\_

The instrumentation described above has been accurately calibrated under ambient conditions in accordance with the Manufacturer's documented procedures and specification. The test equipment used is calibrated and is traceable to the National Institute of Standards and technology.

Calibrated by:

NAME

21 Aug 013  
DATE

## **APPENDIX H**

### **PTSA System Index Map**