Pennsylvania Chapter 94 Compliance: Municipal Wasteload Management Report

York City Wastewater Treatment Facility (NPDES PA0026263) York County, Pennsylvania

January 1, 2013 through December 31, 2013

Prepared by
City of York, Pennsylvania
Department of Public Works
(Wastewater Treatment, Sanitary Sewer Maintenance, MIPP)

Outlying Municipality Information Provided by
C. S. Davidson, Inc., Dawood Engineering, Inc., Gannett Fleming, Inc., and James R. Holley & Associates, Inc.

March 2014

The City of York
Pennsylvania

101 South George Street❖ PO Box 509 ❖York PA 17405
www.yorkcity.org
Honorable C. Kim Bracey, Mayor

Veronica Chavez
Pretreatment Permit & Compliance Manager
Department of Public Works – MIPP

March 27, 2014

Mr. James Spontack
DEP Water Management Program
909 Elmerton Avenue
Harrisburg, PA 17110-8200

Dear Mr. Spontack:

On behalf of the York City Sewer Authority, please find the enclosed two copies of the 2013 Municipal Wasteload Management Report for the areas tributary to the York City Wastewater Treatment Plant (NPDES PA0026263). Maps are included in the submission.

This annual report is submitted as required under Pennsylvania Code Title 25 Environmental Resources Chapter 94 Municipal Wasteload Management. Questions may be directed to Veronica Whaley Chavez at 717-812-1444, or vchavez@yorkcity.org.

Report Preparer:

Respectfully,

Veronica Whaley Chavez
Pretreatment Permit & Compliance Manager

Permittee:

Respectfully,

James E. Gross
Vice-Chairperson, York City Sewer Authority

Enclosures

C: file

Contents

Appendices

Attachments

Map plans from contributing municipalities for constructed sewer extensions, proposed sewer extensions and projects requiring public sewer (§94.12(a)(4)) are attached and are part of this document.

Tables

Exhibits

Figures

Summary

This report is submitted to the Pennsylvania Department of Environmental Protection (PADEP) in compliance with Pennsylvania Code Title 25 Environmental Resources Chapter 94 Municipal Wasteload Management. The purpose of the Chapter 94 Municipal Wasteload Management legislation is to reduce and prevent pollution associated with sanitary sewer facilities (collection, conveyance and treatment) through proactive monitoring, assessment, planning, and management of hydraulic, organic, and industrial waste loadings. The plan is updated annually and includes data for a five-year planning horizon.

This report covers the area served by the York City Wastewater Treatment Plant (NPDES PA0026263) located in York County, Pennsylvania. This facility serves North York Borough, West York Borough, York City, and portions of Manchester, Spring Garden, West Manchester and York Townships. The facility outfall is located at 39˚59'19"N, 76˚43'27"W, which discharges to the Codorus Creek. A portion of the flow collected by the Springettsbury Township system can be routed to the York City Wastewater Treatment Plant.

This report evaluates sewage facility performance in relation to permitted capacity. Current loadings are reviewed, hydraulic and organic loadings are projected, and potential or actual interceptor overload and infiltration/inflow problems are summarized. Effluent monitoring methods and municipal industrial pretreatment program activities are documented. Each contributing municipality's sewer collection and conveyance system report is attached as an appendix. Maps showing proposed projects and sewer extensions within the service area are submitted separately and are part of this document.

The York City Wastewater Treatment Plant met all permit requirements in 2013 with the following exceptions. The January, February and March 2013 monthly average ammonia concentrations and the February 2013 monthly average ammonia loading were exceeded due to loss of nitrifying bacteria. Variously during a October 10-12, 2013 storm event the treatment plant discharged partially treated sewage (non-disinfected) as some treatment plant tanks were overtopped due to high flows caused by a stalled low pressure system that dropped over nine inches of rain in a 32-hour period. The maximum average weekly total suspended solids (TSS) limit was exceeded due to this storm event.

The York City Wastewater Treatment Plant, permitted for a 26.0 mgd average monthly flow and a BOD of 62,884 lbs/day, is not projected to be overloaded either hydraulically or organically over the five-year planning horizon (2018). In the year 2018 the projected average flow is 12.724 mgd and the projected average BOD loading is 26,341 lbs/day. The projected three-month maximum flow is 15.096 mgd and the one-month maximum BOD loading is 31,667 lbs/day.

1. Current Loadings

1.1. Existing Facilities

The York City Wastewater Treatment Plant provides tertiary wastewater treatment for North York Borough, West York Borough, York City and portions of Manchester, Spring Garden, West Manchester and York Townships within York County, Pennsylvania. The plant operates under National Pollution Discharge Elimination System (NPDES) permit PA0026263 issued to the York City Sewer Authority.

The York City Sewer Authority, owner, leases the plant and entire sewage works to the City of York, which is responsible for their operation. Each municipality tributary to the York City Wastewater Treatment Plant owns and operates its own collection and conveyance facilities and is responsible for their maintenance and repair. The entire sanitary service area connected to the York City Wastewater Treatment Plant is comprised of 21 pump stations and over 322 miles of sewer collection and conveyance lines.

The treatment plant is permitted for an average monthly flow of 26.0 million gallons per day (mgd) and an organic capacity of 62,884 pounds per day (lbs/day). Wastewater is treated through various physical and biological processes. After debris and grit are removed by bar screens and degritters, wastewater is directed to two parallel biological nutrient reduction treatment processes where a combination of clarifiers and oxygen activated or anaerobic/oxic (A/O) activated reactors provide treatment. Wastewater from these two parallel processes is combined for processing through gravity sand filters, and is then disinfected by an ultraviolet light system and discharged to the Codorus Creek at outfall 002 *via* an aerating cascade. A high level of wastewater treatment is attained by these processes, and includes nitrification, denitrification, biological phosphate removal, and a high level of biochemical oxygen demand (BOD) reduction. Digested and dewatered biosolids are disposed under contract and are used for land application. Micro-turbines convert waste methane gas into power and heat. An Ostara nutrient recovery process extracts materials from the anaerobic digesters and creates a slow-release, phosphorus-rich fertilizer, which is packaged and removed from site for wholesale distribution.

1.2. Existing Hydraulic Loadings

The permitted hydraulic loading discharge of 26.0 mgd is distributed to each municipality under intermunicipal agreements executed between the City of York and each affected municipality (Table 1-1). In 2012, seven sewage facility planning modules or module exemptions[1] for new land development, accounting for 66,758 gallons per day (gpd), were submitted to the Pennsylvania Department of Environmental Protection (PADEP) by municipalities tributary to the York City Wastewater Treatment Plant (Table 1-2). Only '3' and '3e' modules, which reflect projects utilizing public sewerage systems, are presented in Table 1-2. The sewer planning modules and module exemptions, required under the Pennsylvania Sewage Facilities Act, assure adequate sewage facilities are available to serve proposed developments for a five-year planning horizon.

[1] In 2012, sixteen sewage planning modules or exemptions were submitted to PADEP accounting for 113,380 gallons per day.

Table 1-1: Hydraulic and Organic Loading Allocations Under Intermunicipal Agreements[1]
York City Wastewater Treatment Plant

Municipality	Hydraulic Allocation (gpd)	Organic Loading Allocation[2] (lbs/day)
Manchester Township	2,434,900	5,892
North York Borough	531,200	1,285
Spring Garden Township	3,011,500	7,282
Springettsbury Township	4,000,000	9,674
West Manchester Township	3,378,800	8,170
West York Borough	1,200,500	2,905
York City[3]	8,080,100	19,542
York Township	3,363,000	8,134
Total	26,000,000	62,884

[1] - Intermunicipal agreements, and amendments thereto, should be consulted to determine current allocations.
[2] - Based on a BOD concentration of 290 mg/l.
[3] - York City determined by subtraction.

Table 1-2: PADEP Sewage Facility Planning Modules and Module Exemptions, 2013
York City Wastewater Treatment Plant

Municipality	Land Use		Number of Modules	Total Flow (gpd)
	Residential (gpd)	Non-Residential (gpd)		
Manchester Township	11,550	80	2	11,630
North York Borough	0	0	0	0
Spring Garden Township	0	0	0	0
West Manchester Township	0	1,778	2	1,778
West York Borough	0	0	0	0
York City	0	2,950	1	2,950
York Township	49,700	700	2	50,400
Total	61,250	5,508	7	66,758

The treatment plant average daily influent flow was 10.257 mgd in 2013 (Table 1-3). The treatment facility is permitted for an average daily flow of 26.0 mgd, and a design peak flow of 60.5 mgd. The maximum average daily flow reached 68.154 mgd on October 11, 2013 when 5.16 inches of rain occurred. An additional 3.85 inches of rain was recorded the day before on October 10, 2013 bringing the two-day total rainfall to 9 inches (or greater in some areas) due to a stalled low pressure cell. Monthly precipitation data are presented in Table 1-4.

Table 1-3: Hydraulic Loading, 2013
York City Wastewater Treatment Plant

Month	Average Daily Influent Flow (mgd)
January	10.517
February	10.891
March	11.213
April	9.075
May	8.506
June	9.478
July	8.945
August	9.688
September	7.696
October	15.402
November	9.108
December	12.442
Annual Average Flow	10.257

Note: Maximum average daily flow of 68.154 mgd occurred October 11, 2013.

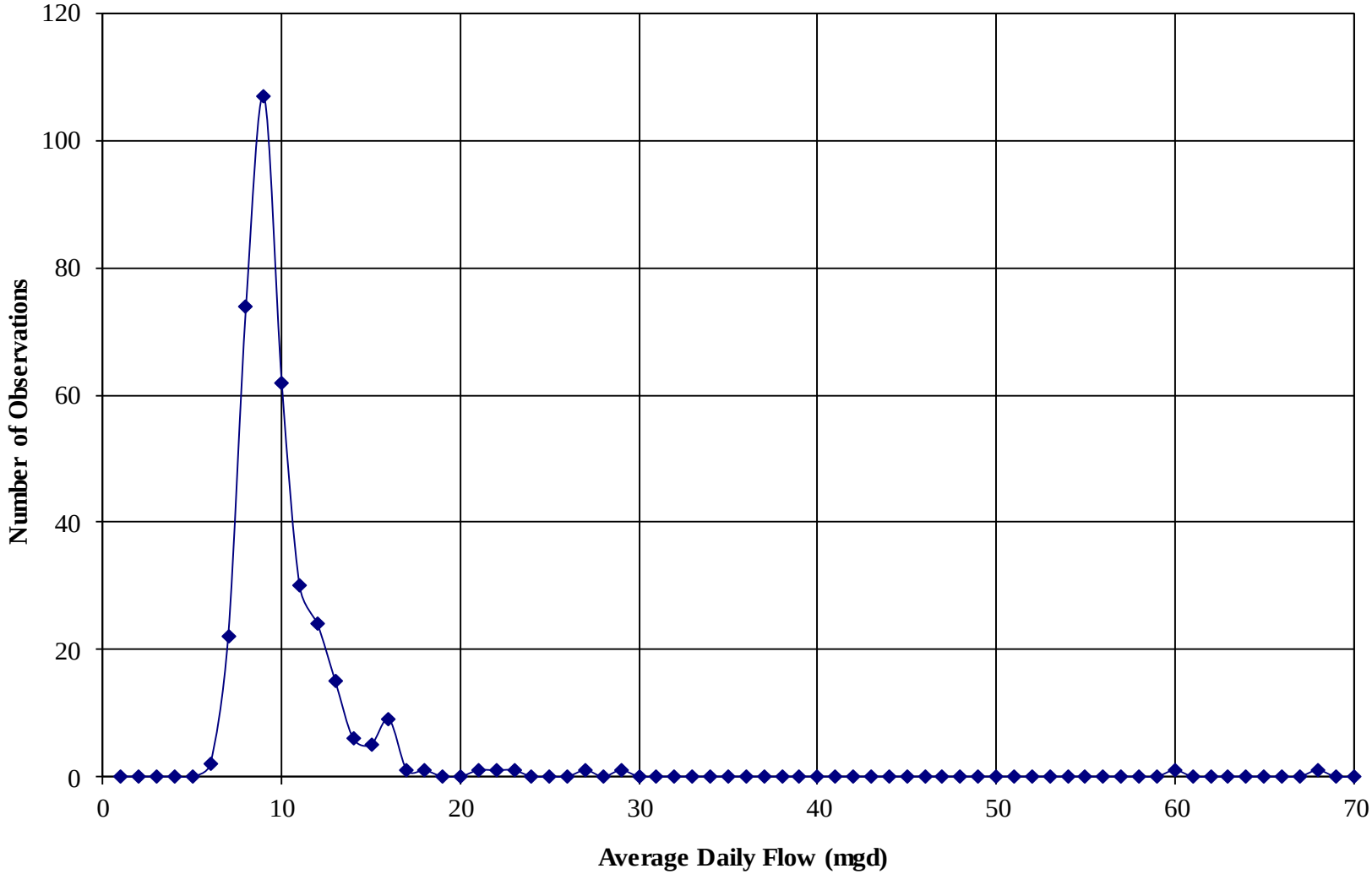
Treatment plant influent flow frequencies are displayed in Figure 1-1. Average daily flows, rounded to the nearest million gallons per day, are plotted against their frequency of occurrence in days. The most frequent average daily flow in 2013 was 9 mgd with 107 observations.

Table 1-4: Comparison of 2013 Monthly and Annual Precipitation Data, and Historic Precipitation Records

Month	Precipitation (inches)	Normal[1] (inches)	Departure from Normal (inches)
January	4.03	3.44	0.59
February	2.01	2.77	-0.76
March	1.95	3.65	-1.70
April	1.10	3.52	-2.42
May	2.79	4.26	-1.47
June	4.04	4.31	-0.27
July	4.32	3.75	0.57
August	6.57	3.33	3.24
September	1.83	4.10	-2.27
October	10.34	3.16	7.18
November	2.13	3.47	-1.34
December	5.01	3.24	1.77
2013 Total	46.12	43.00	3.12
2012 Total	44.67	43.00	1.67
2011 Total	61.47	43.00	18.47
2010 Total	40.27	43.00	-2.73
2009 Total	34.70	43.00	-8.30
2008 Total	49.97	43.00	6.97
2007 Total	41.16	43.00	-1.84
2006 Total	39.62	43.00	-3.38
2005 Total	43.16	43.00	0.16
2004 Total	57.32	43.00	14.32
2003 Total	57.29	43.00	14.29

[1] - Where 'normal' is the arithmetic average precipitation from 1971 to 2000.
Sources: NOAA. 2011. Annual Climatological Summary. National Climatic Data Center.
Asheville, NC. Weather station index #369933, York 3 SSW pumping station, Route 182 (390 feet AMSL).
City of York. 2013. City of York WWTP Monthly Monitoring Report Supplemental Forms (SBC).

Figure 1-1: Influent Flow Frequency, 2013
York City Wastewater Treatment Plant



1.3. Existing Organic Loadings

The total permitted organic loading of 62,884 lbs/day of BOD is allocated under intermunicipal agreement based on a BOD concentration of 290 mg/l (Table 1-1). Monthly average, annual average, and monthly maximum biochemical oxygen demand and suspended solids loadings for 2013 are displayed in Table 1-5. The 2013 annual average organic loading was 19,312 lbs/day, with an average equivalent concentration of 236 mg/l. The 2013 annual average total suspended solids loading was 20,181 lbs/day (240 mg/l).

Table 1-5: Monthly and Annual Average Influent Biochemical Oxygen Demand and Total Suspended Solids Loadings, 2013
York City Wastewater Treatment Plant

Month	Biochemical Oxygen Demand 5			Total Suspended Solids		
	Monthly Average (mg/l)	Monthly Average (lbs/day)	Monthly Maximum (lbs/day)	Monthly Average (mg/l)	Monthly Average (lbs/day)	Monthly Maximum (lbs/day)
January	238	20,273	39,489	223	18,905	38,991
February	193	17,155	24,578	199	17,796	48,351
March	195	18,067	31,719	226	21,125	42,471
April	268	20,256	27,162	270	20,387	33,265
May	275	19,393	25,359	254	18,099	29,201
June	246	19,363	32,095	255	20,168	43,344
July	221	16,331	29,770	228	16,840	49,732
August	230	17,662	35,156	242	18,413	50,124
September	285	18,265	28,555	256	16,514	31,845
October	215	24,977	117,091	237	31,764	241,572
November	259	19,349	31,789	264	19,578	64,421
December	206	20,671	30,884	220	22,218	48,647
Average	236	19,312	N/A	240	20,181	N/A

2. Projected Loadings §94.12(A)(1), (2)&(3)

2.1. Anticipated Hydraulic Loading

Expected annual flow increases for each municipality are presented in Table 2-1. The cumulative anticipated flow over the next five years is an additional 1,851,167 gpd. Estimates of future wastewater contributions were derived by tabulating expected connections per year from each municipality's wasteload management information located in Appendices A through H.

Table 2-1: Anticipated Municipal Annual Flow Increases, 2014-2018 (gpd)
York City Wastewater Treatment Plant

Municipality	Year					Five Year Total
	2014	2015	2016	2017	2018	(2014-2018)
Manchester Twp	78,636	106,672	82,462	45,560	33,250	346,580
N York Borough	9,800	1,050	1,050	1,050	1,050	14,000
Spring Garden Twp	139,475	171,800	102,250	119,450	70,400	603,375
Springettsbury Twp	0	0	0	0	0	0
W Manchester Twp	6,170	23,350	33,050	69,850	27,500	159,920
W York Borough	17,247	2,100	2,100	2,100	2,100	25,647
York City	17,870	22,100	8,700	20,475	17,150	86,295
York Twp	65,950	137,350	137,350	137,350	137,350	615,350
Total	335,148	464,422	366,962	395,835	288,800	1,851,167
Cumulative Total		799,570	1,166,532	1,562,367	1,851,167	

Source: Municipal tabulations of available sewer capacity reserves exhibits located in Appendices A through H.

Estimates of current and anticipated annual flows through 2018 are shown in Table 2-2. An average flow of 12,107,989 gpd is estimated for 2018[2] based on 2013 annual average flows for each municipality. Estimates of 2013 wastewater contributions of the outlying municipalities were obtained from analysis of nine sewage flow meters and flow estimates of un-metered service areas. These flows are subtracted from the flow metered at the treatment plant to determine York City contributions. Expected annual flow increases for each of the next five years were cumulatively added to the current annual average flow to derive total expected flows in 2018. Table 2-3 shows hydraulic allocation use by municipality over the five-year planning period.

[2] More accurate projected flows are located in Table 2-4, which are calculated using a five-year annual average flows to which anticipated flows are added. The figures in Table 2-4 should be used for planning purposes.

Table 2-2: 2013 Metered Flows and Anticipated Municipal Annual Flows (gpd)
York City Wastewater Treatment Plant

Municipality	Average Flow 2013	Year				
		2014	2015	2016	2017	2018
Manchester Twp	1,039,221	1,117,857	1,224,529	1,306,991	1,352,551	1,385,801
N York Borough	185,968	195,768	196,818	197,868	198,918	199,968
Spring Garden Twp	1,749,712	1,889,187	2,060,987	2,163,237	2,282,687	2,353,087
Springettsbury Twp	422,324	422,324	422,324	422,324	422,324	422,324
W Manchester Twp	1,928,353	1,934,523	1,957,873	1,990,923	2,060,773	2,088,273
W York Borough	665,922	683,169	685,269	687,369	689,469	691,569
York City[1]	2,855,683	2,873,553	2,895,653	2,904,353	2,924,828	2,941,978
York Twp	1,409,639	1,475,589	1,612,939	1,750,289	1,887,639	2,024,989
Total	10,256,822	10,591,970	11,056,392	11,423,354	11,819,189	12,107,989

[1] - York City determined by subtraction.

Table 2-3: Flow Allocations, Current Flows and Anticipated Flows (gpd)
York City Wastewater Treatment Plant

Municipality	Total Allocation (of 26 mgd)[1]	Current Flow Condition		Future Flow Condition			
		Average Flow 2013	Remaining Allocation 2013	Projected Five-Year Increase	Projected Flow 2018	Remaining Allocation 2018	Percent Allocation Used
Manchester Twp	2,434,900	1,039,221	1,395,679	346,580	1,385,801	1,049,099	57%
N York Borough	531,200	185,968	345,232	14,000	199,968	331,232	38%
Spring Garden	3,011,500	1,749,712	1,261,788	603,375	2,353,087	658,413	78%
Springettsbury	4,000,000	422,324	3,577,676	0	422,324	3,577,676	11%
W Manchester	3,378,800	1,928,353	1,450,447	159,920	2,088,273	1,290,527	62%
W York Borough	1,200,500	665,922	534,578	25,647	691,569	508,931	58%
York City[2]	8,080,100	2,855,683	5,224,417	86,295	2,941,978	5,138,122	36%
York Twp	3,363,000	1,409,639	1,953,361	615,350	2,024,989	1,338,011	60%
Total	26,000,000	10,256,822	15,743,178	1,851,167	12,107,989	13,892,011	47%

[1] - Intermunicipal agreements, and amendments thereto, should be consulted to determine actual allocations.
[2] - York City determined by subtraction.

2.2. Hydraulic Loading Projection

The design hydraulic capacity of the plant is an average monthly flow of 26.0 mgd. Average hydraulic loadings and peak hydraulic loadings at the York City Wastewater Treatment Plant were projected for a five-year horizon. Projection results are displayed in Figure 2-1; tabular data used to generate the graph are located in Table 2-4 and Table 2-5. The methodology utilized to project flows is described below.

Daily average, monthly average and annual average flows were obtained from historic plant operation records. Flow data from the five previous years, 2009 through 2013, were used to determine an arithmetic average five-year flow in million gallons per day. This five-year average flow, 10.873 mgd, was used to project flows from 2014 through 2018. Expected total yearly hydraulic increases, obtained from Table 2-1, were cumulatively added to this base five-year average flow to obtain projected annual average flows.

Three-month maximum average flows were calculated by averaging the three consecutive months of greatest flow for each year of historical data. A ratio to project three-month maximum flows was determined by arithmetically averaging the quotient of each year's historic maximum three-month average flow divided by the annual average flow. A ratio of 1.186 was obtained. The projected three-month maximum average flow is the product of the ratio and the projected annual average flow.

Figure 2-1 displays treatment plant annual and monthly average hydraulic loadings and three-month average peak hydraulic loadings for the past five years, projected hydraulic loadings over the next five years, projected peak hydraulic loading over the next five years, and the design hydraulic capacity of 26.0 mgd. In 2018 an annual average hydraulic loading of 12.724 mgd and a three-month maximum average flow of 15.096 mgd is projected (Table 2-5). An hydraulic overload is not projected to occur within the next five years.

2.3. Organic Loading Projection

The organic capacity of the treatment plant is 62,884 lbs/day of biochemical oxygen demand (BOD). Average organic loadings and peak organic loadings at the York City Wastewater Treatment Plant were projected for a five-year horizon. Projection results are displayed in Figure 2-2; tabular data used to generate the graph are located in Table 2-6 and Table 2-7. The methodology utilized for projecting organic loadings is described below.

Daily average, monthly average and annual average organic loadings were obtained from historic plant operations records. Organic loading data from five previous years, 2009 through 2013, were used to determine an arithmetic five-year average organic loading of 22,482 lbs/day. The projected increased BOD loading is the product of an average BOD concentration of 250 mg/l, a pounds per day conversion factor of 8.34, and the expected yearly hydraulic increase. The projection assumes a constant organic loading concentration. These results were cumulatively added to the five-year arithmetic average organic load to obtain the resultant projected annual average flows.

A ratio to project one-month maximum organic loadings was determined by averaging the quotient of each year's historic maximum one-month average loading divided by the annual average organic loading. A ratio of 1.202 was obtained. The projected one-month maximum flow is the product of the ratio and the projected annual average BOD loading.

Figure 2-2 displays treatment plant annual and monthly average organic loadings and peak organic loadings for the past five years, projected annual average organic loadings over the next five years, projected peak organic loadings over the next five years, and the design organic capacity of 62,884 lbs/day. In 2018 an annual average organic loading of 26,341 lbs/day and a peak organic loading of 31,667 lbs/day is projected (Table 2-7). An organic overload is not projected to occur within the next five years.

Figure 2-1: Hydraulic Loading, 2009-2018 (2014-2018 Projected)
York City Wastewater Treatment Plant

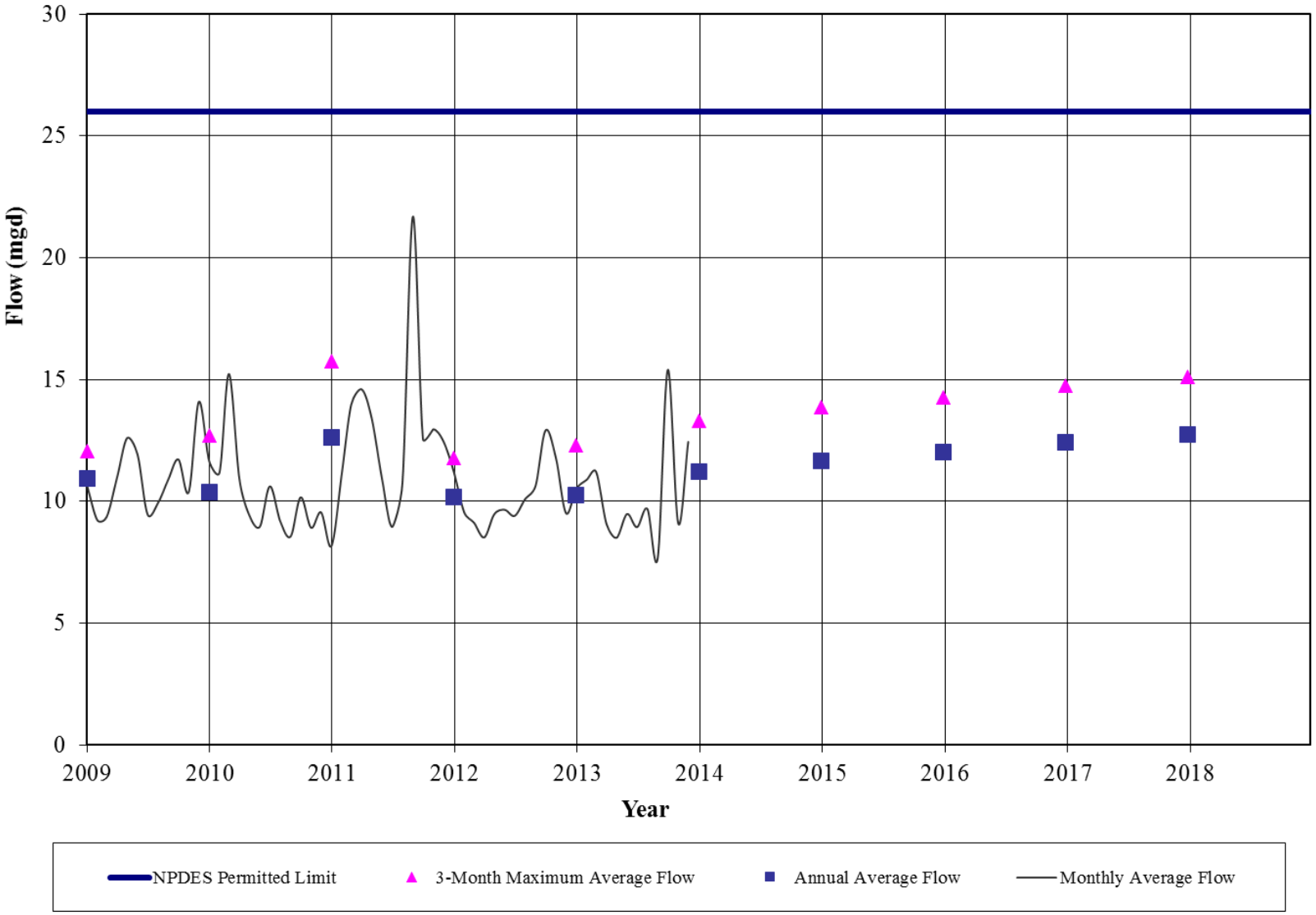


Table 2-4: 2009-2013 Historic Flows (mgd)
York City Wastewater Treatment Plant

Month	2009	2010	2011	2012	2013
January	10.668	**11.655**	8.167	11.224	10.517
February	9.232	**11.194**	11.151	9.560	10.891
March	9.367	**15.234**	13.976	9.134	11.213
April	10.984	10.930	14.602	8.521	9.075
May	12.603	9.418	13.410	9.473	8.506
June	11.926	8.957	10.907	9.654	9.478
July	9.470	10.618	8.952	9.409	8.945
August	9.932	9.187	10.784	10.095	9.688
September	10.903	8.556	**21.691**	**10.629**	7.696
October	**11.720**	10.169	**12.564**	**12.915**	**15.402**
November	**10.389**	8.921	**12.960**	**11.782**	**9.108**
December	**14.087**	9.546	12.473	9.520	**12.442**
Max. 3-Month Avg	12.065	12.694	15.738	11.775	12.317
Annual Average	10.953	10.370	12.622	10.163	10.257
Ratio	1.102	1.224	1.247	1.159	1.201
Rainfall (in)	34.70	40.27	61.47	44.67	46.12

Table 2-5: Hydraulic Loading Projection (mgd)
York City Wastewater Treatment Plant

Year	Three-Month Maximum	Average Flow	Ratio	Hydraulic Increase	Projected Average Flow*	Projected Maximum 3-Month Flow**
2009	12.065	10.953	1.102			
2010	12.694	10.370	1.224			
2011	15.738	12.622	1.247			
2012	11.775	10.163	1.159			
2013	12.317	10.257	1.201			
Five Year Average	12.918	10.873	1.186			
2014				0.335	11.208	13.297
2015				0.464	11.673	13.848
2016				0.367	12.040	14.284
2017				0.396	12.435	14.753
2018				0.289	12.724	15.096

*- Projected annual average flow calculated by: five-year average flow + yearly flow increases.
** - Projected maximum monthly 3-month flow calculated by: projected average flow X five-year average ratio.

NPDES flow 26.0 mgd

Figure 2-2: Organic Loading, 2009-2018 (2014-2018 Projected)
York City Wastewater Treatment Plant

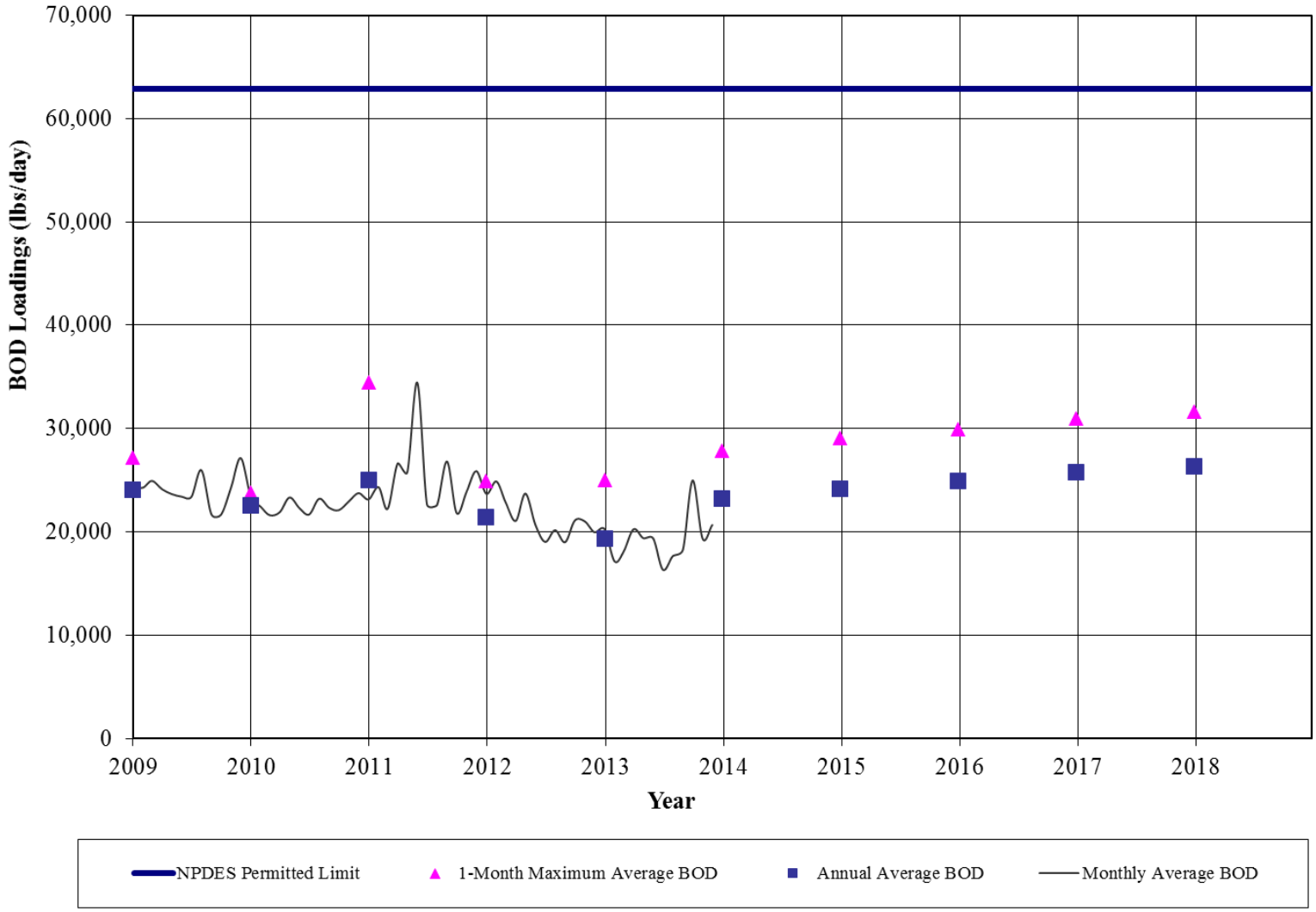


Table 2-6: 2008-2012 Historic Organic Loading (lbs/day)
York City Wastewater Treatment Plant

Month	2009	2010	2011	2012	2013
January	24,342	23,471	23,144	23,688	20,273
February	24,280	22,424	24,329	**24,885**	17,155
March	24,939	21,614	22,230	22,837	18,067
April	24,135	21,910	26,617	21,054	20,256
May	23,661	23,331	25,779	23,708	19,393
June	23,408	22,292	**34,441**	20,675	19,363
July	23,388	21,681	22,664	19,030	16,331
August	25,968	23,211	22,594	20,166	17,662
September	21,700	22,334	26,816	18,995	18,265
October	21,656	22,102	21,826	21,098	**24,977**
November	24,296	22,955	23,914	21,017	19,349
December	**27,140**	**23,747**	25,882	19,964	20,671
Maximum 1-Month Average	27,140	23,747	34,441	24,885	24,977
Annual Average	24,097	22,590	24,993	21,415	19,312
Ratio	1.126	1.051	1.378	1.162	1.293
BOD Annual Average (mg/l)	271	273	255	261	236

Table 2-7: Organic Loading Projection (lbs/day)
York City Wastewater Treatment Plant

Year	One-Month Maximum	Average Load	Ratio	Hydraulic Increase (mgd)	Projected Increase BOD*	Projected Average BOD**	Projected One Month Maximum***
2009	27,140	24,097	1.126				
2010	23,747	22,590	1.051				
2011	34,441	24,993	1.378				
2012	24,885	21,415	1.162				
2013	24,977	19,312	1.293				
Five Year Average	27,038	22,482	1.202				
2014				0.335	699	23,180	27,867
2015				0.464	968	24,149	29,031
2016				0.367	765	24,914	29,951
2017				0.396	825	25,739	30,943
2018				0.289	602	26,341	31,667

*- 8.34 X 250 mg/l X hydraulic increase.
**- Five-year average loading + cumulative addition of projected loadings.
***- Five-year average ratio X projected annual average BOD.

NPDES BOD loading 62,884 lbs/day

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3. Sewer System Monitoring, Maintenance, Repair and Rehabilitation §94.12(a)(5), (6) & (7), in part

Each municipality performs various activities to investigate line condition and infiltration and inflow, and anticipates maintenance and repair activities. Applicable information regarding 2013 sewer system monitoring, maintenance, repair, and infiltration and inflow (I/I), provided in each municipality's wasteload management report located in the Appendices A through C and E through H, are summarized below. The reader is referred to the appendices for more detailed information.

Overall, there are over 322 miles of sewer line tributary to the York City Wastewater Treatment Plant and 21 pump stations. Of the entire collection and conveyance system tributary to the York City Wastewater Treatment Plant, approximately 549,929 linear feet (111 miles) of pipe were cleaned and/or televised in 2013, which represents 34.7% of the system.

Manchester Township has 65.58 miles of sewer line tributary to the York City system. In 2013, 42,661 linear feet of sewer line were cleaned and 22,502 linear feet were televised (18.8% of the sanitary sewer system). Root cutting was performed on 4,061 feet of line, and 104 feet of 8-inch line was replaced in the root-cutting area. A spray liner was applied to ten manholes. Sixteen manhole frames were raised or repaired, and 133 manholes were inspected. Smoke testing of 70,352 linear feet of line was performed: 107 clean out caps were identified as broken or missing during this testing. Biannual flushing of Sewer District A, a preventative maintenance measure, occurred to minimize grease and solids build up in the line from restaurants emptying to the collector. Staff conducted grease trap inspections. In 2014 the township will continue to televise sewer lines to identify potential sources of infiltration and inflow. The four pump stations are not expected to have an overload condition within the next two years.

North York Borough cleaned area #1 of the borough's sewer system using Manchester Township's equipment. The cleaning is part of the borough's regular sewer maintenance program, which cleans each manhole section at least once every four years. The borough has no plans for major maintenance or repair projects in 2014. The borough's pump station has been operating satisfactorily and an overload is not expected within the next two years.

Spring Garden Township has 53.18 miles of line tributary to the York City system. The township flushed 35,367 linear feet, and flushed and televised 10,690 linear feet of pipe in 2013, which represents 16.4% of the township's system tributary to the York City Wastewater Treatment Plant. The township replaced various wyes and lengths of lateral from the main to curb. The township's three pump stations are not expected to have an overload condition within the next two years.

West Manchester Township, which has 47.60 miles of sewer and six pump stations tributary to the York City system, flushed 76,851 linear feet of line in the Lincolnway service area, and televised 897 linear feet in 2013 (30.9% of the system). In 2012 the Pennsylvania Department of Environmental Protection issued a letter denying new connections to the systems tributary to the West Market Street and East King Street pump stations until the hydraulic overload is eliminated. A Corrective Action Plan was submitted by the township. In 2013 the township implemented a system-wide televising and flushing program: the information will be used to identify areas in need of repair. In late-2013 the wet well and control building of the West Market Street pump station were elevated approximately 4.5 feet to keep the facilities above potential flood levels and to eliminate stormwater from entering the wet well. Approximately 2,200 linear feet of 10-inch clay main tributary to the West King Street pump station was repaired using cured-in-place piping and grout to decrease infiltration.

West York Borough, which has 10.37 miles of line tributary to the York City system, utilizes neighboring municipalities' services in conjunction with service provider contracts to maintain its sanitary sewers.

During 2013, 20,721 linear feet of sewer line and 85 manholes were flushed, and 5,453 linear feet were televised, which is 47.8% of the system. The municipality will continue to perform routine flushing maintenance in 2014.

York City, which has approximately 98.5 miles of sewer, cleaned 353,329 linear feet of sewer line during 2013 (67.9% of the sewer system). Fourteen manhole frame and cover was replaced or adjusted to grade, and 3,570 manholes were inspected. Five laterals were repaired. The chemical root control program was continued in 2013: root control was applied to thirteen service laterals. No main repairs occurred in 2013. All sanitary sewer data are managed using the City of York's geographic information system. Eight surcharge indicators are used at various locations within the collection system to monitor the impact of rain events on conveyance capacity. Surcharge indicators registered the storm event of October 10-12, 2013 when a total of 9.15 inches of precipitation occurred. All wastewater was contained in the sewer collection and conveyance system (no overflows) with the exception of some sewage back-ups into basements reported in some areas of the city.

York Township has approximately 46.9 miles of sanitary sewer line and six pump stations. In 2013, 21,000 feet of main were flushed and televised in the Tyler Run drainage basin (8.5% of the system). A 300-foot section of 18-inch line was repaired using cured-in-place lining and 156 infiltration dishes were installed in manholes. Pump station elapse time meters, which indicate motor operating time, are generally read by township personnel on a weekly basis during routine maintenance. No overloads are expected at any of the pump stations. The township replaced the Marlborough pump station with the new facility in operation in May 2013. The township expects to replace the Leader Heights Pump station, which is nearing the end of its useful life, in 2014. Efforts to reduce infiltration and inflow to the Tyler Run interceptor will continue in 2014, including updating the hydraulic model and continuing the sanitary sewer inspection and rehabilitation program. Peaking factors on the Tyler Run interceptor have decreased appreciably due to improvements.

The City of York, York Township, and Springettsbury Township updated their municipal Act 537 Plans in 1999. The plans address collection and conveyance condition, capacity, and infiltration and inflow reduction. Since then municipalities have generally increased inflow and infiltration reduction activities through source identification and elimination, line replacement, and sewer system model development.

However, the quantity of infiltration and inflow remain received at the wastewater treatment plant remains a concern. In late-2013 the City of York approached Spring Garden Township regarding possible closure and abandonment of the three-barrel siphon crossing the Codorus Creek at Mill Creek, which is a highly suspected source of infiltration and inflow. The siphon currently serves one property whose discharge could be directed to the Springettsbury Township sanitary sewer system. Discussion will continue in 2014. System-wide reduction of infiltration and inflow was formally discussed in late-2013 at a Connected Municipality meeting. The group is comprised of City of York Sewer Authority members, representatives from municipalities that contribute flows to the treatment plant, and technical staff. Various infiltration and inflow reduction tools and approximate costs were discussed, including, but not limited to: ordinances and legal processes, lateral lining and traditional repair methods, cleanouts, pipe bursting, grouting, and disconnection of sumps and downspouts.

The York City Sewer Authority continues to update its evaluation of the sanitary sewer conveyance and collection system with updated model flows. The plan focuses on identifying areas where inflow and infiltration can be reduced, and assessing and prioritizing locations where improvements can be made in the sewer system. This on-going system evaluation is a result of Act 537 planning activities discussed above. While some improvements will occur solely in the City of York, contributory boroughs and townships will also participate in improvements.

4. Conveyance Capacity §94.12(a)(6), in part

4.1. Act 537 Plan Updates

The Pennsylvania Sewage Facilities Act (Act 537) requires each municipality in the Commonwealth to develop and maintain a sewage facilities plan to address the community's sewage needs. An Act 537 Plan identifies current and future sewage treatment, disposal, conveyance and collection needs and develops the means to meet sewage needs and implement recommended solutions.

York City, York Township, and Springettsbury Township, whose flows may be routed to the York City Wastewater Treatment Plant instead of the Springettsbury Wastewater Treatment Plant *via* a pump station located on Loucks Mill Road, updated their Act 537 Sewage Facilities Plans in 1999. Because the City of York sewer system is 'downstream' and receives flow from tributary municipalities, the York City Sewer Authority Regional Act 537 Plan included alternative development scenarios for all existing contributing municipalities and Springettsbury Township, and functions as both a municipal plan and a regional plan for the York City wastewater treatment service area. The reader is referred to the following documents for a detailed discussion of the methodology, findings and recommendations of the plans: York City Sewer Authority Regional Act 537 Plan, 1999; York Township Act 537 Sewage Facilities Plan Update, 1999; and Springettsbury Township Act 537 Plan Facilities Plan Update (Phase II), 1999. Improvement projects recommended in the plans, which project sewage needs through 2020, will be included in future Chapter 94 reports as capacity needs dictate. The findings and recommendations of the plans that affect the York City sewage treatment and conveyance system are summarized below.

The 1999 York City Sewer Authority Regional Act 537 Plan flow metering and flow projection analysis for the 20-year planning horizon indicate slight surcharge conditions at some locations in the conveyance system. Plan recommendations include improving some interceptors as conveyance capacity is required. In keeping with plan recommendations, surcharge indicators are located at key manhole locations and are monitored: upgrades and infiltration and inflow reduction measures will be implemented as required. Infiltration and inflow evaluations have been, and continue to be, conducted and recommendations have been implemented in identified areas. Areas of infiltration and inflow have been identified citywide. The City of York placed surcharge indicators in the Codorus Trunkline interceptor, and began a system-wide evaluation of infiltration and inflow in 2001.

The 1999 York Township Act 537 Sewage Facilities Plan Update findings indicate a need for expansion of some interceptors to accommodate projected 2020 flows. The plan recommends conducting detailed modeling of the Tyler Run Interceptor and upgrading the interceptor to convey 2020 flows as needed. Sections of this interceptor were rehabilitated in 2001, 2002, 2003, 2005, 2006, 2010, 2011, 2012 and 2013. As recommended by the plan, infiltration and inflow evaluations continue.

4.2. Identified or Potential Conveyance Capacity Exceedance

The following projects were identified to correct potential conveyance capacity problems. Most recently completed studies are discussed first. The intent of this list is to summarize preventative measures to reduce potential conveyance and collection system overloads. Chapter 94 requires a discussion of conveyance problems expected to occur within five years; the following information may include potential capacity problems identified beyond the required five-year planning horizon.

Annual York City Sewer Authority Interceptor System Evaluation Update: Ongoing
The York City Sewer Authority continues to update its sanitary sewer conveyance and collection system evaluation. The plan focuses on identifying areas where inflow and infiltration can be reduced, and assessing and prioritizing where improvements can be made in the sewer system. This on-going system evaluation is a result of Act 537 planning activities discussed above. The last update was completed in January 2009: the next update is scheduled for 2014 and will begin with compilation of digital system-wide mapping.

2013 Surcharge Indicator Readings: Ongoing
Monitoring of flow meters and eight surcharge indicators continued in 2013. Surcharge indicators registered the storm event of October 10-12, 2013 when over 9 inches of precipitation fell in the region due to a stalled low pressure system. All wastewater was contained in the sewer collection and conveyance system (no overflows) with the exception of some back-ups into basements reported in some areas. The ongoing surcharge indicator program will continue in 2014.

West Market Street Pump Station and West King Street Pump Station Number 1: Ongoing
The West Market Street and West King Street pump stations located in West Manchester Township are identified as hydraulically overloaded: in 2012 the Pennsylvania Department of Environmental Protection placed a ban on new connections to the systems tributary to the pump stations. A Corrective Action Plan was submitted by the municipality. In 2007 the township replaced 1,100 feet of interceptor tributary to the West King Street pump station, and redirected flows from this pump station to the West Market Street pump station as an interim measure. An interceptor replacement project was completed in December 2009 to reduce infiltration and inflow received at the West Market Street pump station: flow data were collected in 2010 and 2011 to document flow reductions and determine if the overload was eliminated. The data showed generally lower flows. In late-2013 the wet well and control building of the West Market Street pump station were elevated approximately 4.5 feet to keep the facilities above potential flood levels and eliminate stormwater from entering the wet well. Approximately 2,200 linear feet of 10-inch clay main tributary to the West King Street pump station was repaired using cured-in-place piping and grout to decrease infiltration. Evaluation is on-going.

Codorus Creek Interceptor Study
A sanitary sewer capacity analysis that included all areas of the sanitary sewer system in the City of York was completed in 2000. Additional flows approved through the sewer module planning review process for new land developments are used to continuously update the base flow data obtained in the 2000 study. The additional flows are assigned to the appropriate receiving interceptor to track potential hydraulic overloading in all interceptors. A segment of the Codorus Creek interceptor has a reduced pipe cross-section and is identified as having the potential to be hydraulically overloaded in the future. In 2010 limited flow metering was conducted at Grant and Dublin Streets just west of the Codorus Creek between West Market and West King Streets to determine approximate pipe capacity and available capacity for future connections.

4.3. Prevented or Corrected Conveyance Capacity Exceedance

The following projects were implemented to correct an existing conveyance capacity problem or to prevent an anticipated conveyance capacity problem. Most recently implemented projects are discussed first. The intent of this list is to provide a summary of major improvement projects in the sanitary sewer system. The following information may include potential capacity problems that were identified beyond the required five-year planning horizon.

Poor House Run Siphon Replacement: Completed
Due to design, pipe approaches on either side of the siphon, and lack of adequate cleaning access, this siphon was identified as a potential hydraulic restriction. Spring Garden Township and the City of York jointly improved the siphon, which is located near Loucks Mill Road. The siphon was realigned in conjunction with the Poor House Run Interceptor improvements. The project was put out for bid in 2010, with work starting in late 2010 and project completion in 2011.

Poor House Run Interceptor Replacement: Completed
The Poor House Run Interceptor was identified as a significant source of infiltration and inflow and having potential future hydraulic overload conditions. The project realigned the interceptor from just north of Chestnut Street to the Codorus Creek crossing in conjunction with the Poor House Run siphon project in 2011. The York City Sewer Authority undertook this multi-jurisdictional project with participation from municipalities that contribute flow to the line (City of York, Spring Garden Township).

Willis Run Crossing Retrofitting: Completed
The Willis Run stream crossing was identified as a location of head loss in the Lower Codorus Creek interceptor. Improvements to the stream crossing were completed in 2011, and improved hydraulic flow in the interceptor and as well as addressed maintenance and sedimentation problems. The project was constructed in conjunction with the 2011 Poorhouse Run interceptor and siphon projects.

Arch Street Interceptor Improvements: Completed
The Arch Street Interceptor was identified as a source of significant infiltration and inflow with the possibility of future hydraulic overload conditions. Approximately 2,550 linear feet of the 100-year old terra cotta pipe was replaced with 18-inch, 24-inch, and 27-inch PVC pipe from North Beaver Street northwards to South George Street and thence to Arch Street near where the line crosses the Codorus Creek. Preliminary design work started in 2008, which included extensive test pits and utility markings due to the numerous utilities in the area and a railroad crossing. Construction began in December 2009 and was completed in 2010. This project is also known as the Northwest Triangle Sewer Replacement Project, and was funded in part by a PAH2O grant.

Gas Avenue Interceptor Improvements: Completed
The Gas Avenue Interceptor project slip-lined compromised terra cotta pipe with PVC from North Newberry Street to Grant Street to eliminate the exfiltration of sanitary sewer wastes into the underlying stormwater sewer. The problem was identified in June 2008. The interceptor was relined in 2009. The project was completed in early-2010 with grouting of all laterals.

Marlborough Pump Station, York Township: Completed
The township identified problems and made repairs to the mains in the Marlborough West subdivision to reduce infiltration and inflow to the Marlborough pump station.

Pershing Avenue Interceptor Replacement Project: Completed
The Pershing Avenue Interceptor was replaced in 2008 from West Philadelphia Street to West Mason Avenue in downtown York. A total of 817 feet of 18-inch terra cotta pipe was replaced with 21-inch PVC pipe. Six manholes were also replaced. This area of aging infrastructure was targeted for replacement based on the City of York sanitary sewer sub-basin study aimed at reducing infiltration and inflow.

Philadelphia Street Storm Sewer Improvements, Phase II: Completed
The Philadelphia Street Storm Sewer Improvement Study examined how various downtown City of York roof leaders could be removed from the sanitary sewer system. Removal of the roof leaders from the sanitary sewer system could not occur until the storm sewer infrastructure was improved. In 2007 and 2008 roof leaders were disconnected from the sanitary sewer system and connected to the storm water system, thus eliminating a substantial amount of stormwater from the sanitary sewer system.

Farmbrook Pump Station Number 4, Manchester Township: Completed
An hydraulic overload was projected for the Farmbrook pump station located in Manchester Township. The township requested and obtained approval from DEP in 2006 to modify the pump station to address the projected overload. Improvements were completed in early 2007 with the installation of new impellers.

Tyler Run Interceptor Upgrade: Completed
York Township upgraded a portion of the Tyler Run interceptor to address conveyance capacity issues and to accommodate future development. This capacity issue affected York and Spring Garden Townships and the City of York. Since 2001 York Township has replaced 7,671 feet of main in the drainage basin, in addition to televising, grouting and repairing joints, and repairing manholes. Work on the interceptor was completed in 2006.

Roosevelt Avenue Sewer Study, Phase 2: Completed
The York City Roosevelt Avenue Sewer Study focuses on the interceptor from the York City Business and Industrial Park to the Willis Run interceptor connection at the Codorus Creek interceptor. The final engineering report, Roosevelt Avenue Update of Interceptor Facilities Study of the Pennsylvania Avenue Interceptor, was completed in 1996 and addresses modeled future capacity problems. The study evaluates the interceptor for physical and hydraulic carrying capacity with total land use build out to the year 2045. Flow projections and hydraulic analysis indicate that an overload condition might exist in the future. Phases 1 and 2 replaced line from the beginning of the interceptor in the York City Business and Industrial Park to approximately Fahs Street. Phase 1 was constructed in 1999 in coordination with the PennDOT Route 30 improvements. The original Phase 2 scope was reduced to coordinate construction with the West Manchester Township Willis Run Relief Interceptor upgrade project, which accepts flow from York City and Manchester Township with considerable cost savings for all municipalities. Phase 2 construction was completed in 2000. Phase 3 will be implemented after review of flow conditions and projections after completion of Phase 1 and 2 improvements.

Willis Run Relief Interceptor: Completed
West Manchester Township upgraded a 16-inch interceptor extending from Route 30 to Fahs Street to accommodate expected future growth in the township. Approximately 3,000 linear feet of line were replaced. Construction was completed in 2000 in coordination with the PennDOT Route 30 improvements and York City's Roosevelt Avenue Interceptor Upgrade project.

Roosevelt Avenue Sewer Study, Phase 1: Completed
The scope of the York City Roosevelt Avenue Sewer Study is described above. Phase 1 project design occurred in 1998 and construction was completed in 1999 in coordination with PennDOT's Route 30 improvements. The original Phase 2 scope was reduced to coordinate construction with a West Manchester Township interceptor upgrade, which will accept flow from York City and Manchester Township with considerable cost savings for all municipalities.

Boundary Avenue Sewer Improvements: Completed
Several commercial, residential and institutional land development projects are expected to occur at the intersection of South George Street and Boundary Avenue in the City of York. In anticipation of this development, the condition and capacity of the sewer infrastructure were evaluated in 1996. The system was comprised of vitrified clay pipe and brick manholes with approximately 983 linear feet of collection directly affected by the development. Design, contract award, and construction occurred in 1998. All sections were replaced with 8-inch diameter PVC and pre-cast concrete manholes, with the exception of 43 feet of a low slope pipe segment at South George Street that was replaced with 10-inch diameter pipe. Approximately 700 linear feet of poor condition or low slope line near the anticipated development activity was identified and included in the contract for replacement to prevent capacity issues and to coordinate sewer improvements with anticipated utility, street and sidewalk improvements.

Pennsylvania Avenue Interceptor Upgrade, Phase 1: Completed
The York City Pennsylvania Avenue Interceptor Upgrade Study was initiated due to poor flow conditions, and recommended reconstruction of the present system. The interceptor begins at the York City Business and Industrial Park and terminates at the Willis Run interceptor near North George Street. The final engineering report, Update of Interceptor Facilities Study of the Pennsylvania Avenue Interceptor, was completed in 1995. The study updates a 1988 study of similar name and evaluates the interceptor for physical and hydraulic carrying capacity with total land use build-out to the year 2045. Flow projections and hydraulic analysis indicated that an overload condition might exist in the future.

The study recommended a two-phased approach for upgrade. Phase I addressed short-range capacity problems by replacing sections of 8-inch line with 18-inch line in the northern portion of the study area and replacing a low slope 12-inch line section with 18-inch line. Phase I improvements were constructed in 1997 (PADEP A3-67001-066-3). Phase II will replace remaining 12-inch sections of line that are projected to surcharge with 18-inch line, and will be implemented only after Phase I improvements are completed, and flow conditions and projections are reevaluated.

Saint Charles Way Relief Sewer: Completed
Approximately 1,000 linear feet of line were replaced in 1997 in the vicinity of Interstate-83 and Acco Drive in York Township in response to resident complaints during extended wet weather periods in 1996. The low-lying lines experienced joint failure and were receiving inflow. The improvements, which included preventing surface water entry, were intended to address areas downstream of MacDonald's Heights.

North George Street Interceptor: Completed
Construction of a relief interceptor for the Manchester Township Roundtown and North George Street area was completed in 1995. Separately, Manchester Township and York City evaluated hydraulic backup problems occurring approximately 1.25 miles upstream from the treatment plant. During high flow periods on the line, Manchester Township pumped excess flow to a creek tributary to Lighteners Run. Manchester Township and York City televised the line in 1995 and 1996, respectively. Contract award and construction occurred in 1997 for the replacement of 2,079 linear feet of main and the repair of 1,120 linear feet of lateral along North George Street to abate sources of infiltration and inflow.

Edgar Street Sewer Bypass (Poor House Run Interceptor): Completed
Spring Garden Township's sewer line experienced infiltration induced overload during long periods of rain causing the sewer line to back up into area basements around Irving Road and Springdale Avenue. The 1994 Edgar Street Sewer Study reviewed Spring Garden Township's by-pass sewer line, the condition and capacity of York City's sewer line downstream of the proposed connection, and possible corrective measures. The Edgar Street Relief Sewer Study estimated flows from Spring Garden Township. Construction of the Edgar Street Bypass, a joint project between York City and Spring

Garden Township, began in late 1995 and was completed in early 1996 (PADEP A3-67001-068-3z). Two sections of constructed line reroute Spring Garden Township and York City flows to appropriate sections. York City and Spring Garden Township have not received any sewer complaints or observed any problems in the Edgar Street area since the completion of this project.

Upper Codorus Creek Interceptor: Completed

Deteriorated pipe was observed during inspection of the Upper Codorus Creek interceptor from South Richland Avenue to its intersection with the Tyler Run interceptor. Capacity analysis indicated potential for hydraulic overload in this section of pipe as well. Consequently, Spring Garden Township, West York Borough, York City and York Township, the municipalities serviced by this line, contracted to replace the line with a larger diameter pipe. Construction commenced in February 1994 and was completed in October 1994. No capacity problems have been observed.

Tyler Run and Codorus Creek Interceptors: Completed

The Tyler Run and Codorus Creek trunk line interceptor projects eliminated both the observed Tyler Run interceptor overload and theoretical overload of the Codorus Creek trunk line interceptor. Observation of these lines in 1993 and 1994 indicated that no problems existed; no subsequent problems were observed.

5. Quality Assurance of Effluent Monitoring §94.12(a)(5), in part

The laboratory at the City of York Wastewater Treatment Plant is responsible for the analysis of raw influents, partially treated and treated wastewater, and its byproducts to determine the efficiency of plant processes and to ensure that the effluent meets state and federal requirements. The laboratory also analyzes industrial wastewater samples collected by Municipal Industrial Pretreatment Program (MIPP) staff. These samples are used to determine whether local industries are meeting the requirements of their permits and to determine the amount of surcharges, if applicable. When other analyses are required, MIPP and the laboratory staff coordinate testing with private laboratories.

The laboratory was accredited by the Pennsylvania Department of Environmental Protection (PADEP) in 2007 according to the requirements in 25 PA Code, Chapter 252 and the Laboratory Accreditation Act (27 PA C.S. §§ 4101 – 4113). The laboratory's accreditation was renewed in 2013. In 2013, the laboratory participated in the ERA Water Pollution Proficiency Testing Study 218. All values reported in the study were within acceptable limits.

5.1. Sampling

Treatment plant operators typically collect in-house samples. MIPP personnel collect the industrial wastewater samples. Required containers, sampling methods, preservation techniques, and holding times for samples comply with 40 CFR, Part 136.3 Table II.

To ensure sample integrity, these general guidelines are followed:

1. All influent, effluent and some activated sludge samples are collected by refrigerated automatic samplers, set to 4° C, over 24-hour periods running from midnight to midnight. Samples are chilled within a range of 1° C to 6° C. Raw influent, final effluent, and some other process samplers operate in flow proportional mode.
2. Samples are collected in sample containers appropriate to the test requirement (glass, plastic etc.). Fecal coliform samples are collected in sterile plastic bags.
3. Laboratory personnel measure dissolved oxygen (DO) and temperature at the 002 outfall with a portable DO meter. A sample is collected and brought to the laboratory for pH analysis.
4. Samples are preserved in the field and stored at appropriate temperatures as dictated by each individual standard operating procedure (SOP). This minimizes analyte loss due to chemical, physical, or biological degradation.
5. Samples that exceed their holding times or have other quality control issues related to the batch in which they are run are reported with a flagged result if re-sampling is not possible.
6. Individuals responsible for collection of each in-house sample document on a chain of custody form their initials, and the time the sample arrives in the laboratory.
7. Industrial samples have a chain of custody, which includes sample information, time and date collected, type of sample, preservation, etc. The chain of custody also functions as a bench sheet for the sample.

5.2. Analysis

In 2013 the laboratory performed more than 27,500 analyses to complete NPDES permit compliance reports, plant process-control requirements, and monitoring requirements for industrial discharges. Some analytes, such as oil and grease, cyanide, flash point, priority pollutants, TCLP, and local limit testing, cannot be tested in the laboratory. Testing for these samples was contracted to ALS Environmental. The MIPP contracted ALS Environmental to test for the following analytes that cannot be tested in the laboratory: oil and grease, cyanide, and flash point. ALS Environmental also analyzed eight MIPP BOD samples.

Table 5-1 depicts the types and numbers of samples analyzed in the laboratory each week for NPDES permit compliance and process-control. The laboratory also regularly tests industrial discharge samples for the MIPP as shown in Table 5-2 below.

Table 5-1: Number of Treatment Plant Samples Analyzed per Week, by Analyte

Type	Analyte								
	TSS	**VS**	**TS**	**BOD**	**NH_3**	**TKN**	**NO_2NO_3**	**PO_4**	**Fecal Coliform**
Influents	35	0	0	35	35	0	21	35	0
Effluents	21	0	0	21	21	1	21	21	7
Mixed Liquors	42	14	0	0	0	0	0	0	0
Return Sludges	14	14	0	0	0	0	0	6	0
Other Sludges	0	14	14	0	0	0	0	0	0
GBT Samples	7	14	14	0	0	0	0	0	0
Digester Profile	0	6	6	0	0	0	0	0	0
Train 2 & Train 3 Profiles	0	0	0	0	30	0	30	30	0
Weekly Samples	119	62	34	56	86	1	72	92	7

Notes: Totals do NOT include quality control samples, industrial wastewater samples, special samples, blanks, etc. Total analyses per year = 27,508.

Table 5-2: Number of Industrial Samples Analyzed per Year, by Analyte

Analyte	Number of Samples
pH*	169
Total Suspended Solids	261
BOD_5	261
NH_3	241
PO_4	232
Metals**	274

Notes: Totals do NOT include treatment plant samples, quality control samples, special samples, blanks, etc. The total number of industrial analyses per year is 1,269. Metals samples are counted once regardless of the number of elements tested.
* - pH measurements performed by MIPP staff in the field under laboratory registration #67-04977.

The methods chosen for each analysis have been approved by USEPA and PADEP, and the analytical Standard Operating Procedures (SOP) associated with the methods are reviewed regularly during the PADEP laboratory audits. Table 5-3 lists each analyte tested in the laboratory along with the reference method. All references to Standard Methods refer to the 18th edition. In 1998 the laboratory received approval from the USEPA for one alternate test procedure for Standard Method 2540-D that allows these samples to be dried overnight before weighing instead of repeating the drying, weighing, drying, weighing cycle to constant weight.

Table 5-3: Reference Methods for Each Analysis

Analyte	Reference Method
Total Solids	SM 2540 G
Total Suspended Solids	SM 2540 D
Residual Solids, Volatile	EPA 160.4
Settleable Solids, Volumetric	SM 2540 F
Metals, Microwave Digestion	SM 3030 K
Metals, Atomic Absorption	SM 3111 B
Ammonia, Distillation	SM 4500 NH_3 B
Ammonia, Selective Electrode	SM 4500 NH_3 F
Kjeldahl Nitrogen	SM 4500 N_{org} B & C
Nitrate/Nitrite	SM 4500 NO_3 H
Phosphorus, Digestion	SM 4500 P B
Phosphorus, Ascorbic Acid	SM 4500 P E
BOD/CBOD	SM 5210 B
Fecal Coliform	SM 9222 D

5.3. Quality Control Samples

The laboratory analyzes quality control samples with each batch of samples prepared and analyzed. A batch is defined as one (1) to twenty (20) samples of the same matrix prepared and analyzed using the same methods, personnel, and lot(s) of reagents with a maximum elapsed time of 24 hours between the start of preparation of the first and last sample (unless a more stringent requirement is contained in the reference method). Specific details about the required quality control samples are contained in each analytical SOP. The following is a description of the various quality control samples that are used in the laboratory.

1. Blank (BLK): A sample of similar matrix to the associated samples that is free from the analyte(s) of interest. The blank is processed simultaneously with, and under the same conditions as, the environmental samples, through all steps of the analytical procedure. The blank is used to detect the presence of contamination in the analytical environment. Analysis of the blank must indicate that no target analyte(s) or interferences are present at concentrations above the MDL (method detection limit).
2. Duplicate (DUP): Two aliquots of the same sample analyzed by an identical procedure. The duplicate sample measures the precision associated with laboratory procedures, but not with sample collection, preservation, or storage procedures. The duplicate sample is analyzed simultaneously with, and under the same conditions as, the environmental samples, through all steps of the analytical procedure. The duplicate samples are evaluated for relative percent difference (RPD) and a duplicate is considered acceptable when a RPD of 10% or less is obtained, unless otherwise specified in the analytical SOP.

3. Initial Calibration: Two or more standards of known concentration (the number varies depending on the method) are prepared and analyzed according to the procedure detailed in the analytical SOP. For methods that require the use of calibration standards (either daily or periodically), the slope of the resulting curve is examined to ensure that it meets the standards required by the method. Unless otherwise stated in the method, the correlation coefficient of the slope must be at least 0.995 for linear calibration curves, and 0.999 for non-linear calibration curves. Calibration curves are typically verified using at least one low level and one high level secondary source standard (QCS) of known value (see QCS below).
4. Laboratory Control Sample (LCS): A sample of similar matrix to the associated samples that is free from the analyte(s) of interest, spiked with a verified, known amount of method analyte(s). The LCS is analyzed simultaneously with, and under the same conditions as, the environmental samples, through all steps of the analytical procedure. The LCS is used to determine that the methodology is in control, that the laboratory is capable of making accurate and precise measurements, and that the laboratory is able to recover the analyte(s) using the analytical method. The results of the LCS are evaluated for percent recovery (% Rec), and a LCS with a percent recovery of ± 10% is considered acceptable unless otherwise specified in the analytical SOP.
5. Matrix Spike (MS): Two aliquots of the same sample analyzed by an identical procedure, where a known quantity of the method analyte(s) is added to one of the aliquots. The MS is analyzed simultaneously with, and under the same conditions as, the environmental samples, through all steps of the procedure. The MS is used to determine whether the sample matrix contributes bias to the analytical results. The measured values in the MS must be corrected for any background concentration found in the unspiked sample aliquot. The results of the MS are evaluated for percent recovery (% Rec) of ± 10% which is considered acceptable unless otherwise specified in the analytical SOP.
6. Secondary Source Standard (QCS): Secondary reference materials or standards are purchased from a different manufacturer or different lot number than the standards used to calibrate the instrument. Analysis of a QCS ensures the accuracy of the calibration standards and is required after each initial instrument calibration. The use of a QCS also provides another method for monitoring the quality of analysis, since their true value is known. QCS are analyzed after every ten samples to verify the initial calibration, and bracket sample results with standards of known value. QCS alternate between a low and a high level standard. The results of the QCS are evaluated for percent recovery (% Rec), and a QCS with a percent recovery of ± 10% is considered acceptable unless otherwise specified in the analytical SOP.

5.4. Other Laboratory Techniques

Other techniques that the laboratory uses to monitor the quality of analyses are not necessarily run with every batch of samples tested, but are nonetheless important in determining the efficacy of the laboratory. Examples of these techniques are given below:

1. Correlation of results: When several similar tests are run on a single sample, the results may be correlated to verify the quality of analysis. For example, soluble BOD results are expected to be less than BOD results, and ortho-phosphate results should be less than total phosphate results.
2. Proficiency Testing (PT): The laboratory analyzes at least one single blind proficiency-testing sample for each accredited test method or analyte in our laboratory scope of work every twelve months. Additional PT studies, including double blind PT studies, may be completed, as the laboratory deems necessary.
3. Retesting: Samples may be retested to compare results and measure accuracy using either the same or different analysts. Retesting samples is used only as a method of assessing the quality of analysis, never to selectively report data for compliance purposes.

4. Split samples: Some industries split the industrial wastewater sample collected by the MIPP with a different laboratory of their choice. Although the laboratory is not always aware of these samples, when this does occur it provides another method of assessing the quality of analysis. The MIPP compares the split sample results to assess the quality of analysis. Split sample results are averaged in accordance with USEPA guidelines.

5.5. Quality Assurance Practices

1. Analytical Balance: The balance is located on a level, vibration-free table, away from drafts, and is leveled and zeroed prior to each use. The balance calibration is verified daily before use and after every ten samples with class S standard weights (1.0000 g, 50.0000 g, and 100.0000 g). If any calibration verification measurement differs by more than 0.0002 g from the expected mass, the balance is recalibrated internally. The balance is serviced and certified annually by a professional technician.
2. Analytical Records: Records are dated and initialed by the analyst. Raw data, calculations, and final results are maintained along with all associated calibration and quality control data for at least five years. Records are also backed-up electronically using a digital archive system.
3. Autoclaves: Autoclaves are tested monthly for sterilization capability using a bio-indicator. The timing devices on the autoclaves are verified four times per year. Autoclaves are serviced and certified annually by a professional technician.
4. Glassware: Glassware is cleaned thoroughly and appropriately for the methods for which it is used. When necessary, specific cleaning details are given in the analytical SOPs. Class A volumetric flasks and pipets are used to prepare reagents and standards.
5. Microwave: The microwave is serviced and certified regularly by a professional technician.
6. pH Meter: The pH meter is calibrated daily using 7.0 and 10.0 standards. A 4.0 standard is used as a calibration check before and after samples are run (less than 10 samples are analyzed per day). Fresh aliquots of pH buffers are used daily, and the probe solution is changed weekly.
7. Reagent Water: Water is prepared by distillation and subsequent deionization. The resistivity of this reagent water is measured and recorded daily. Distillation and deionization equipment are regularly maintained.
8. Thermometers: All laboratory thermometers (liquid in glass) are calibrated against a NIST traceable thermometer in-situ at least once per year. Thermometers are checked for separations and submerged in an appropriate medium (i.e., ethylene glycol for refrigerator and BOD incubator storage, sand for oven storage, etc.). Temperatures are recorded daily (twice daily for microbiological water bath incubators).

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6. Plant Performance

Plant performance is governed by effluent limitations associated with the NPDES permit for the York City Wastewater Treatment Plant. Permit effluent limitations are presented in Table 6-1. Monthly plant performance data are presented in Table 6-2 through Table 6-7, and treatment plant 2011 through 2013 influent, effluent, and biosolids local limit data are summarized in Table 6-8 through Table 6-10.

The York City Wastewater Treatment Plant met all permit requirements in 2013 with the following exceptions. The January, February and March 2013 monthly average ammonia concentrations and the February 2013 monthly average ammonia loading were exceeded due to loss of nitrifying bacteria (discussed below). Variously during a October 10-12, 2013 storm event the treatment plant discharged partially treated sewage (non-disinfected) as some treatment plant tanks were overtopped due to high flows caused by a stalled low pressure system that dropped over nine inches of rain during a 32-hour period. The maximum average weekly total suspended solids (TSS) limit was exceeded due to this storm event. The reader is referred to Appendix K for more detailed information regarding the October 2013 storm event.

Table 6-1: NPDES Permit Effluent Limitations
York City Wastewater Treatment Plant

Pollutant	Mass Units (lbs/day)		Concentration (mg/l)			
	Average Monthly	Average Weekly	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Maximum
5-day CBOD[1] (5/1-10/31)	3,253	4,879	15	22	N/A	30
5-day CBOD[1] (11/1-4/30)	4,337	6,505	20	30	N/A	40
Total Suspended Solids[1]	6,505	9,758	30	45	N/A	60
Fecal Coliform[2] (5/1-9/30)	N/A	N/A	200[3]	N/A	N/A	N/A
Fecal Coliform[2] (10/1-4/30)	N/A	N/A	2,000	N/A	N/A	N/A
Ammonia-N (5/1-10/31)	369	N/A	1.7	N/A	N/A	3.4
Ammonia-N (11/1-4/30)	455	N/A	2.1	N/A	N/A	4.2
Total Phosphorous	434	N/A	2.0	N/A	N/A	4.0
Dissolved Oxygen	N/A	N/A	minimum of 5.0 mg/l at all times			
pH	N/A	N/A	minimum of 6.0 SU and maximum of 9.0 SU at all times			
Total Residual Chlorine[4]	N/A	N/A	monitor and report			
Kjeldahl-N	N/A	N/A	monitor and report			
Nitrate-Nitrite as N	N/A	N/A	monitor and report			
Total Nitrogen	N/A	N/A	monitor and report			
Annual Net Total Nitrogen[5]	N/A	N/A	2/1/2008 to 2/27/2011 monitor and report; 2/28/2011 to 1/31/2013 474,880 pounds per year			
Annual Net Total Phosphorus[5]	N/A	N/A	2/1/2008 to 2/27/2011 monitor and report; 2/28/2011 to 1/31/2013 63,317 pounds per year			

[1] - 30-day average percent removal shall not be less than 85%.
[2] - per 100 ml as a geometric average.
[3] - also not to exceed 1,000/100 ml in more than 10% of samples tested.
[4] - Monitoring for total residual chlorine (TRC) is only required when chlorine is used for disinfection.
[5] - The annual net mass loading in pounds per year is the sum of the monthly net mass loadings for one year beginning October 1st and ending September 30th. The reader is referred to the facility's NPDES permit, Part C.II for a full explanation of Chesapeake Bay nutrient requirements.
Source: NPDES permit PA0026263 Part A, February 1, 2008-January 31, 2013.

Dissolved oxygen, pH, and fecal coliform information are presented in Table 6-2. The average dissolved oxygen effluent concentration was 8.8 mg/l with no daily measurements less than the instantaneous minimum permit concentration of 5.0 mg/l. The pH permit limit, an instantaneous minimum of 6.0 standard units and an instantaneous maximum of 9.0 standard units, was not exceeded. The minimum instantaneous pH was 7.2 SU and the maximum instantaneous pH was 7.8 SU.

The permit limits for fecal coliform, by geometric average are: a monthly average of 2,000 colonies per 100 ml from October through April, and monthly average of 200 colonies per 100 ml from May through September while also not exceeding 1,000 colonies per 100 ml in more than 10% of samples tested. In 2013 the monthly fecal coliform geometric effluent averages ranged between 1 and 4 colonies per 100 ml, well below permit requirements, and May through September samples did not exceed the 1,000 colonies per 100 ml on more than 10% of samples tested criterion. During the storm event of October 10-12, 2013 the treatment plant discharged partially treated (non-disinfected) sewage. The final clarifier scum box in Train 3 overflowed causing non-disinfected flow to enter Lightners Run: test results indicate that the non-disinfected overflow did not have an adverse impact on the stream in terms of fecal coliform. The Train 2 aeration tank influent flumes were overtopped and the Train 2 aeration tank effluent overtopped a portion of the Train 2 aeration tanks. These flows were captured and combined with stormwater flow, and were pumped to the Codorus Creek *via* outfall 001 after chlorination with sodium hypochlorite. During the event there was a two-hour delay between the start of the Train 2 process overflows and the time disinfection was started. The reader is referred to Appendix K for details regarding the storm event.

Table 6-2: Dissolved Oxygen, Fecal Coliform and pH Effluent Concentrations, 2013
York City Wastewater Treatment Plant

Month	Dissolved Oxygen[1]		Fecal Coliform[2]	pH[3]	
	Average (mg/l)	Minimum (mg/l)	Geometric Average (colonies/100ml)	Minimum (SU)	Maximum (SU)
January	9.3	8.4	1	7.3	7.6
February	9.6	8.6	2	7.3	7.5
March	9.6	8.4	1	7.2	7.6
April	9.4	8.9	1	7.3	7.6
May	8.8	8.2	1	7.4	7.6
June	8.3	7.7	1	7.4	7.7
July	7.8	7.5	4	7.4	7.7
August	8.0	7.7	3	7.4	7.8
September	8.1	7.6	1	7.5	7.7
October	8.5	7.8	3	7.4	7.7
November	9.1	8.6	2	7.4	7.7
December	9.4	8.8	2	7.4	7.7
Annual Average	8.8	N/A	2	N/A	N/A

Permit Limits:
[1] - minimum of 5.0 mg/l at all times.
[2] - May 1 through September 30: monthly average of 200 colonies/100ml and not to exceed 1,000 colonies/100 ml in more than 10% of samples tested. October 1 through April 30: monthly average of 2,000 colonies/100ml.
[3] - from 6.0 to 9.0 standard units inclusive.

Five-day carbonaceous biochemical oxygen demand ($CBOD_5$) effluent data are summarized in Table 6-3. Effluent permit limits for this parameter during May through October are as follows: weekly average of 22 mg/l and 4,879 lbs/day; monthly average of 15 mg/l and 3,253 lbs/day; and instantaneous maximum of 30 mg/l. Concentration limits for November through April are: weekly average of 30 mg/l and 6,505 lbs/day; monthly average of 20 mg/l and 4,337 lbs/day; and instantaneous maximum of 40 mg/l. In addition, the 30-day average percent removal rate cannot be less than 85%. In 2013, influent BOD_5 concentrations averaged 236 mg/l, while the effluent monthly $CBOD_5$ concentrations averaged 3 mg/l. Average monthly BOD percent removal rates ranged from 97.5% to 99.3% with an overall annual removal rate of 98.7%. All permit limits were met.

Table 6-3: Biochemical Oxygen Demand Effluent Concentration and Loading, 2013
York City Wastewater Treatment Plant

Month	Influent	Effluent					
	Average (mg/l)	Average Monthly (mg/l)	Max. Avg. Weekly (mg/l)	Maximum Daily* (mg/l)	Average Monthly (lbs/day)	Max. Avg. Weekly (lbs/day)	Average Percent Removal
January	238	5	15	71	551	1,921	97.5
February	193	2	3	5	248	292	98.6
March	195	3	3	6	273	362	98.5
April	268	2	3	3	193	222	99.2
May	275	2	2	3	183	200	99.2
June	246	2	2	4	189	236	99.1
July	221	2	3	3	199	227	98.9
August	230	2	2	2	185	230	99.0
September	285	2	2	2	157	161	99.3
October	215	5	11	35	1,267	4,442	97.8
November	259	2	2	3	174	196	99.2
December	206	2	3	7	285	378	98.6
Annual Average	236	3	N/A	N/A	N/A	N/A	98.7

Permit Limits:
- May through October: average monthly 15 mg/l, average weekly 22 mg/l, instantaneous maximum 30 mg/l, average monthly 3,253 lbs/day, average weekly 4,879 lbs/day.
- November through April: average monthly 20 mg/l, average weekly 30 mg/l, instantaneous maximum 40 mg/l, average monthly 4,337 lbs/day, average weekly 6,505.
- 30-day average percent removal shall not be less than 85%.

*There is no maximum daily concentration permit limit: values are shown for comparison purposes.

Total suspended solids effluent concentrations are shown in Table 6-4. Effluent permit limits for this parameter are as follows: monthly average effluent limit of 30 mg/l and 6,505 lbs/day, weekly average of 45 mg/l and 9,758 lbs/day, and instantaneous maximum concentration of 60 mg/l. In 2013, monthly influent concentrations averaged 240 mg/l, while effluent concentrations averaged 4 mg/l. The NPDES permit requires a 30-day average removal rate of at least 85% of suspended solids; monthly average suspended solids percent removal rates ranged from 95.3% to 99.2% for an overall removal rate of 97.9%. One permit excursion occurred in 2013. The average weekly loading of 9,758 lbs/day was exceeded in October 2013 due to a stalled low pressure system that precipitated over 9 inches of rain in the area over a 32-hour period. Treatment plant influent on October 11, 2013 was 68.154 mgd.

Table 6-4: Total Suspended Solids Concentration and Loading, 2013
York City Wastewater Treatment Plant

Month	Influent	Effluent					
	Average (mg/l)	Average Monthly (mg/l)	Max. Avg. Weekly (mg/l)	Max. Daily* (mg/l)	Average Monthly (lbs/day)	Max. Avg. Weekly (lbs/day)	Percent Removal
January	223	10	32	200	1,219	4,309	95.3
February	199	3	3	9	284	292	98.2
March	226	4	6	12	436	689	97.8
April	270	3	3	6	237	286	98.8
May	254	3	4	7	228	380	98.7
June	255	3	4	6	252	370	98.7
July	228	4	7	17	363	569	97.8
August	242	2	4	6	228	434	98.3
September	256	2	2	7	139	171	99.2
October	237	12	40	135	3,845	**15,170**	95.3
November	264	2	3	6	193	282	98.7
December	220	4	8	38	428	855	97.8
Annual Average	240	4	N/A	N/A	N/A	N/A	97.9

Permit Limits:
- average monthly 30 mg/l, average weekly 45 mg/l, instantaneous maximum 60 mg/l, average monthly 6,505 lbs/day, average weekly 9,758 lbs/day.
- 30-day average percent removal shall not be less than 85%.

*There is no maximum daily concentration permit limit: values are shown for comparison purposes.

Phosphorous effluent concentrations for the treatment plant are summarized in Table 6-5. Permit limitations for phosphorous are: 2.0 mg/l and 434 lbs/day monthly average, and 4.0 mg/l instantaneous maximum. Influent concentrations averaged 4.3 mg/l and effluent concentrations averaged 0.8 mg/l. Average monthly percent removal rates ranged from 57.5% to 86.3% for an overall annual average removal rate of 77.4%. All permit limits were met.

Table 6-5: Phosphorus Effluent Concentration and Loading, 2013
York City Wastewater Treatment Plant

Month	Influent	Effluent			
	Average (mg/l)	Average (mg/l)	Max. Daily* (mg/l)	Average (lbs/day)	Percent Removal
January	4.1	1.1	6.8	108.9	71.6
February	3.8	0.6	1.9	61.6	81.7
March	3.8	0.7	1.8	79.3	76.7
April	4.7	0.6	1.9	49.1	86.2
May	4.8	0.5	1.6	45.7	86.3
June	4.4	0.8	2.0	76.2	78.1
July	4.4	1.6	6.6	132.1	57.5
August	4.2	0.7	3.5	58.7	80.6
September	5.0	0.9	4.4	69.8	77.3
October	3.8	0.8	4.7	202.5	72.4
November	4.7	0.8	2.2	64.3	80.6
December	3.7	0.6	1.4	67.6	80.5
Annual Average	4.3	0.8	N/A	N/A	77.4

Permit Limits:
- average monthly 2.0 mg/l and 434 lbs/day, instantaneous maximum 4.0 mg/l.

*There is no maximum daily concentration permit limit: values are shown for comparison purposes.

Ammonia-nitrogen concentrations are summarized in Table 6-6. Ammonia-nitrogen permit limitations vary seasonally and generally permit higher concentrations in the cooler months and lower concentrations in the warmer months. For May through October ammonia-nitrogen permit limitations are: 1.7 mg/l and 369 lbs/day monthly average, and 3.4 mg/l instantaneous maximum. For November through April permit limitations are: 2.1 mg/l and 455 lbs/day monthly average, and 4.2 mg/l instantaneous maximum. Influent concentrations averaged 17.6 mg/l. The annual average effluent concentration was 1.3 mg/l. The average monthly ammonia-nitrogen removal rate ranged between 51.6% and 99.5% for an overall removal rate of 91.7%.

Permit excursions occurred in January through March for the monthly average ammonia-nitrogen concentrations, and in February for the average monthly ammonia-nitrogen pounds. The treatment plant experienced a nitrifier upset causing a diminished ability for removing ammonia. Early speculation indicated that an inhibitory compound may have been received from the collection system. However, one process treatment train was affected while the other was not, further complicating trouble shooting of the event. A laboratory test of interference compounds was negative, and investigation of possible commercial or industrial sources yielded no information. Internal plant process return flows were also evaluated. The treatment plant process was upgraded for enhanced nitrogen and phosphorus removal to comply with more stringent Chesapeake Bay nutrient requirements with the new biologic treatment

system going on-line in the fall of 2012, which is just prior to the nitrifier upset. The new Kruger treatment process is much more sensitive to process control factors and influent changes. Full treatment process data were evaluated after initial correspondence was submitted to PADEP (see Appendix K). An examination of December 2012 data shows that ammonia effluent results had some higher than typical values: it is possible that precursors to the nitrifier upset occurred in December 2012. Of note is that additional subsequent treatment plant performance issues occurred during 2013 (which did not result in permit excursions). Due to this staff examined industrial production data and were able to correlate ammonia and phosphorus performance reductions with production shut-downs in industrial food-producing industries.

Therefore, it appears that the cause of imbalances at the plant, including the nitrifier upset during cold weather, were caused by what the plant was NOT receiving from the collection system – namely BOD and in particular soluble BOD - rather than receiving a toxic compound. During industrial food production shut-downs, total BOD loading at the plant decreases an average of 23% and, critically, soluble BOD loading decreases an average of 68%. Test trials of feeding soluble carbon sources (i.e., methanol, glycerin) to plant treatment trains just prior to the expected denitrification zone during industrial food production shut-downs have shown preservation of treatment quality. The reader is referred to Appendix K, PADEP Correspondence, for communications with PADEP covering the initial nitrifier upset.

Table 6-6: Ammonia-Nitrogen Effluent Concentration and Loading, 2013
York City Wastewater Treatment Plant

Month	Influent	Effluent			
	Average (mg/l)	Average (mg/l)	Max. Daily* (mg/l)	Average (lbs/day)	Percent Removal
January	17.3	**3.1**	9.5	303	80.1
February	17.4	**7.9**	15.7	**742**	51.6
March	15.7	**2.9**	13.0	268	81.1
April	18.1	0.1	0.3	12	99.1
May	18.9	0.1	0.3	12	99.0
June	16.2	0.2	1.2	13	99.0
July	16.8	0.2	2.0	16	98.8
August	17.7	0.1	0.2	10	99.3
September	23.3	0.1	0.2	8	99.5
October	16.2	0.4	2.7	112	93.5
November	20.1	0.3	2.4	22	98.6
December	14.0	0.3	0.5	36	97.4
Annual Average	17.6	1.3	N/A	N/A	91.7

Permit Limits:
- May through October: average monthly 1.7 mg/l and 369 lbs/day, instantaneous maximum 3.4 mg/l.
- November through April: average monthly 2.1 mg/l and 455 lbs/day, instantaneous maximum 4.2 mg/l.

*There is no maximum daily concentration permit limit: values are shown for comparison purposes.

Annual net total nitrogen and annual net total phosphorus data are summarized in Table 6-7. Annual net total nitrogen and annual net total phosphorus data reporting requirements became effective October 1, 2011 with annual data reporting beginning October 1 through September 30 of each year starting with the first full year of reporting. The October 1 through September 30 annual cycle is the northern hemisphere's 'water year'. Water years are used for processing data related to stream flow and other hydrologic data: they start with the season of most groundwater recharge and end with the season of maximum evaporation or water loss.

The annual net total nitrogen permit limit is 474,880 pounds, and the annual net phosphorus permit limit is 63,317 pounds. The 2013 annual net total nitrogen loading that was discharged was 226,436 pounds and the annual net phosphorus mass load that was discharged was 31,418 pounds. During the 2013 compliance year, the annual net nitrogen and annual net phosphorus loadings did not exceed permit limits. October 2013 through December 2013 data are presented to provide a full calendar year of data: the three months of data are not included in the annual water year totals as per permit requirements, but will be included in the 2014 compliance year.

Table 6-7: Annual Net Nitrogen and Phosphorus Loading, October 2012 to September 2013
York City Wastewater Treatment Plant

Month	Monthly Net Mass Load (lbs)	
	Total Nitrogen	Total Phosphorus
October 2012	28070	3312
November 2012	22884	1874
December 2012	17607	5484
January 2013	22447	3375
February 2013	32131	1725
March 2013	35307	2460
April 2013	11207	1474
May 2013	11078	1416
June 2013	10572	2287
July 2013	11816	4095
August 2013	12225	1821
September 2013	11092	2095
Annual Net Mass Load	**226436**	**31418**
October 2013	12175	6278
November 2013	24367	1930
December 2013	17222	2096

Permit Limits:
-annual net mass load for nitrogen: 474,880 pounds.
-annual net mass load for phosphorus: 63,317 pounds.

Table 6-8, Table 6-9, and Table 6-10 summarize treatment plant influent, effluent, and biosolids local limit data, respectively, for the years 2011 through 2013. No data trends are apparent except that results are consistent over time. Given the minimum detection limit for some analyses, all influent, effluent, and biosolids goals were consistently met for the last three years.

Table 6-8: Comparison of Local Limit Influent Data, 2011-2013
York City Wastewater Treatment Plant

Date	Arsenic	Cadmium	Chromium	Copper	Cyanide	Lead	Mercury	Molybdenum	Nickel	Oil and Grease	Selenium	Silver	Zinc
2/16/2011	<0.0050	<0.0010	0.0040	0.044	<0.0050	0.0049	<0.00050	0.028	0.0068	113	<0.0020	0.0011	0.12
5/11/2011	<0.0050	<0.0010	0.0042	0.042	<0.0050	0.0094	<0.00050	0.028	0.0042	37.1	<0.0020	0.0025	0.13
5/11/2011	<0.0050	<0.0010	0.0033	0.033	<0.0050	0.0068	<0.00050		<0.010		<0.010	<0.0020	0.10
8/24/2011	<0.0050	<0.0010	0.0025	0.055	<0.0050	0.011	<0.00050	0.024	0.0047	31.3	<0.0020	0.0012	0.14
12/7/2011	<0.0050	<0.0010	0.0026	0.042	<0.0050	0.0074	<0.00050	0.024	0.0031	31.1	<0.0020	0.0012	0.11
2/1/2012	<0.0050	<0.0010	0.0024	0.050	<0.0050	0.0073	<0.00050	0.022	0.0031	39.3	0.0058	0.0014	0.11
5/31/2012	<0.0050	<0.0010	0.0027	0.071	<0.0050	0.011	<0.00050	0.026	0.0043	8.2	<0.0020	0.0013	0.17
5/31/2012	<0.0050	<0.0010	0.0030	0.062	<0.0050	0.011	<0.00050		<0.010		<0.010	0.0023	0.16
8/22/2012										20.6			
8/23/2012	<0.0050	<0.0010	0.0023	0.050	<0.0050	0.011	0.00023	0.032	0.0036		<0.0020	<0.0010	0.11
12/12/2012	<0.0050	<0.0010	0.0039	0.051	<0.0050	0.0083	0.00021	0.033	0.0067	127	0.0022	<0.0010	0.13
2/6/2013	<0.0050	<0.0010	0.0027	0.043	<0.0050	0.0072	0.00035	0.027	0.0071	48.2	<0.0020	<0.0010	0.084
4/24/2013	<0.0050	<0.0010	0.0023	0.063	<0.0050	0.0086	0.00046	0.017	0.0039	10.1	<0.0020	<0.0010	0.13
5/15/2013	<0.0050	<0.0010	0.0031	0.050	<0.0050	0.011	<0.00050		<0.010		<0.010	<0.0020	0.14
8/21/2013	<0.0050	<0.0010	0.0025	0.052	<0.0050	0.0087	<0.00020	0.037	0.0033	24.8	<0.0020	<0.0010	0.12
11/21/2013	<0.0050	<0.0010	0.0026	0.061	<0.0050	0.014	0.00034	0.021	0.0037	48.3	<0.0020	0.0013	0.14
Goal	0.017	0.0041	0.1616	0.183	0.057	0.0407	0.0014	0.04	0.1059	No Goal	0.028	0.1374	0.5234
Average	0.0025	0.0005	0.0029	0.051	0.0025	0.009	0.00027	0.027	0.00	45	0.002	0.0011	0.13
Maximum	<0.0050	<0.0010	0.0042	0.071	<0.0050	0.014	0.00046	0.037	<0.010	127	<0.010	0.0025	0.17
Minimum	<0.0050	<0.0010	0.0023	0.033	<0.0050	0.0049	<0.00020	0.017	0.0031	8.2	<0.0020	<0.0010	0.084

Notes: Results reported in mg/l. Non-detectable results are reported as "<" less than the test detection limit. Values of one-half the detection limit were used to calculate averages. Bolded results indicate goal exceedance.

Table 6-9: Comparison of Local Limit Effluent Data, 2011-2013
York City Wastewater Treatment Plant

Date	Arsenic	Cadmium	Chromium	Copper	Cyanide	Lead	Mercury	Molybdenum	Nickel	Oil and Grease	Selenium	Silver	Zinc
2/16/2011	<0.0050	<0.0010	0.0013	<0.0050	<0.0050	<0.0030	<0.00050	0.024	0.0044	<2.1	<0.0020	<0.0010	0.051
5/11/2011	<0.0050	<0.0010	0.0014	<0.0050	<0.0050	<0.0030	<0.00050	0.027	<0.0025	<2.1	<0.0020	<0.0010	0.038
8/24/2011	<0.0050	<0.0010	<0.0010	<0.0050	<0.0050	<0.0030	<0.00050	0.022	0.0029	2.3	<0.0020	<0.0010	0.035
12/7/2011	<0.0050	<0.0010	<0.0010	<0.0050	<0.0050	<0.0030	<0.00050	0.026	<0.0025	<2.0	<0.0020	<0.0010	0.034
2/1/2012	<0.0050	<0.0010	<0.0010	<0.0050	<0.0050	<0.0030	<0.00050	0.021	<0.0025	2.4	<0.0020	<0.0010	0.037
5/31/2012	<0.0050	<0.0010	<0.0010	<0.0050	<0.0050	<0.0030	<0.00050	0.029	0.0029	<2.1	<0.0020	<0.0010	0.034
8/22/2012	<0.0050	<0.0010	<0.0010	<0.0050	<0.0050	0.0034	<0.00020	0.022	<0.0025	<2.1	<0.0020	<0.0010	0.027
11/12/2012					<0.0050								
12/12/2012	<0.0050	<0.0010	0.0016	<0.0050	<0.0050	0.0051	<0.00020	0.081	0.0059	<2.3	<0.0020	<0.0010	0.048
2/6/2013	<0.0050	<0.0010	0.0019	<0.0050	<0.0050	<0.0030	<0.00020	0.028	0.0050	<2.2	<0.0020	<0.0010	0.025
4/24/2013	<0.0050	<0.0010	<0.0010	<0.0050	<0.0050	<0.0030	<0.00020	0.025	<0.0025	3.2	<0.0020	<0.0010	0.036
8/21/2013	<0.0050	<0.0010	<0.0010	<0.0050	<0.0050	<0.0030	<0.00020	0.028	<0.0025	<2.2	<0.0020	<0.0010	0.029
11/21/2013	<0.0050	<0.0010	<0.0010	<0.0050	<0.0050	<0.0030	<0.00020	0.028	<0.0025	<2.1	<0.0020	<0.0010	0.044
Goal	0.034	0.0014	0.034	0.0497	0.0177	0.021	0.0002	No Goal	0.2764	No Goal	0.017	0.0317	0.6353
Average	0.0025	0.0005	0.0009	0.0025	0.0025	0.0020	0.0002	0.030	0.0025	1	0.0010	0.0005	0.037
Maximum	<0.0050	<0.0010	0.0019	<0.0050	<0.0050	0.0051	<0.00050	0.081	0.0059	3.2	<0.0020	<0.0010	0.051
Minimum	<0.0050	<0.0010	<0.0010	<0.0050	<0.0050	<0.0030	<0.00020	0.021	<0.0025	<2.0	<0.0020	<0.0010	0.025

Notes: Results reported in mg/l. Non-detectable results are reported as "<" less than the test detection limit. Values of one-half the detection limit were used to calculate averages.
Bolded results indicate goal exceedance.

Table 6-10: Comparison of Local Limit Biosolids Data, 2011-2013
York City Wastewater Treatment Plant

Date	Arsenic	Cadmium	Chromium	Copper	Cyanide	Lead	Mercury	Molybdenum	Nickel	Oil and Grease	PCB	Selenium	Silver	Zinc
1/6/2011	<1.99	1.53	24.1	278.4	<1	32.0	0.49	16.4	14.3		<1.37	4.11		433.7
2/16/2011	<9.5	<2.4	33.9	368	<1.4	45.0	<1.0	24.9	23.6	19,000		<23.7	10.0	552
3/1/2011	<1.91	1.45	19.9	280.9	<1	34.2	0.56	16.1	14.8		<1.35	3.12		391.5
5/9/2011	<2.54	2.60	22.4	344.8	<1	46.9	1.03	18.99	20.6			5.44		509.3
5/11/2011	<10.5	<2.6	28.1	352	<1.4	48.9	1.2	20.4	21.9	35,100		<26.2	10.0	532
5/11/2011	<10.3	<2.6	24.5	333	1.6	44.4	1.2		21.6		<0.35	<25.9	9.9	514
7/12/2011	3.37	2.59	26.8	403.5	<1	67.4	1.13	19.3	22.5		<0.15	5.73		638.6
8/23/2011	<11.1	<2.8	27.6	360	<1.4	60.3	<1.1	22.0	22.5	6,060		<27.8	17.6	649
9/1/2011	3.59	2.46	23.0	392.9	<1	66.3	0.96	23.51	20.4			6.28		723.1
11/1/2011	2.71	2.42	23.5	372.7	<1	62.3	1.33	20.6	19.1		<0.14	6.09		622.7
1/5/2012	2.87	2.07	21.8	378.6	<1	51.3	0.87	17.71	17.8		<0.15	7.92		550.0
2/2/2012	<11.9	<3.0	29.1	426	<1.6	53.4	<1.1	20.3	25.4	27,700		<29.9	12.6	606
3/1/2012	2.78	1.92	16.7	326.1	<1	40.0	1.33	14.84	15.7		<0.14	6.01		449.4
5/7/2012	4.03	3.16	26.8	517.8	<1	64.2	0.90	24.42	26.0		<0.2	6.41		711.4
5/31/2012	<12.0	3.0	31.0	450	<1.8	63.3	1.2	23.6	26.2	36,300		<30.0	13.2	670
5/31/2012	<11.0	<2.7	25.4	388	<1.6	55.2	1.1		22.2		<0.21	<27.4	11.3	563
7/2/2012	<2.87	2.77	23.3	464.6	<1	82.2	1.74	23.97	24.8		<0.18	7.35		684.0
8/22/2012	<11.4	2.8	26.6	492	<1.5	104	0.91	24.0	23.5	2,090		<28.4	13.1	779
9/3/2012	3.29	2.69	22.6	516.8	<1	91.5	0.83	24.01	22.0		<0.18	7.55		793.3
11/8/2012	3.43	2.28	22.2	489.4	<1	83.8	1.02	21.23	21.4		<0.15	6.18		710.1
12/11/2012	<11.6	<2.9	25.4	443	<1.5	75.2	2.3	20.2	25.8	37,800		<29.0	9.3	675
1/9/2013	2.35	1.93	19.2	380.7	<1	57.3	0.82	19.33	22.9		<0.15	5.47		578.5
2/7/2013	<8.5	2.3	18.8	337	<1.3	49.8	1.2	19.3	21.9	34,400		<21.3	8.6	523
3/1/2013	2.91	2.39	18.2	389.7	<1	54.4	1.48	20.32	19.6		<0.37	6.37		567.3
4/24/2013	<10.4	2.8	26.7	482	<1.4	64.8	0.80	26.9	26.4	42,900		<26.1	12.6	653
5/1/2013	2.52	2.66	23.8	493.4	<1	62.5	1.37	24.93	24.4		<0.44	7.71		654.8
5/15/2013	<10.7	2.9	21.1	459	<1.5	55.2	1.5		26.1		<0.20	<26.7	11.8	603
7/2/2013	3.07	3.08	19.7	466.9	<1	76.5	0.99	25.46	20.3		<0.42	8.1		715.8
8/20/2013	<9.5	<2.4	<4.8	168	<1.2	18.4	1.4	<9.5	<9.5	31,500		<23.8	<2.4	267
9/4/2013	2.95	2.45	27.1	441.0	<1	85.5	1.21	20.76	19.8		<0.61	4.71		739.2
11/5/2013	3.64	2.97	34.1	526.5	<1	101.4	2.06	27.17	24.3		<0.39	7.41		900.2
11/19/2013	<10.2	3.1	31.8	485	2.1	91.4	1.4	28.1	25.2	24,500		<25.5	8.4	858
Goal	41	39	No Goal	1500	No Goal	300	17	75	420	No Goal	4	100	No Goal	2800
Average	3.9	2.2	24.2	408	1	62	1.1	21.2	21.5	27,032	0.2	9.5	10.8	621
Maximum	<12.0	3.16	34.1	526.5	2.1	104	2.3	28.1	26.4	42,900	<1.37	8.1	17.6	900.2
Minimum	<1.91	1.45	<4.8	168	<1	18.4	<1.0	<9.5	<9.5	2,090	<0.14	<21.3	<2.4	267

Notes: Data reflect testing of composited centrifuge cake. Data reflect dry weight in mg/kg. Non-detectable results are reported as "<" less than the test detection limit.
Values of one-half the detection limit were used to calculate averages. Bolded results indicate goal exceedance.

7. Municipal Industrial Pretreatment Program §94.12 (a)(8)

7.1. Purpose of the Municipal Industrial Pretreatment Program

Wastewater treatment plants are designed to treat domestic sewage; however, they also receive higher strength wastewater from industrial (non-domestic) facilities and processes. Recognizing that industrial wastewater often has different types and greater concentrations of pollutants compared to household wastewater, the United States Environmental Protection Agency (USEPA) established the National Pretreatment Program. The program's authority comes from Section 307 of the Federal Water Pollution Control Act, which is referred to as the Clean Water Act.

The National Pretreatment Program requires wastewater treatment plants to enforce all federal pretreatment standards and requirements in addition to any local sewer use regulations. The goals of the pretreatment program are to:

- prevent the introduction of industrial pollutants into wastewater treatment plants that interfere with, or are incompatible with, wastewater treatment plant processes and operations,
- prevent industrial facility pollutants from passing through wastewater treatment plants into receiving waters (i.e., streams or lakes),
- prevent the contamination of, and improve the quality of, municipal and industrial wastewater and sludges so they can be properly disposed of or used for beneficial purposes, and
- protect treatment plants, sanitary sewer systems, their workers and the safety of the public and the environment from the threats posed by industrial wastewater. [3, 4]

The City of York Municipal Industrial Pretreatment Program (MIPP) is responsible for monitoring the industrial and commercial wastewater dischargers in the City of York Wastewater Treatment Plant service area. This is accomplished through inspections and sampling of industrial wastewater. Inspections are performed to ensure industries conduct their manufacturing processes and operate their wastewater treatment systems in compliance with pretreatment regulations, and to prevent the discharge of unwanted substances to the sanitary sewer system and wastewater treatment plant. The results of wastewater sample tests allow the City of York to evaluate an industrial user's (IU) compliance with both federal and local wastewater regulations. To meet federal and local wastewater limits, some industrial facilities may be required to treat their wastewater before releasing it into the sewer; hence, the term "pretreatment." Wastewater test results are also used to recoup costs incurred by the City of York wastewater treatment plant to process the higher strength industrial waste - costs that would otherwise be borne by ratepayers.

7.2. Reporting Requirements

This section documents the activities of the City of York Municipal Industrial Pretreatment Program (MIPP) for reporting year 2012. It fulfills the Pennsylvania Department of Environmental Protection's (PADEP) annual Chapter 94 reporting requirements, the annual reporting requirements of the City of York Wastewater Treatment Plant's National Pollution Discharge Elimination System (NPDES) permit, and the United States Environmental Protection Agency's (USEPA) annual pretreatment program reporting requirements. The format of the section is based on the USEPA 2012 reporting year pretreatment annual report guidance, which includes a program summary and various supporting attachments showing more detailed information.

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[3] 40 CFR 401.12(f), 40 CFR 403.2

[4] 1996. Pretreatment Facility Inspection. 3rd ed. California State University, Sacramento.

7.3. Pretreatment Performance Summary

I. General Information

Control Authority Name: **City of York Wastewater Treatment Plant**
Address: **1701 Blackbridge Rd**
City: **York** State: **PA** Zip+4: **17402-1911**
Contact Person: **Andrew Jantzer, PE**
Contact Title: **General Manager of Wastewater Facilities**
Contact Telephone Number: **717-845-2794**
E-mail address: **ajantzer@yorkcity.org, vchavez@yorkcity.org**
NPDES No.: **PA0026263**
Permit Issuance Date**: 2/1/2008** Permit Expiration Date: **1/31/2013 (administratively extended)**
Reporting Period: **January 1, 2013 through December 31, 2013**
Total Categorical IUs (CIUs): **10**
Total "Middle Tier" CIUs (MTCIUs): **NA**
Total Nonsignificant CIUs (NSCIUs): **0**
Total Significant Noncategorical IUs (SNIUs): **20**

II. Compliance Monitoring Program

1. Number of SIUs with current control documents ..... **(plus 1 zero-discharge NSCIU)** **30**
2. Number of SIU facilities inspected **31**
3. Number of SIU facilities sampled ..... **(No discharge from 2 facilities)** **29**
4. Number of SIUs submitting Self-Monitoring Reports **31**

III. Significant Industrial User Compliance

1. Number of SIUs violating a compliance schedule/Number on a schedule **0/2**
2. Number of SIUs in SNC for the July to December review period **0**
3. Number of SIUs in SNC at any time during calendar year **1**
4. Number of SIUs in SNC that were also in SNC during the previous calendar year **0**
5. Number of NSCIUs that violated any standards or requirements **0**

IV. Enforcement Actions

1. Notices/Letters of Violation issued to SIUs **30**
2. Enforceable compliance schedules issued to SIUs ..... **(one issued 2012, completed 2013)** **0**
3. Civil/criminal suits filed **0**
4. Number of SIUs from which penalties have been collected **0**
5. Other actions (sewer bans, etc.) **0**

I certify that the information contained in this report and attachments is complete and accurate to the best of my knowledge. (See Part B.V of the instructions).

Andrew Jantzer — Name of the Authorized Representative

General Manager of Wastewater Facilities — Title (print)

Signature

Date

7.4. Section I, General Information Attachments

A list of categorical industrial users (CIU) and significant non-categorical industrial users (SNIU), which matches the industries referenced in Section I of the Pretreatment Performance Summary, is provided in Table 7-1. Categorical industrial users with the potential to discharge are identified in the "classification" column with "CIU". The federal regulation reference and industrial category are provided in the two immediately following columns. Both the previous and current permit dates are listed to cover the entire 2013 year.

There were no new facilities and no facilities that closed. Some changes to the industrial user list were made since the 2012 annual report submission.

- **AMZ Corp., 2206 Pennsylvania Avenue**, was reclassified as a Non-Significant Categorical Industrial User due to USEPA approval of pretreatment program streamlining changes. (The facility is still a zero-discharge facility and is therefore listed Section II, but not Section I).
- **CP Industries, 785 West Philadelphia Street,** is changed on the list to a permitted facility that is currently zero-discharge.
- **Frito Lay, 3553 Gillespie Drive,** used to be under an administrative order to address BOD concentration increases (without mass loading increases) due to implemented water conservation measures. Progressive enforcement against the industry for BOD violations would have essentially punished a large water-using industry for implementing water resource conservation measures. This was not reissued in 2013 because the facility made production and pretreatment process changes. (Note for 2014: In the latter part of 2013 and into 2014 the industry severely reduced process water usage, so this issue will have to be re-examined. For example, average daily wastewater discharge has dropped from roughly 250,000 gpd to 160,000 gpd - which is a 36% percent decrease - since the most recent water conservation measures were implemented.)

Table 7-1: Categorical and Significant Noncategorical Industrial Users, 2013

ID#	Industrial User		Classification	Categorical Reference	Category	Control Document Issue/ Effective Date	Control Document Expiration Date	Control Document Issue/ Effective Date	Control Document Expiration Date
0088	American Ash Recycling	1072 Roosevelt Av	SI			10/1/2012	9/30/2015*	4/1/2013	3/31/2016
0047	Bickel's Snack Foods – College Av	1000-1050 W College Av	SI					10/1/2012	9/30/2015
0045	Bickel's Snack Foods – Zinn's Quarry Rd	1120 Zinn's Quarry Rd	SI					10/1/2012	9/30/2015
0100	Cintas Corp.	1111 Smile Way	SI					7/1/2011	6/30/2014
0083	Columbia Gas of Pennsylvania, Inc.	201 Grant St	SI					10/1/2012	9/30/2015
0019	Coyne Textile Services	3500 W Market St	SI					10/1/2012	9/30/2015
0104	CP Industries	785 W Philadelphia St	CIU	40 CFR 417	soap and detergent			5/8/2013	3/31/2016
0021	Dentsply International Inc.	470 W College Av	CIU	40 CFR 433	metal finishing			10/1/2012	9/30/2015
0099	Dentsply Int'l. Professional Division	1301 Smile Way	SI					1/1/2012	12/31/2014
0005	EQ Pennsylvania	730 Vogelsong Rd	CIU	40 CFR 437	centralized waste treatment			10/1/2012	9/30/2015
0105	First Capital Powder Coating	215 Herman St	CIU	40 CFR 433	metal finishing			10/1/2012	9/30/2015
0006	Frito-Lay, Inc.	3553 Gillespie Dr	SI					10/1/2012	9/30/2015
0106	Gamlet, Inc.	1750 Toronita St	CIU	40 CFR 433	metal finishing			10/1/2013	9/30/2016
0098	Hess Gas Station 38254	253 S Queen St	SI			12/22/2010	9/30/2013	4/1/2013	3/31/2016
0095	Johnson Controls Inc.- Grantley Campus	631 S Richland Av	SI			4/1/2010	3/31/2013	10/1/2012	9/30/2015
0041	New York Wire Company-Weaving Facility	441 E Market St	CIU	40 CFR 433	metal finishing			10/1/2012	9/30/2015
0069	New York Wire Company-Wire Facility	829 Loucks Mill Rd	CIU	40 CFR 433	metal finishing			10/1/2012	9/30/2015
0013	North Metal & Chemical Company	609 E King St	SI					10/1/2012	9/30/2015
0038	Osram Sylvania, Inc.	1128 Roosevelt Av	CIU	40 CFR 433	metal finishing			10/1/2012	9/30/2015
0089	Protech Powder Coatings Inc.	939 Monocacy Rd	SI					10/1/2012	9/30/2015
0085	RecOil, Inc.	280 North East St	CIU	40 CFR 437	centralized waste treatment			10/1/2012	9/30/2015
0018	Rutter's Dairy, Inc.	2100 N George St	SI					10/1/2012	9/30/2015
0092	Surtech Industries Inc	915 Borom Rd	CIU	40 CFR 433	metal finishing			10/1/2012	9/30/2015
0039	Warrell Classic Company, The	231 West College Av	SI					7/1/2012	6/30/2015
0103	WC Manufacturing Co LLC	615 South Pine St	SI					7/1/2011	6/30/2014
0035	YGS Group, The	3650 W Market St	SI					10/1/2012	9/30/2015
0059	York County Solid Waste & Refuse Auth.	2651 Blackbridge Rd	SI					10/1/2012	9/30/2015
0070	York Newspaper Company	1891 Loucks Rd	SI					10/1/2012	9/30/2015
0034	York Wallcoverings Inc.- Linden Av	750 Linden Av	SI					10/1/2012	9/30/2015
0084	York Wallcoverings Loucks Rd Facility	2075 Loucks Road	SI					1/1/2012	12/31/2014

CIU – Categorical Industrial User. SI – Significant Non-Categorical Industrial User. NSCIU – Non-Significant Categorical Industrial User.

* New permit issued before expiration date due to new process at facility.

7.5. Section II, Compliance Monitoring Program Attachments

Permits

As shown in Table 7-2, there were thirty (30) significant industrial users with current individual control documents (i.e., permits) in 2013. The City of York does not issue general permits. There are no lapsed or administratively extended permits. All permitted industries submitted the required self-monitoring reports. AMZ Manufacturing Corp. was reclassified as a Non-Significant Categorical Industrial User due to USEPA approval of pretreatment program streamlining changes, and no longer has a zero-discharge permit. CP Industries' compliance order and notice issued on September 21, 2009 and requiring annual certification regarding wastewater generation and disposal was effectively terminated with issuance of an industrial wastewater discharge permit with an effective date of May 8, 2013.

The City of York did not assign any mass-based limits in place of concentration-based limits to any categorical industrial users, nor were any monitoring waivers granted under 40 CFR 403.12(e)(2) for any categorically regulated pollutant. The City of York required all permitted industrial users that can discharge to self-monitor their wastewater. The City of York did not have any "middle tier" categorical industrial users. There was one zero-discharge non-significant categorical industrial user (NSCIU) in 2013.

Inspections

All facilities were inspected in 2013. A summary of 2013 inspection activities is provided in Table 7-2. A comprehensive annual inspection is conducted once per year. Observations are recorded using the annual inspection form. All facilities received an annual inspection.

All three zero-discharge facilities were inspected in 2013: AMZ Manufacturing Corp., located at 2206 Pennsylvania Avenue; CP Industries, located at 785 West Philadelphia Street; and, RecOil, Inc., located at 260 North East Street. AMZ Manufacturing Corp. is a metal finisher under 40 CFR 433, CP industries is a soap and detergent manufacturer under 40 CFR 417, and RecOil, Inc. is a centralized waste treatment facility under 40 CFR 437. AMZ Manufacturing Corp. evaporates wastewater and hauls evaporator solids off-site. CP Industries holds an industrial wastewater discharge permit, but does not currently discharge. RecOil, Inc. holds an industrial wastewater discharge permit, but hauls all wastewater for off-site disposal.

Sampling

Wastewater samples were collected from twenty-nine (29) facilities**.** A summary of 2013 sampling activities is provided in Table 7-2. The number of industrial user sampling events, number of City of York sampling events, and the minimum required number of industrial user samples are shown. The City of York required all permitted industrial users that discharge to self-monitor their wastewater.

Two industries were not sampled by the City of York in 2013 due to zero-discharge status. CP Industries did not discharge in 2013. RecOil, Inc.'s wastewater is hauled off-site. Sanitary waste samples were obtained from AMZ Manufacturing Corp., a zero-discharge metal finisher.

Table 7-2: Compliance Monitoring Summary, 2013

ID#	Industrial User	Site Address	IU Sample Results	City of York Sample Results	Total Samples	Required IU Samples	Annual Inspections	Compliance Inspections	Total Inspections
0088	American Ash Recycling	1072 Roosevelt Av, York PA 17404	13	14	27	4	1	0	1
0057	AMZ Corp.[1]	2206 Pennsylvania Av, York PA 17404	0	3	3	0	1	0	1
0047	Bickel's Snack Foods - College Av	1000-1050 W College Av, York PA 17405	14	15	29	4	1	0	1
0045	Bickel's Snack Foods - Zinns Quarry Rd	1120 Zinn's Quarry Rd, York PA 17405	16	15	31	4	1	0	1
0100	Cintas Corp.	1111 Smile Way, York PA 17404	4	14	18	4	1	0	1
0083	Columbia Gas of Pennsylvania, Inc.	201 Grant St, York PA 17401	4	9	13	4	1	0	1
0019	Coyne Textile Services	3500 W Market St, York PA 17404	22	14	36	4	1	0	1
0104	CP Industries[2]	785 W Philadelphia St, York PA 17404	0	0	0	0	1	1	2
0021	Dentsply International Inc.	470 W College Av, York PA 17404	12	12	24	4	1	0	1
0099	Dentsply Int'l. Professional Division	1301-1311 Smile Way, York PA 17404	4	8	12	4	1	0	1
0005	EQ Pennsylvania[3]	730 Vogelsong Rd, York PA 17404	76	12	88	12	1	0	1
0105	First Capital Powder Coating	215 Herman St, York, PA 17404	4	12	16	4	1	0	1
0006	Frito-Lay, Inc.	3553 Gillespie Dr, York PA 17404	50	51	101	4	1	0	1
0106	Gamlet, Inc.	1750 Toronita St, York PA 17402	5	12	17	4	1	2	3
0098	Hess Gas Station 38254	253 S Queen St, York PA 17403	12	4	16	4	1	0	1
0095	Johnson Controls Inc.- Grantley Campus	631 S Richland Av, York PA 17405	4	12	16	4	1	1	2
0041	New York Wire Company - Weaving Facility	441 E Market St, York PA 17405	4	12	16	4	1	0	1
0069	New York Wire Company - Wire Facility	829 Loucks Mill Rd, York PA 17405	4	9	13	4	1	0	1
0013	North Metal & Chemical Company	609 E King St, York PA 17405	5	5	10	4	1	0	1
0038	Osram Sylvania, Inc.	1128 Roosevelt Av, York PA 17404	12	12	24	4	1	0	1
0089	Protech Powder Coatings Inc.	939 Monocacy Rd, York PA 17404	4	8	12	4	1	0	1
0085	RecOil, Inc.[4]	280 North East St, York PA 17403	0	0	0	0	1	0	1
0018	Rutter's Dairy, Inc.	2100 N George St, York PA 17404	12	13	25	4	1	2	3
0092	Surtech Industries Inc	915 Borom Rd, York PA 17404	10	9	19	4	1	0	1
0039	Warrell Classic Company, The	231 West College Av, York PA 17401	8	23	31	8	1	0	1
0103	WC Manufacturing Co LLC	615 South Pine St, York PA 17403	4	8	12	4	1	0	1
0035	YGS Group, The	3650 W Market St, York PA 17404	4	8	12	4	1	0	1
0059	York County Solid Waste & Refuse Authority	2651 Blackbridge Rd, York PA 17406	8	12	20	4	1	0	1
0070	York Newspaper Company	1891 Loucks Rd, York PA 17408	11	12	23	4	1	0	1
0034	York Wallcoverings Inc. - Linden Av	750 Linden Av, York PA 17405	5	12	17	4	1	0	1
0084	York Wallcoverings Loucks Rd Facility	2075 Loucks Rd, York PA 17402	5	13	18	4	1	1	2
	Total		**336**	**363**	**699**	**124**	**31**	**7**	**38**

[1]-Industry is a zero-discharge non-significant categorical industrial user facility (not permitted) and is not required to sample. Sanitary wastewater samples were collected by staff.
[2]-Facility did not discharge.
[3]-Samples that were split by this industry and sent to two independent laboratories are counted as two samples.
[4]-This facility has a permit, but all wastewater is hauled off-site: therefore, no wastewater samples are required.

7.6. Section III, Significant Industrial User Compliance Attachments

There was one significant industrial user in significant noncompliance (SNC) during the 2013 reporting period. Table 7-3 summarizes the review period evaluation. There were no facilities in SNC for this reporting year that were also in SNC for the last reporting year. A copy of the 2013 public notice is located in Exhibit 7-1.

Table 7-3 Significant Industrial Users in SNC During 2013

Review Period	Industry	Criteria
1st review period October 2012 to March 2013	Bickels Snack Foods 1120 Zinns Quarry Road	Chronic BOD violations.
2nd review period January 2013 to June 2013	No industries in significant non-compliance.	
3rd review period April 2013 to September 2013	No industries in significant non-compliance.	
4th review period July 2013 to December 2013	No industries in significant non-compliance.	

There was one industrial user classified as a non-significant categorical industrial user (NSCIU) in 2013. The AMZ Manufacturing Corp. was reclassified as a Non-Significant Categorical Industrial User due to USEPA approval of pretreatment program streamlining changes. There were no designated NSCIUs previous to 2013.

There were no significant industrial users on written "informal" compliance schedules.

Two significant industrial users were under formal compliance schedules. Facilities were in compliance with their formal compliance schedules. CP Industries was issued a standing compliance order and notice on September 21, 2009, which included a revocation of their then industrial wastewater discharge permit. The order was effectively terminated with issuance of an industrial wastewater discharge permit with an effective date of May 8, 2013. Rutter's Dairy, Inc.'s permit was amended to include slug discharge control interim and final corrective action plans to address floor drains in a new fructose and sucrose storage room: compliance due dates were included in the permit amendment. Rutter's Dairy, Inc. met the interim corrective action plan deadlines, and the floor drains in the storage room were rerouted to the pretreatment system by the April 30, 2013 due date as a final corrective action. Details of the permit amendment were discussed in the 2012 Section IV, Enforcement Actions Attachments.

Proof of Publication
State of Pennsylvania

Ad # 0001433274-01

The York Dispatch/York Sunday News and York Daily Record is the name of the daily newspaper(s) of general circulation published continuously for more than six months at its principal place of business, 1891 Loucks Road, York, PA 17408.

The printed copy of the advertisement hereto attached is a true copy, exactly as printed and published, of an advertisement printed in the regular issues of the said **The York Dispatch/York Sunday News and York Daily Record** published on the

03/22/2014

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF YORK

Before me, a Notary Public, personally came Linda Smith who being duly sworn deposes and says that she is the Layout Supervisor of The York Dispatch/York Sunday News and York Daily Record and her personal knowledge of the publication of the advertisement mentioned in the foregoing statement as to the time, place and character of publications are true, and that the affiant is not interested in the subject matter of the above mentioned advertisement.

Sworn and subscribed to before me, on
this 22 day of March 2014

Notary Public

NOTARIAL SEAL
BRIAN C LAUGHLIN
Notary Public
WEST MANCHESTER TWP., YORK COUNTY
My Commission Expires Apr 1, 2016

The charge for the following publication of above mentioned advertisement and the expense of the affidavit.

Advertisement Cost	$224.40
Affidavit Fee	$5.00
Total Cost	$229.40

NOTICE OF INDUSTRIES IN SIGNIFICANT NON-COMPLIANCE

The City of York reports, in accordance with the United States Environmental Protection Agency regulation of 40 CFR 403.8(f)(2(viii), that the following industry was in Significant Non-Compliance (SNC) of environmental wastewater pretreatment requirements or pretreatment standards during the calendar year 2013. The City of York Wastewater Treatment Plant services North York Borough, West York Borough, the City of York, and portions of Manchester, Spring Garden, West Manchester and York Townships.

1st review period: October 1, 2012 to March 31, 2013.
Bickels Snack Foods, 1120 Zinns Quarry Road, York PA 17404 located in West Manchester Township for chronic biochemical oxygen demand (BOD) violations.

2nd review period: January 1, 2013 to June 30, 2013.
No industries in significant non-compliance.

3rd review period: April 1, 2013 to September 30, 2013.
No industries in significant non-compliance.

4th review period: July 1, 2013 to December 31, 2013.
No industries in significant non-compliance.

Andrew Jantzer
General Manager of Wastewater Facilities
City of York Wastewater Treatment Plant

7.7. Section IV, Enforcement Actions Attachments

Enforcement Actions Summary

A list of significant industrial users that received written notices of violation in 2013 and the number of violations issued to each user is provided in Table 7-4. Parameter violations are listed first, followed by other types of permit violations. Each non-compliance event is issued a separate notice of violation. For example, if a wastewater sample shows that both lead and copper exceeded permit limits, two separate notices of violation are sent to the industrial user, one for lead and one for copper. In 2013, 30 notices of violation were sent to industrial users (24 NOVs in 2012, 31 NOVs in 2011, 38 NOVs in 2010, 56 NOVs in 2009, 64 NOVs in 2008 and 110 NOVs in 2007).

Industries in SNC Not Subject to Additional Enforcement

Bickels Snack Foods, located at 1120 Zinns Quarry Rd, was in significant non-compliance for the first review period (October 2013 through March 2013) for chronic BOD violations. The facility produces potato chips, extruded snack foods, and specialty fried snack foods. MIPP staff met with the pretreatment contact regarding SNC status, wastewater pretreatment, and compliance. Permit requirements, sampling, and reporting were reviewed in detail, and biochemical oxygen demand and SNC status were discussed. During the meeting staff were informed that the contact was scheduled to meet with a wastewater contractor the following week regarding treatment improvement options. (The City of York Right-To-Know Officer subsequently received an information request regarding the industry from the consultant: MIPP staff provided the information). Staff requested a plan of action from the industry. Based on the meeting with the consultant, the facility made some immediate changes and submitted information for other more expensive changes to corporate for review (installation of storage/equalization tanks). The facility became compliant with no parameter violations in the nine months following.

Administrative Orders

No administrative orders were issued in 2013.

Standing Compliance Order and Notice, Terminated

As previously discussed, CP Industries was issued a standing compliance order and notice on September 21, 2009, which included a revocation of their then industrial wastewater discharge permit. The order was effectively terminated on May 7, 2013 with issuance of an industrial wastewater discharge permit with an effective date of May 8, 2013.

Permit Amendment for Potential Slug Discharge Control (Requirements Met)

Rutter's Dairy, Inc.'s was issued an amended permit December 21, 2012 to include slug discharge control interim and final corrective action plans to address floor drains in a new fructose and sucrose storage room: compliance due dates were included in the permit amendment. No spill occurred at the facility: the slug discharge control action plans were required to prevent such an occurrence. Interim corrective actions included instituting temporary measures to prevent slug discharges to the sanitary sewer through physical and procedural actions and preventing sweetener material spillage. Rutter's Dairy, Inc. met the interim corrective action written plan and implementation deadline of December 28, 2012. Final corrective actions addressed permanently redirecting potential spill and wash waters from the sanitary sewer lateral to the pretreatment system, and permanently capping/rendering inoperable the sanitary sewer lateral drains. The facility submitted a written final corrective action plan by the January 31, 2013. Final corrective actions were completed on April 4, 2013, which was before the deadline of April 30, 2013.

Penalties Assessed and Collected, Criminal Citations

No penalties were assessed or collected and no criminal citations were filed in 2013.

Table 7-4: Enforcement Actions Summary, 2013

		Parameter Violations							Other Permit Violations		Enforcement Actions			
ID#	Industrial User	Biochemical Oxygen Demand	Copper, total	Lead, total	Molybdenum, total	Oil & Grease (Hexane)	pH	Zinc, total	Reporting	Other	NOVs Issued	Citations Issued	Orders Issued	Penalties Collected
0088	American Ash Recycling						1				1			
0047	Bickel's Snack Foods - W College Av								1	1	1			
0045	Bickel's Snack Foods - Zinns Quarry Rd	2				1			1	1	5			
0100	Cintas Corp.					1					1			
0019	Coyne Textile Services			4		1					5			
0104	CP Industries								1		1			
0005	EQ Pennsylvania		1		1						2			
0105	First Capital Powder Coating								1		1			
0006	Frito-Lay, Inc.	8									8			
0041	New York Wire Company - Weaving Facility								1		1			
0092	Surtech Industries, Inc.							1			1			
0035	YGS Group, The							1			1			
0084	York Wallcoverings - Loucks Rd Facility		1								1			
	Total	10	2	4	1	3	1	2	5	2	30	0	0	$0.00

N.B. - There were no violations for the following local limits: arsenic, cadmium, chromium, cyanide, mercury, nickel, selenium, silver, temperature, and flashpoint.
Each parameter violation is issued a separate notice of violation.
Some NOVs may not have been enforced until 2014.

7.8. Part B: Pretreatment Developments

7.8.1. Summary of POTW Operations

Interference, Upset, Permit Violations

There were no upsets or interferences attributable to industrial causes at the City of York Wastewater Treatment Plant during 2013. This statement is qualified by the following discussion - it was first speculated that a substance may have entered the treatment plant and caused the upset - however, further investigation determined that it was what the treatment plant was *not* receiving that caused the issue (reduced biochemical oxygen demand loadings).

Permit excursions occurred in January through March for the monthly average ammonia-nitrogen concentrations, and in February for the average monthly ammonia-nitrogen pounds. The treatment plant experienced a nitrifier upset causing a diminished ability for removing ammonia. Early speculation indicated that an inhibitory compound may have been received from the collection system. However, one process treatment train was initially affected while the other was not, further complicating trouble-shooting of the event. A laboratory test of interference compounds was negative, and investigation of possible commercial or industrial sources yielded no information. Internal plant process return flows were also evaluated.

The treatment plant process was upgraded for enhanced nitrogen and phosphorus removal to comply with more stringent Chesapeake Bay nutrient reduction requirements: the new biologic nutrient reduction (BNR) treatment system went on-line in the fall of 2012, a few months before the nitrifier upset. The new Kruger treatment process is much more sensitive to process control factors and influent changes. Full treatment process data were evaluated after initial correspondence was submitted to PADEP (located in Appendix K). An examination of December 2012 data shows that ammonia effluent results had some higher than typical values: it is possible that precursors to the nitrifier upset occurred in December 2012. Of note is that additional subsequent treatment plant performance issues occurred during 2013, which did not result in permit excursions. Due to the fluctuation in plant performance MIPP staff examined industrial production data and were able to correlate decreases in ammonia and phosphorus removal with production shut-downs in a particular food-producing industry.

Therefore, it appears that the cause of imbalances at the plant, including the nitrifier upset during the cold weather, were caused by what the new Kruger plant system was *not* receiving from the collection system – namely BOD and in particular soluble BOD - rather than receiving an inhibitory compound. During industrial food production shut-downs, the total BOD loading at the plant decreases an average of 23% and, critically, soluble BOD loading decreases an average of 68%. Test trials of feeding soluble carbon sources (methanol, glycerin) to plant treatment trains just prior to the expected denitrification zone during industrial food production shut-downs have shown preservation of treatment processes. MIPP staff continue to receive weekly production schedule updates: information is shared with treatment plant staff so process changes and/or soluble carbon source dosing rates and feed times can be implemented. The treatment plant has included a more permanent carbon source feed system evaluation in its capital improvements plan. Many advance BNR systems find they require such additional readily available food sources to meet performance/permit criteria after initial installation.

The City of York continues to produce a high quality effluent. Biosolids are land applied for beneficial reuse.

The York City Wastewater Treatment Plant met all permit requirements in 2013 with the following exceptions. The January, February and March 2013 monthly average ammonia concentrations and the February 2013 monthly average ammonia loading were exceeded due to loss of nitrifying bacteria (discussed above). Variously during a October 10-12, 2013 storm event the treatment plant discharged

partially treated sewage (non-disinfected) as some treatment plant tanks were overtopped due to high flows caused by a stalled low pressure system that dropped over nine inches of rain during a 32-hour period. Treatment plant influent on October 11, 2013 was 68.154 mgd. The final clarifier scum box in Train 3 overflowed causing non-disinfected flow to enter Lightners Run: test results indicate that the non-disinfected overflow did not have an adverse impact on the stream in terms of fecal coliform. The Train 2 aeration tank influent flumes were overtopped and the Train 2 aeration tank effluent overtopped a portion of the Train 2 aeration tanks. These flows were captured and combined with stormwater flow, and were pumped to the Codorus Creek *via* outfall 001 after chlorination with sodium hypochlorite. During the event there was a two-hour delay between the start of the Train 2 process overflows and the time disinfection was started. The maximum average weekly total suspended solids (TSS) limit was exceeded in October 2013 due to this storm event. The reader is referred to Appendix K for more detailed information regarding the October 2013 storm event.

POTW Influent, Effluent and Biosolids Priority Pollutant Data, and Local Limit Data

The USEPA sets influent, effluent and biosolids goals for certain pollutants based on the most recently approved local limits evaluation. In general, these goals are based on the maximum amount of pollutants the treatment plant can receive without harming treatment plant processes, exceeding the water quality criteria of the Codorus Creek (the receiving stream), or exceeding the USEPA exceptional quality standards for land application of biosolids. The data associated with these goals are summarized in Table 7-5 through Table 7-77. Influent, effluent, and biosolids analytical results are included in Appendix J. Monthly average influent concentrations are provided for BOD, ammonia-nitrogen, phosphorus, and total suspended solids. The City of York Wastewater Treatment Plant met influent and biosolids goals in 2013. One PCB influent sample had an insufficient minimum detection limit. EPA Method 608, which can obtain a minimum detection limit of 0.000065 mg/l, was used; however, due to sample matrix interference the laboratory used a sample dilution, which in turn resulted in an increased minimum detection limit as per method protocol. Technical literature regarding Method 608 PCB analysis interferences focuses on laboratory practices, glassware, and meticulous clean-up procedures to eliminate or decrease interference, with introduction of interferences possible from everything from reagents to glassware to plastic. The literature examined did not mention constituents in the wastewater itself as a possible interference source that could be corrected. An alternate laboratory will be contacted regarding their typical consistent minimum detection limits for this analysis.

Table 7-5: Priority Pollutant Influent Goals Data Summary, 2013*

York City Wastewater Treatment Plant

Parameter Code	Influent Pollutant	Goal	Frequency Per Year	2/6/2013	4/24/2013	5/15/2013	8/21/2013	11/21/2013	1/2012	2/2012	3/2012	4/2012
34506	1-1-1-Trichloroethane	Monitor	1			<0.0010						
01002	Arsenic – Total	0.017	4	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050				
34030	Benzene	Monitor	1			<0.0010						
39100	Bis (2-ethylhexyl) Phthalate	0.5058	1	0.0096	0.0193	0.0194	0.107	0.0185				
00310	BOD- 5-day	699.772	4						238	193	195	268
01027	Cadmium – Total	0.0041	4	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010				
32106	Chloroform	Monitor	1			0.0026						
01034	Chromium – Total	0.1616	4	0.0027	0.0023	0.0031	0.0025	0.0026				
01042	Copper – Total	0.183	4	0.043	0.063	0.050	0.052	0.061				
00720	Cyanide – Total	0.057	4	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050				
34371	Ethylbenzene	Monitor	1			<0.0010						
01051	Lead – Total	0.0407	4	0.0072	0.0086	0.011	0.0087	0.014				
71900	Mercury – Total	0.0014	4	0.00035	0.00046	<0.00050	<0.00020	0.00034				
34423	Methylene Chloride	Monitor	1			<0.0010						
01062	Molybdenum – Total	0.04	4	0.027	0.017		0.037	0.021				
01067	Nickel – Total	0.1059	4	0.0071	0.0039	<0.010	0.0033	0.0037				
00610	Nitrogen – Ammonia	60.3248	0						17.3	17.4	15.7	18.1
00630	Nitrogen – Total	72.5	0									
04166	PCB- Total	0.0005	1			<0.0024						
34694	Phenol – Single Compound	Monitor	1			<0.0075						
00665	Phosphorus – Total	19.2959	0						4.1	3.8	3.8	4.7
01147	Selenium – Total	0.028	4	<0.0020	<0.0020	<0.010	<0.0020	<0.0020				
01077	Silver - Total	0.1374	4	<0.0010	<0.0010	<0.0020	<0.0010	0.0013				
00530	Solids – Total Suspended	723.898	0						223	199	226	270
34475	Tetrachloroethylene	Monitor	1			<0.0010						
34010	Toluene	Monitor	1			0.0072						
39180	Trichloroethylene	Monitor	1			0.0015						
01092	Zinc – Total	0.5234	4	0.084	0.13	0.14	0.12	0.14				

Notes: Samples are flow proportionate 24-hour composite samples. Results are reported in mg/l.

Non-detectable results are reported as "<" less than the test detection limit. Bolded results indicate goal exceedance, or test insufficient minimum detection limit.

Dates represented by month and year only (i.e., '3/2012') reflect monthly averages as per EPA annual report guidance.

* Table continued on next page.

Table 7-5 continued: Priority Pollutant Influent Goals Data Summary, 2013

York City Wastewater Treatment Plant

Parameter Code	Influent Pollutant	Goal	Frequency Per Year	5/2012	6/2012	7/2012	8/2012	9/2012	10/2012	11/2012	12/2012
34506	1-1-1-Trichloroethane	Monitor	1								
01002	Arsenic – Total	0.017	4								
34030	Benzene	Monitor	1								
39100	Bis (2-ethylhexyl) Phthalate	0.5058	1								
00310	BOD- 5-day	699.772	4	275	246	221	230	285	215	259	206
01027	Cadmium – Total	0.0041	4								
32106	Chloroform	Monitor	1								
01034	Chromium – Total	0.1616	4								
01042	Copper – Total	0.183	4								
00720	Cyanide – Total	0.057	4								
34371	Ethylbenzene	Monitor	1								
01051	Lead – Total	0.0407	4								
71900	Mercury – Total	0.0014	4								
34423	Methylene Chloride	Monitor	1								
01062	Molybdenum – Total	0.04	4								
01067	Nickel – Total	0.1059	4								
00610	Nitrogen – Ammonia	60.3248	0	18.9	16.2	16.8	17.7	23.3	16.2	20.1	14.0
00630	Nitrogen – Total	72.5	0								
04166	PCB- Total	0.0005	1								
34694	Phenol – Single Compound	Monitor	1								
00665	Phosphorus – Total	19.2959	0	4.8	4.4	4.4	4.2	5	3.8	4.7	3.7
01147	Selenium – Total	0.028	4								
01077	Silver - Total	0.1374	4								
00530	Solids – Total Suspended	723.898	0	254	255	228	242	256	237	264	220
34475	Tetrachloroethylene	Monitor	1								
34010	Toluene	Monitor	1								
39180	Trichloroethylene	Monitor	1								
01092	Zinc – Total	0.5234	4								

Notes: Samples are flow proportionate 24-hour composite samples. Results are reported in mg/l.
Non-detectable results are reported as "<" less than the test detection limit. Bolded results indicate goal exceedance, or test insufficient minimum detection limit.
Dates represented by month and year only (i.e., '3/2012') reflect monthly averages as per EPA annual report guidance.

Table 7-6: Priority Pollutant Effluent Goals Data Summary, 2013
York City Wastewater Treatment Plant

Parameter Code	Effluent Pollutant	Goal	Frequency By Year	2/6/2013	4/24/2013	8/21/2013	11/21/2013
34506	1-1-1-Trichloroethane	No Goal	0				
01002	Arsenic – Total	0.034	4	<0.0050	<0.0050	<0.0050	<0.0050
34030	Benzene	No Goal	0				
39100	Bis (2-ethylhexyl) Phthalate	0.0339	0				
00310	BOD- 5-day	No Goal	0				
01027	Cadmium – Total	0.0014	4	<0.0010	<0.0010	<0.0010	<0.0010
32106	Chloroform	No Goal	0				
01034	Chromium – Total	0.034	4	0.0019	<0.0010	<0.0010	<0.0010
01042	Copper – Total	0.0497	4	<0.0050	<0.0050	<0.0050	<0.0050
00720	Cyanide – Total	0.0177	4	<0.0050	<0.0050	<0.0050	<0.0050
34371	Ethylbenzene	No Goal	0				
01051	Lead – Total	0.021	4	<0.0030	<0.0030	<0.0030	<0.0030
71900	Mercury – Total	0.0002	4	<0.00020	<0.00020	<0.00020	<0.00020
34423	Methylene Chloride	No Goal	0				
01062	Molybdenum – Total	Monitor	4	0.028	0.025	0.028	0.028
01067	Nickel – Total	0.2764	4	0.0050	<0.0025	<0.0025	<0.0025
00610	Nitrogen – Ammonia	1.7	0				
00630	Nitrogen – Total	14.5	0				
04166	PCB- Total	0.0012	0				
34694	Phenol – Single Compound	No Goal	0				
00665	Phosphorus – Total	1.9	0				
01147	Selenium – Total	0.017	4	<0.0020	<0.0020	<0.0020	<0.0020
01077	Silver - Total	0.0317	4	<0.0010	<0.0010	<0.0010	<0.0010
00530	Solids – Total Suspended	No Goal	0				
34475	Tetrachloroethylene	No Goal	0				
34010	Toluene	No Goal	0				
39180	Trichloroethylene	No Goal	0				
01092	Zinc – Total	0.6353	4	0.025	0.036	0.029	0.044

Notes: Samples are flow proportionate 24-hour composite samples. Results are reported in mg/l.
Non-detectable results are reported as "<" less than the test detection limit. Bolded results indicate goal exceedance, or test insufficient minimum detection limit.

Table 7-7: Priority Pollutant Biosolids Goal Data Summary, 2013
York City Wastewater Treatment Plant

Parameter Code	Effluent Pollutant	Goal	Frequency By Year	1/9/13	2/7/13	3/1/13	4/24/13	5/1/13	5/15/13	7/2/13	8/20/13	9/4/13	11/5/13	11/19/13
34506	1-1-1-Trichloroethane	Monitor	1						<0.616					
01002	Arsenic – Total	41	4	2.35	<8.5	2.91	<10.4	2.52	<10.7	3.07	<9.5	2.95	3.64	<10.2
34030	Benzene	Monitor	1						<0.616					
39100	Bis (2-ethylhexyl) Phthalate	Monitor	1		23.700		26.700		14.300		15.100			13.400
00310	BOD- 5-day	No Goal	0											
01027	Cadmium – Total	39	4	1.93	2.3	2.39	2.8	2.66	2.9	3.08	<2.4	2.45	2.97	3.1
32106	Chloroform	Monitor	1						<0.616					
01034	Chromium – Total	Monitor	4	19.2	18.8	18.2	26.7	23.8	21.1	19.7	<4.8	27.1	34.1	31.8
01042	Copper – Total	1500	4	380.7	337	389.7	482	493.4	459	466.9	168	441.0	526.5	485
00720	Cyanide – Total	Monitor	4	<1	<1.3	<1	<1.4	<1	<1.5	<1	<1.2	<1	<1	2.1
34371	Ethylbenzene	Monitor	1						<0.616					
01051	Lead – Total	300	4	57.3	49.8	54.4	64.8	62.5	55.2	76.5	18.4	85.5	101.4	91.4
71900	Mercury – Total	17	4	0.82	1.2	1.48	0.80	1.37	1.5	0.99	1.4	1.21	2.06	1.4
34423	Methylene Chloride	Monitor	1						<0.616					
01062	Molybdenum – Total	75	4	19.33	19.3	20.32	26.9	24.93		25.46	<9.5	20.76	27.17	28.1
01067	Nickel – Total	420	4	22.9	21.9	19.6	26.4	24.4	26.1	20.3	<9.5	19.8	24.3	25.2
00610	Nitrogen – Ammonia	No Goal	0											
00630	Nitrogen – Total	No Goal	0											
04166	PCB- Total	4	1	<0.15		<0.37		<0.44	<0.20	<0.42		<0.61	<0.39	
34694	Phenol – Single Compound	Monitor	1		<13.700				<16.100					
00665	Phosphorus – Total	No Goal	0											
01147	Selenium – Total	100	4	5.47	<21.3	6.37	<26.1	7.71	<26.7	8.1	<23.8	4.71	7.41	<25.5
01077	Silver - Total	Monitor	4		8.6		12.6		11.8		<2.4			8.4
00530	Solids – Total Suspended	No Goal	0											
34475	Tetrachloroethylene	Monitor	1						<0.616					
34010	Toluene	Monitor	1						<0.616					
39180	Trichloroethylene	Monitor	1						<0.616					
01092	Zinc – Total	2800	4	578.5	523	567.3	653	654.8	603	715.8	267	739.2	900.2	858

Notes: Data reflect testing of composited centrifuge cake. Data reflect dry weight in mg/kg.
Non-detectable results are reported as "<" less than the test detection limit. Bolded results indicate goal exceedance, or test insufficient minimum detection limit.

7.8.2. Trucked or Hauled Wastewater

The City of York does not accept trucked or hauled industrial or non-industrial wastewater at the treatment plant or other places within the collection system.

Significant industrial users in the wastewater service area that hauled wastewater in 2013 to somewhere other than the City of York wastewater treatment plant are: AMZ Manufacturing, CP Industries, Johnson Controls, New York Wire-Wire Facility, and RecOil, Inc.

AMZ Corporation is a zero-discharge metal finisher (40 CFR 433) that generates wastewater from its plating operations. Wastewater is usually evaporated on-site; however, during times of increased production excess wastewater was hauled off-site by EQ Pennsylvania.

CP Industries performs two distinct operations: liquid soap and detergent manufacturing (40 CFR 417) and road salt preparation and packaging. The facility submitted a self-monitoring report stating that molasses wastewater (from an old basement tank in use when the property was a feed mill) and dye wastewater in totes was hauled off-site by MAT Transportation, Inc. in 2013.

Johnson Controls, Inc. is permitted to discharge wastewater to the collection system and usually does not have wastewater hauled off-site. Most of their wastewater is generated from chiller testing and vessel testing. Propylene glycol wastewaters and dilute ethylene glycol solution were hauled off-site by Environmental Recovery Corp.

New York Wire-Wire Facility is a metal finisher (40 CFR 433). Steel wire is copper plated before final drawing. Process wastewater is discharged to the sanitary sewer system. However, oily wastewater from floor washing is directed to an outdoor storage tank. The tank wastewater was hauled by Clean Venture, Inc./CycleChem, Inc.

RecOil, Inc. is a zero-discharge centralized waste treatment facility for oils treatment and recovery (40 CFR 437 subpart B). Oily waters were received on-site and were hauled off-site Spirit Services.

Increasingly, brine wastes from oil and gas drilling are becoming more important in Pennsylvania. EQ Pennsylvania receives hauled wastes, which it then de-lists and de-characterizes. EQ Pennsylvania did not receive any brine wastes at its York facility in 2013. Therefore, no brine wastes were discharged to the sewer system, and no brine wastes were re-manifested out to another facility for disposal.

7.8.3. Pretreatment Program Changes

Staffing in 2013 remained unchanged from 2012. Staffing in 2013 included one Pretreatment Permit and Compliance Manager and one Pretreatment Compliance Officer. The General Manager of Wastewater Facilities supervises pretreatment staff.

The City of York continues to use Linko CTS to manage its industrial information. The software is networked between the pretreatment program and the wastewater treatment plant laboratory. The City of York continues to update its Standard Operating Procedures (SOP) and policies as the need arises.

The City of York Wastewater Treatment Plant received its renewed National Pollution Discharge Elimination System (NPDES) permit, which became effective February 1, 2008. In accordance with the permit, the local limits sampling plan was submitted on April 18, 2008, and was approved by USEPA on May 1, 2008. The local limits reevaluation document was submitted to USEPA January 29, 2009. Multiple communications between the City of York and the USEPA occurred, and on April 21, 2011 USEPA accepted the proposed local limits, with the exception of BOD, and on October 18, 2011 accepted

retaining the existing BOD limit. A public meeting was held June 22, 2011, and passage of the amended local limits by the Council of the City of York occurred on October 4, 2011 within the six-month timeframe allowed under the NPDES permit. All municipalities adopted the new local limits in late 2011 through early 2012: the last ordinance was received in July 2012. The City of York forwarded proof of ordinance amendments to the USEPA on July 23, 2012. USEPA approved the local limits in correspondence dated November 15, 2012. All industrial wastewater discharge permits were amended by page replacement to reflect the new local limits. For categorical industrial users whose permit limits were derived using the combined wastestream formula, parameter values were compared to ensure the more stringent limit was applied in the permits.

The City of York wastewater treatment plant's NPDES discharge permit expired January 13, 2013: the new permit has not been issued as of late-March 2014. The local limits sampling plan is required to be submitted to EPA within three months of permit issuance.

On December 20, 2013 USEPA approved the streamlining regulations induced modifications to the enforcement response plan, which was accepted by USEPA on October 7, 2010.

7.8.4. Miscellaneous Developments

Activities

In 2013 MIPP engaged in the following activities:

- Attended multiple pretreatment program and MS4 trainings.
- Continued to search for other significant industrial users.
- Evaluated industrial-sourced BOD loading decreases and correlated its effect on ammonia and phosphorus removal at the treatment plant
- Assisted with MS4 field mapping, illicit discharge detection and elimination, regional Chesapeake Bay Pollutant Reduction Plan outfall water sampling, and ordinance revisions and public input process, and co-presented at regional stormwater workshops.
- Completed one of three Sacramento State Office of Water Programs training stormwater best management practices courses (of which there are three).
- One staff member completed, and the other enrolled in, the Sacramento State Office of Water Programs Operation of Wastewater Treatment Plants, Volume 1 course.

On July 23-24, 2013 USEPA conducted a field audit inspection to assess the procedures and techniques used by staff during sample collection. The inspector recommended that cyanide samples should be collected using a cup and pole instead of the sampler peristaltic pump: this recommendation was implemented immediately after the inspection exit discussion. In addition, residual chlorine has not been discovered in the grab samples from dischargers that are sampled by batch using the Hach AquaCheck colorimetric test for total chlorine and free chlorine. The colorimetric test will be used for the remaining non-batch discharge industries to determine if ascorbic acid is required for dechlorination.

In 2014 MIPP intends to:

- Update Linko software and computer systems once the wastewater treatment plant server platform is updated.
- Attend pretreatment program and MS4 training.
- Continue to search for other significant industrial users.
- Assist with the above mentioned MS4 activities, and co-present at regional stormwater workshops
- Enroll one staff member in the Sacramento State Office of Water Programs Operation of Wastewater Treatment Plants, Volume 2 course.

Environmental Investigations
The pretreatment program is relied upon to provide environmental investigation assistance. Typically, a citizen complaint is lodged either directly or through PADEP to investigate a release to the Codorus Creek, storm sewer system, or public roadway. It is appropriate that pretreatment staff, which are familiar with industrial sources, sanitary sewer system infrastructure and general environmental knowledge, respond to these situations. MIPP staff has received some training to provide reliable and safe assistance to area fire and emergency response units as well as state agencies.

Municipal Separate Storm Sewer System (MS4) NPDES Permit
Staff was brought into the City of York's MS4 NPDES program during the 2010 USEPA MS4 program audit, and from that point forward has been involved in some of the required MS4 activities. The MIPP Pretreatment Permit and Compliance Manger sits on the MS4 task force. MIPP staff are responsible for: documenting all illicit discharge events in the City of York for annual reporting to the PADEP and USEPA; creating quarterly illicit discharge reports; developing and maintaining an illicit discharge event database; assisting in illicit discharge investigation as needed; addressing illicit discharge complaints submitted by citizens to the MS4 "hotline' number or website link; assisting with dry-weather storm system sampling and outfall inspection; and, coordinating with other departments to ensure all illicit discharge events are reported.

In 2013 there were thirty-seven (37) illicit discharge investigations: of those, six (6) were not illicit discharges as defined by the City of York MS4 permit, and two (2) were located in other municipalities. Although the City of York NPDES permit covers only the municipal boundaries, MIPP responds to and assists in events throughout the entire sewershed. Pollution events and watercourses don't heed municipal boundaries: tracing discharge sources may lead to source locations outside the City of York. In 2013 MIPP staff also attended MS4 related training sessions and co-presented at MS4 workshops.

In 2013 staff conducted dry-weather stormwater sampling for the Codorus Creek mainstem and assisted with the stormwater outfall mapping and field inventory.

Industrial Property Records
In 2010 MIPP instituted a permanent property address file for all properties researched in the sanitary sewer system. The files house important past and current site information such as site plans, manufacturing uses, chemical storage, photographs, state and federal environmental notifications, and results from MIPP inspections and investigations. All information from the systematic search of industrial users, whether the users were found to be significant or not, is added to the permanent property address. There are three sections in the address file system: files for each property located in the sanitary sewer system for which there is current or historic information, by address; properties not currently served by any the treatment plant system, but which will come to the City of York wastewater treatment plant in the future given logical extensions of the sanitary sewer system; and, a file for properties researched and found to be outside the current and future City of York treatment plant service area, grouped by municipality and then address The address file is permanently housed in the MIPP office as an "active" information resource. Historic information is being retrieved from the last set of MIPP archived files and new information will be continually added.

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Appendix A
Manchester Township Chapter 94 Municipal Wasteload Management

C.S.Davidson, Inc.
Excellence in Civil Engineering

February 6, 2014

CITY OF YORK - CHAPTER 94
WASTELOAD MANAGEMENT REPORT - 2013

MANCHESTER TOWNSHIP

A. System Monitoring, Maintenance, and Repairs

The sanitary sewer system maintenance program completed in 2013 is described on the attached Exhibit No. MT-1.

B. Collection System Condition

1. Description of System: The system tributary to York City is divided into four service areas as tabulated on Exhibit No. MT-2. Almost all the wastewater is monitored by the City of York at two sewage flow meter sites (MN-01 and MN-02). The Township system also transports sewage from Pine Hill Farms Apartments (20,189 GPD) located in the City to the Wastewater Treatment Facility.

2. Conveyance Capacity: In 2005, Township crews performed emergency pumping operations at Skyview Drive and North George Street to prevent surcharges. No relief pumping was performed in 2006 through 2010. South-central PA was inundated with 10" to 13" of rain due to Tropical Storm Lee in September 2011. Township crews began emergency pumping on September 6, 2011 and terminated relief pumping on September 10, 2011. York County recorded 5" to 8" of rain due to Tropical Storm Sandy in October 2012. Township crews began emergency pumping on October 29, 2012 and terminated relief pumping on October 31, 2012. Portions of York County received 9" to 12 ½" of rain from the remnants of Tropical Storm Karen and a nor'easter in October 2013. Township crews began emergency pumping on October 11, 2013 and finished on October 13, 2013 (see Exhibit No. MT-9). Several residents in the North George Street, Sky View Drive, Northland Avenue, Woodland View Drive, and Eastland Avenue complained to Township officials about sewer backups. Township officials did confirm flooding at the York City WWTP and that the Codorus Creek Trunkline was full and at capacity. Township officials are exploring installing back flow

prevention facilities and smoke testing in the area. Public Work employees will investigate flow conditions during wet weather periods.

3. Major Rehabilitation – During 2003, E.K. Services, Inc. replaced sewer on Brookfield Drive between Manhole Nos. 228 and 229. Work consisted of 60 L.F. of 8" PVC main and 6 L.F. of PVC lateral. Manchester Township is considering three repair projects in 2014 (see Exhibit No. MT-10):

   a. Project No. 1 – Caspian Drive MH 272 to MH 271 will involve 48 L.F. of 8" PVC main and one manhole.

   b. Project No. 4 – Lewisberry Road MH 44 to MH 45 will involve 194 L.F. of 8" PVC main and 8 L.F. of 6" PVC lateral.

   c. Project No. 5 – Lewisberry Road MH 45 to MH 46 will involve 226 L.F. 8" PVC main and 8 L.F. of 6" PVC lateral.

C. Pumping Station Conditions

The Farmbrook Industrial Park Pump Station (No. 4) was built in 1981 (BWQM 6780405) and has a design capacity of 200 GPM. The station contains no overflows or by-passes and is equipped with a standby emergency generating unit. The standby generator was replaced in 2003. Impeller changes to the pump station were completed in 2007 to increase pumping capacity at the Farmbrook Pump Station from 191 GPM to about 300 GPM. The outside duplex pump station was replaced with a wet well mounted facility in 2011. The capacity at the new facility was field verified at 321 GPM by Township personnel. The new pump station has Variable Frequency Drives. The initial design condition was based upon 370 GPM at 129 TDH. The future condition is 555 GPM at 144 TDH. Based on elapsed time meter records for 2013, average daily flows through this station were as follows:

321 GPM Rated in 2011	FARMTRAIL PUMP STATION (NO. 4)			
	Hours of Operation/Day	Gallons Pumped/Day	Actual Pump Capacity (GPD)	Peaking Factor
Minimum	3.94	75,884		
Average	4.52	87,055		
Maximum	12.44	239,594	462,240	2.75

The projected 2-year flows are estimated as follows:

	2013	2014	2015	Design Capacity (GPD)
Avg. Daily Flow (GPD)	87,055	109,155	140,797	
Max. Daily Flow (GPD)	239,594	300,418	387,504	532,800
% Loading (of Design)	45.0%	56.4%	72.7%	
% Loading (of Capacity)	51.8%	65.0%	83.8%	

No overload is projected at this station within the next two (2) years.

The Blackbridge Road Pump Station (No. 6) was placed into operation in 1989 (BWQM No. 6787408) and serves the York County Solid Waste and Refuse Authority's (YCSW&RA) Resource Recovery Facility. The station contains no overflows or bypasses. A generator was added by a private developer in 2003. In December 2009, the pump station capacity was field verified at 278 GPM, versus its design capacity of 200 GPM. Based on elapsed time meter records for 2013 average daily flows through this station were as follows:

Maximum	4.36	72,725	400,320	2.29

The projected 2-year flows are estimated as follows:

	2013	2014	2015	Design Capacity (GPD)
Avg. Daily Flow (GPD)	31,692	33,392	68,742	
Max. Daily Flow (GPD)	72,725	76,626	157,745	288,000
% Loading (of Design)	25.3%	26.6%	54.8%	
% Loading (of Capacity)	18.2%	19.1%	39.4%	

No overload is projected at this station within the next two (2) years.

The Aslan Heights Pump Station (No. 9) was placed into operation in July 1997. The design capacity of the facility is 155 GPM. In 2014, the pump station capacity was field verified at 232 GPM on

January 15, 2014. Based on elapsed time meter records for 2013, average daily flows through this station were as follows:

232 GPM Rated in 2014	ASLAN HEIGHTS PUMP STATION (NO. 9)			
	Hours of Operation/Day	Gallons Pumped/Day	Actual Pump Capacity (GPD)	Peaking Factor
Minimum	2.25	31,320		
Average	3.77	52,478		
Maximum	8.96	124,723	334,080	2.38

The projected 2-year flows are estimated as follows:

	2013	2014	2015	Design Capacity (GPD)
Avg. Daily Flow (GPD)	52,478	53,178	53,878	
Max. Daily Flow (GPD)	124,723	126,386	128,050	223,200
% Loading (of Design)	55.9%	56.6%	57.4%	
% Loading (of Capacity)	37.3%	37.8%	38.3%	

No overload is projected at this station within the next two (2) years.

The Aslan Heights Pump Station (No. 10) was placed into operation during October, 1999 but was relocated to Caspian Drive in 2003 to serve the Bentley Croft subdivision. The design capacity of the facility is 80 GPM. The actual pumping capacity of this station was field verified on January 25, 2013 at 94 GPM. Based on elapsed time meter records for 2013, average daily flows through this station were as follows:

94 GPM Rated in 2013	CASPIAN DRIVE PUMP STATION (NO. 10)			
	Hours of Operation/Day	Gallons Pumped/Day	Actual Pump Capacity (GPD)	Peaking Factor
Minimum	3.35	18,894		
Average	6.20	34,968		
Maximum	16.00	90,240	135,360	2.58

The projected 2-year flows are estimated as follows:

	2013	2014	2015	Design Capacity (GPD)
Avg. Daily Flow (GPD)	34,968	35,668	36,368	
Max. Daily Flow (GPD)	90,240	92,046	93,853	115,200
% Loading (of Design)	78.3%	79.9%	81.5%	
% Loading (of Capacity)	66.7%	68.0%	69.3%	

No overload is projected at this station within the next two (2) years.

D. Sanitary Sewer Extensions

1. Extensions: No sanitary sewer extensions were built in 2013.

2. Proposed Projects: Some of the undeveloped areas within the Township will be served by the existing system and require only tap-ins. Several major projects are in the planning or construction stage and are indicated on the attached maps and Exhibit No. MT-5.

E. Waste Flow Data

1. The total number of sewer connections completed in Manchester Township during each of the past five (5) years are as follows:

2009	2010	2011	2012	2013
10	15	20	23	17

2. A list of connection permits issued during 2013 is shown on Exhibit No. MT-3.

3. The estimated flows for the current year and the projected next five years are shown on the attached Exhibit Nos. MT-4 and MT-5.

4. A list of sanitary sewer capacity transfers for last year is shown on Exhibit No. MT-6.

F. Nutrient Trading Program 2003 thru 2013

1. The location of properties with on-site subsurface disposal systems repaired in 2013 is shown on Exhibit No. MT-7. No systems were eliminated last year.

2. Based upon 25 lbs. per year of nitrogen, the available credits thru 12/31/12 are computed as follows:

2003	4 EDUs x 11 yrs. x 25 lbs.	1,110
2004	0 EDUs x 10 yrs. x 25 lbs.	0
2005	0 EDUs x 9 yrs. x 25 lbs.	0
2006	0 EDUs x 8 yrs. x 25 lbs.	0
2007	9 EDUs x 7 yrs. x 25 lbs. =	1,575
2008	2 EDUs x 6 yrs. x 25 lbs. =	300
2009	1 EDU x 5 yrs. x 25 lbs. =	125
2010	0 EDU x 4 yr. x 25 lbs. =	0
2011	2 EDU x 3 yr. x 25 lbs. =	150
2011	0 EDU x 2 yr. x 25 lbs. =	0
2012	0 EDU x 1 yr. x 25 lbs. =	0

3. However, recent regulations do not allow credits to be accumulated.

G. Capacity Available for Sale

1. On October 12, 2010, Wagman Construction, Inc. advised Manchester Township that 11,510 gallons in wastewater treatment capacity are available for sale (see Exhibit No. MT-8).

2. All capacity transfers require Manchester Township Board of Supervisors' approval.

H. Connections to City of York WWTP

1. According to Township records, there are 3,913 connections to the system (see Exhibit No. MT-11).

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EXHIBIT NO. MT-1
February 6, 2014

MANCHESTER TOWNSHIP SANITARY SEWER SYSTEM MAINTENANCE PROGRAM

2013

1. As of December 31, 2013, the Manchester Township Sanitary Sewer System consisted of 133.4 miles of sewer line and nine (9) pump stations. 45.2 miles of collector / interceptor lines and force main and three (3) pump stations are tributary to the Dover Township Wastewater Treatment Plant; 22.21 miles of collector / interceptor lines and force main, and two (2) pump stations are tributary to the Springettsbury Township Wastewater Treatment Facility; 65.58 miles of collector / interceptor lines and force main and four (4) pump stations are tributary to the York City Wastewater Treatment Plant.

2. The Manchester Township Public Works Department is comprised of twelve (12) full-time employees of which, three (3) are assigned to perform sanitary sewer related duties. They are responsible for the daily maintenance of the 133.4 miles of sewer line and the nine (9) pump stations and are supervised by the public works superintendent. They are also responsible for the field marking of sewer line location to comply with the Pennsylvania Act 172 (PA One-Call System). During 2013 they responded to 980 requests.

3. The sewer department employees have the following equipment at their disposal to conduct their assigned duties:
   a. 2006 Ford F-550 with a utility body (containing various hand tools and safety equipment)
   b. 1995 Ford / Peabody Myers Model 211 Vactor Truck
   c. 2011 Freightliner Sprinter Van with a Cues camera system operated by the Granite XP software package.
   d. 1994 Ratech lateral camera (for use in 4" pipe).
   e. Superior smoke blower (used to identify sources of I/I or illegal connections)
   f. Gorman–Rupp 6" Centrifugal pump (used for relief pumping and temporary backup for pump stations).
   g. RootX FDU-200 applicator to apply root control material.

4. During 2013, the sewer maintenance activities included the following:

   a. Lines tributary to the York City system – 42,661 feet of cleaning, and 22,502.36 feet of televising. Root cutting in 4,061 feet of sewer line. There were 104 feet of new sanitary sewer lines replaced in this area in 2013

   b. Lines tributary to the Dover Township system – 40,356 feet of cleaning and 30,476.1 feet of televising. Root cutting in 650 feet of sewer line. There were 459 feet of sewer lines replaced in this area during 2013.

c. Lines tributary to the Springettsbury Township system – 36,043 feet of cleaning, and 15,020.77 feet of televising.

d. The sewer maintenance personnel raised or repaired thirty-eight (38) manhole frames, sixteen (16) of which were tributary to the York City system, two (2) tributary to the Springettsbury system, and twenty (20) tributary to the Dover system. Personnel also conducted inspections of 133 manholes tributary to the York City system, 99 manholes tributary to the Springettsbury system, and 126 manholes tributary to the Dover system.

e. Personnel continue to spend considerable time checking flow conditions of the sanitary sewer interceptor line that connects Manchester Township to the York City Treatment Plant, from the Skyview Drive and North George Street area. In past years this area has required relief pumping when extreme weather conditions, heavy rain and snow melt occurred. In 2013 relief pumping was necessary when the area received an excessive rain on October 10 &11. DEP was notified when the pumping operation began and an email was sent to DEP after the operation ceased.

f. The sewer maintenance personnel monitor and clean the pump station wet wells as needed to remove any accumulation of grease that is present. There was an article published in the Township's newsletter to educate residents on the proper disposal of household grease and distributed to every residential property located in the Township. The newsletter is distributed quarterly to approximately 7,100 households.

g. During 2013, the biannual cleaning of a portion of the sewer line in sewer district "A", which is tributary to the York City system. This cleaning is done to deal with grease and solids that enter the system from the many restaurants that are connected to this collector. This preventive maintenance measure has helped keep these lines clean and helps to prevent backups in this area, and will continue into 2014.

h. As an additional tool to identify sources of I/I, sewer department personnel performed smoke testing of sanitary sewer lines. There were 70,352 of sanitary sewer line tributary to the York City Treatment Plant tested. There were 107 cleanout caps identified as either being broken or missing during this testing. Letters were sent to the affected property owners to have these items repaired with a follow up inspection of the repair being performed by Township personnel.

i. On September 26, 2003, all required information and forms were submitted to the Department of Environmental Protection to have nine (9) employees of Manchester Township, that were eligible, to be grand parented into the required certification program as a satellite sewage treatment operator. Since that time two (2) employees terminated their employment with Manchester Township and two (2) employees elected to not renew his certification due to impending retirement. In May of 2009 two (2) additional employees received their Wastewater System certifications bringing the total to seven (7) employees

certified to operate the wastewater system within Manchester Township. In November 2012 two (2) employees that were grand parented into the program, satisfactorily completed training and testing to receive their permanent certification. Training will continue for all employees as necessary to comply with the regulations to maintain the certifications.

j. The Manchester Township sewer crew personnel conducted 42 grease trap inspections at commercial establishments located within the Township. The commercial establishments were requested to provide either the manifest from the contractor that provided the grease trap cleaning service, or provide documentation that the grease trap was cleaned by company personnel.

6. During the 2013 calendar year Manchester Township and/or the Manchester Township Municipal Authority contracted private contractors to perform sewer related services as follows:

   a. E.K. Services Inc.

      (1) Replace 104 L.F. of 8" sanitary sewer line tributary to the York City Treatment facility.

      (2) Replace 459 L.F. of 8" sanitary sewer line tributary to the Dover Township Treatment facility.

   b. Abel Recon

      (1) Apply spray roc liner material in 10 manholes tributary to the York City Treatment Plant.

   c. Shiloh Excavating

      (1) Repair sanitary sewer force main at pump station # 6.

7. In 2014, the sewer department personnel will continue to monitor flows and inspect manholes and pump stations in all sewer districts as well as cleaning and TV inspection as required. Additional time will be allocated for the televising of sewer lines during periods of significant precipitation to identify sources of I/I, including the collector lines tributary to the Skyview Drive/North George Street sewer line. Several other goals for 2014 are as following:

   a. Clean, televise, and repair as necessary, all sanitary sewer lines affected by the 2014 street and road construction schedule. Manhole adjustments and repairs to be completed as required too reduce infiltration.

   b. Continue to work with York City Wastewater Treatment personnel in identifying sources of I/I or obstructions in the main interceptor which extends from the 2100 block of North George Street in an off-street right-of-way to a connection with the

York City main trunk line located at the southern end of the York City Wastewater Treatment Plant complex.

c. Continue to TV and monitor flows from the private collection systems within Manchester Township, especially during periods of significant precipitation.

d. Continue the biannual cleaning of the sanitary sewer line located in the Route 30 area that has a large concentration of restaurants and have the potential of depositing abnormal amounts of grease. Grease trap inspections will be conducted at the restaurants to ensure proper maintenance is being completed.

e. Continue conducting smoke testing of sewer lines as a means to identify possible sources of I/I and illegal connections.

f. Conduct inspections of properties identified to have sump pumps connected to the sewer line to eliminate ground water from being pumped into the sanitary sewer system.

g. Schedule nighttime inspections of sewer lines in residential areas to identify potential sources of I/I during periods of significant precipitation.

h. Continue to inspect and apply preventive maintenance procedures to all sanitary sewer-pumping stations to ensure their continued operation.

i. Continue to train sewer department personnel in the latest equipment and safety issues that apply to the day-to-day operation of the Manchester Township sanitary sewer system and its related areas of responsibility.

j. In cooperation with Dover Township, continue to provide training to meet the continuing education requirements for the Certified Wastewater Systems Operators.

k. Conduct inspection of manholes in all of the off street right of ways to identify possible sources of I/I. Including water tight lid conditions and manhole frames being sealed to the cone sections of the manhole.

End of Year Sewer Report 2013

	York	Springetts	Dover	Year End Total
Lines cleaned	42,661	36,043	40,356	119,060
New Pipe "TV"	104	0	459	563
Old Pipe TV "I & I"	22,706.36	15,813.62	32,232	70,751.98
Smoke Test	70,352	0	0	70,352
Lines Root Cut	4,061	0	650	4,711
Manhole Inspections	113	99	126	338
Manholes Repaired	16	2	20	38
Dishpan Installed	5	2	9	16
Laterals TV	5	1	15	21
Grease Trap Inspection				42

Comments:

February - Pump Station 10, new bearings installed in pump 1 by Motor Technology

Abel Recon - Rehab 10 manholes with sprayroc and stainless steel, Roundtown School right of way 806, 805, 804, 803, 802, 801, 800, 799, 798, 29

June - EK Services replaced 296' of 8" pvc pipe at pump station 7 driveway.
163' of 8" pvc on Timberlane Drive & 104' of 8" pvc on Brookfield Drive

Sept. - Shiloh Paving replaced 7' of 6" ductile iron force main at pump station 6

Manchester Township

Department of Environmental Protection

Wastewater Systems Operators Certificate Information

Grandparented Facility Id # 567443

Name	Client ID #	Certificate #	Exp. Date
Jeffrey A Beshore	235871	S13589	9/30/2016
Kenneth E Goodyear	235868	S13587	9/30/2016
*Robert M Hartman	235828	S13579	9/30/2016
Theodore R Heilman	235863	S13586	9/30/2016
*Paul A Hoover	235860	S13585	9/30/2016
*Greg A Frye	267277	S15996	3/31/2015
*Scott R Nace	267284	S15997	3/31/2015

*Employees with permanent Wastewater System, Class E, Subclass 4 certification.

January 25, 2014
EXHIBIT NO. MT-2

AS OF DECEMBER 31, 2013
TABULATION OF PUBLIC SANITARY SEWER FACILITIES
TRIBUTARY TO CITY OF YORK WWTP
IN MANCHESTER TOWNSHIP

BY SERVICE AREA

Service Areas	City MH	Total Manholes	Total Mains	Total (1) Laterals	Total Length	Total Miles	Percent of Total
A	A4	120	22,615	5,244	27,859	5.28	8.05%
B	A1	334	69,636	12,608	82,244	15.58	23.75%
D	A1	552	138,501	45,529	184,030	34.85	
D	IP2-1	22	4,058	908	4,966	0.94	
D	IP2-13	172	33,654	5,331	38,985	7.38	
Subtotals D:		746	176,213	51,768	227,981	43.18	65.84%
E	A1	17	7,909	251	8,160	1.55	2.36%
Totals:		**1,217**	**276,373**	**69,871**	**346,244**	**65.58**	**100.00%**

BY POINT OF CONNECTION

A	A4	120	22,615	5,244	27,859	5.28	8.05%
B, D, E	A1	903	216,046	58,388	274,434	51.98	79.26%
D	IP2-1	22	4,058	908	4,966	0.94	1.43%
D	IP2-13	172	33,654	5,331	38,985	7.38	11.26%
Totals:		**1,217**	**276,373**	**69,871**	**346,244**	**65.58**	**100.00%**

Notes:

(1) Pre-1999 totals based upon average lateral length of 15' per EDU. A majority of laterals are 6" diameter.

EXHIBIT NO. MT-3
February 6, 2014

MANCHESTER TOWNSHIP
2013
CONNECTIONS TO THE
YORK CITY WASTEWATER TREATMENT PLANT

ADDINGTON RESERVE
PA DEP P3-67939 - 417 3 E approved 6/17/07

Chapter 94	Permit number	Name	Address	Subdivision	Dist	Plant	Units	Gallons	Month
3	2013 1	Fox Clearing, LLC	3416 E. Sorrel St.	AD	D	York	1	350	Jan
3	2013 2	Fox Clearing, LLC	3132 Biscayne Ln.	AD	D	York	1	350	Feb
3	2013 12	Fox Clearing, LLC	3435 E. Sorrel St.	AD	D	York	1	350	May
3	2013 28	Fox Clearing, LLC	3350 E. Sorrel St.	AD	D	York	1	350	Dec
				TOTAL			4	1400	

TROUT FARM ERINS GLEN
PA DEP P3-67939 - 393-3 approved

Chapter 94	Permit number	Name	Address	Subdivision	Dist	Plant	Units	Gallons	Month
16	2013 6	Penn Transfer	812 Olivia Ct.	EG	D	York	1	350	Apr
16	2013 10	Penn Transfer	822 Greenbriar Rd.	EG	D	York	1	350	Apr
16	2013 11	Penn Transfer	834 Olivia Ct.	EG	D	York	1	350	May
16	2013 14	Penn Transfer	835 Olivia Ct.	EG	D	York	1	350	June
16	2013 23	Penn Transfer	813 Olivia Ct.	EG	D	York	1	350	Oct
				TOTAL			5	1,750	

BRANDYWINE WOODS - Phase 2
PA DEP P3-67939 - 412 E approved 6/13/05

Chapter 94	Permit number	Name	Address	Subdivision	Dist	Plant	Units	Gallons	Month
84	2013 3	Ridgewall, LLC	618 Parkwood Dr.	BW	D	York	1	350	Feb
84	2013 4	Ridgewall, LLC	629 Crosslyn Dr.	BW	D	York	1	350	Feb
84	2013 5	Ridgewall, LLC	662 Crosslyn Dr.	BW	D	York	1	350	Mar
84	2013 7	Ridgewall, LLC	659 Crosslyn Dr.	BW	D	York	1	350	Apr
				TOTAL			4	1,400	

JG LEASING CO. INC. - BUTCHERS COURT
PA DEP P3-67939 -400-E approved 11/29/2005

Chapter 94	Permit number	Name	Address	Subdivision	Dist	Plant	Units	Gallons	Month
92	2013 18	Penn Transfer	782 Butcher Ct.	8LOT	D	York	1	350	July
92	2013 21	Penn Transfer	761 Butcher Ct.	8LOT	D	York	1	350	Oct
92	2013 24	Penn Transfer	781 Butcher Ct.	8LOT	D	York	1	350	Oct
92	2013 29	Penn Transfer	788 Butcher Ct.	8LOT	D	York	1	350	Dec
				TOTAL			4	1400	

TOTAL CONNECTIONS TO YORK CITY WASTEWATER TREATMENT PLANT	**17**	**5,950**

C.S. DAVIDSON, INC.

EXHIBIT NO. MT-4
February 6, 2014

TABULATION OF AVAILABLE
SEWER RESERVE CAPACITY

COLLECTION AND TRANSPORTATION SYSTEM
From: Manchester Township

WASTEWATER TREATMENT FACILITY
To: City of York

	2013	2014	2015	2016	2017	2018	Future Years
Existing Flow From Current Users	1,039,221	1,039,221	1,117,857	1,224,529	1,306,991	1,352,551	1,385,801
Projected Flows From Current Users	0	4,463	0	0	0	0	0
Projected Flow Increase From New Customers	0	74,173	106,672	82,462	45,560	33,250	1,191,704
Total Estimated Wastewater Flows	1,039,221	1,117,857	1,224,529	1,306,991	1,352,551	1,385,801	2,577,505
Percent Usage	42.68%	45.91%	50.29%	53.68%	55.55%	56.91%	105.86%
Total Permitted Capacity/Agreement	2,434,900	2,434,900	2,434,900	2,434,900	2,434,900	2,434,900	2,434,900
Total Amount of Available Capacity	1395679	1317043	1210371	1127909	1082349	1049099	-142605

NOTES AND ASSUMPTIONS:

(1) City Flow Meter MN-01, MN-02, MN-03 less Pine Hills Farms, plus San Carlos, Holiday Inn, and Foustown.

(2) Assumes 75% of 2013 connections (17 new EDUs 5,950 gpd) not reflected in (1) above (see Exhibit No. MT-3).

(3) See attached list of projected connections (Exhibit No. MT-5).

C.S. DAVIDSON, INC.

EXHIBIT NO. MT-5
February 6, 2014

MANCHESTER TOWNSHIP
PROJECTED CONNECTIONS TO CITY OF YORK
WASTEWATER TREATMENT PLANT

	Name & Description		Map & Parcel	Gallons Currently Reserved	All Projected Connections in Gallons per Day (GPD) 2014	2015	2016	2017	2018	2014 - '18 Subtotal	2019 2023	2024 2028	2029 2033	2034 Ultimate	Points of Connection Total Gallons	Flow Meter	York City MH No.	Man Twp MH No.
1	Tom Beshore Evenbreth Heights (2 EDU's @ 350 GPD)		16-16A	700	0	0	0	0	0	0	0	0	0	700	700	MN02	4	
*2	Hoff March (Dauber Estate) 1700 North George Street (1 Comm. @ 14,600 GPD)		JH-64	14,600	350	350	7,000	6,900	0	14,600	0	0	0	0	14,600	MN02	4	14
3	Addington Reserve Lewisberry Road (44 Units @ 350 GPD)	(4)	LH-88A	7,350	7,000	350	0	0	0	7,350	0	0	0	0	7,350	MN01	1	
4	Lewisberry Road Sewer Reduction (85 Users @ 350 GPD)		LH-88A	1,750	350	1,400	0	0	0	1,750	0	0	0	0	1,750	MN01	1	
5	Rutter's Property Masonic Drive & Parklyn Lane PA DEP Permit No. 6782406 (5 Acres @ 1,400 GPD/Ac.)		KH-171	7,000	350	2,580	2,580	0	0	5,510	1,490	0	0	0	7,000	MN01	1	
6	Manchester Business Park Assoc. Farmbrook Ind. Park PA DEP Permit No. 6780405 (7.9 Acres @ 2,000 GPD/Ac.)	(4)		12,700	350	0	0	0	0	350	12,350	0	0	0	12,700	MN01	1	
7	Wagman Properties Farmbrook Ind. Park PA DEP Permit No. 6780405 (5.42 Ac. @ 2,000 GPD/Ac.)	(4)	27-7	10,845	350	0	0	0	0	350	0	10,495	0	0	10,845	MN01	1	
8	York Industries Amelia Street (1 Ind. @ 32 GPD)		KI-231D	32	0	0	0	0	0	0	32	0	0	0	32	MN01	1	
9	Northgate Associates 1500 N. George Street (1 Comm. @ 3,900 GPD)		8-16	3,900	0	0	0	0	0	0	3,900	0	0	0	3,900	MN02	4	
*10	Potteiger Property (N/R) PennDot District 8-4 (1 Comm. @2,000 GPD)	(4)		2,000	1,000	1,000	0	0	0	2,000	0	0	0	0	2,000	MN01	1	
11	Wilner Realty Reuse PennDOT Parcel (1 Comm. @5,000 GPD)			5,000	0	0	0	0	0	0	0	5,000	0	0	5,000	MN01	1	
12	Wilner Realty Hotel Site (1 Comm. @ 10,000 GPD)			10,000	0	0	0	0	0	0	0	10,000	0	0	10,000	MN01	1	

	Name & Description	Map & Parcel	Gallons Currently Reserved	All Projected Connections in Gallons per Day (GPD) 2014	2015	2016	2017	2018	2014 - '18 Subtotal	2019 2023	2024 2028	2029 2033	2034 Ultimate	Points of Connection Total Gallons	Flow Meter	York City MH No.	Man Twp MH No.
13	I-83 & Rt 30 Commercial H (1 Comm @ 10,000 GPD)		10,000	5,000	5,000	0	0	0	10,000	0	0	0	0	10,000			
14	Raintree Development Flow Re (8 EDUs @ 350 GPD)		2,800	2,800	0	0	0	0	2,800		0	0	0	2,800			
15	Lutheran Social Services Paul Sprenkle Tract (7.9 Apts. @ 250 GPD)	KH-65A	9,523	9,523	0	0	0	0	9,523	0	0	0	0	9,523	MN01	1	
16	Trout Property/Erin's Glen (10 Lots @ 350 GPD)	KH-83&83A	1,750	1,400	350	0	0	0	1,750	0	0	0	0	1,750	MN02	1P2-13	
17	RESERVED FOR FUTURE USE																
18	Spring Meadows (PRD) Church Road Area (140.7 EDU's @ 350 GPD)	KH-112	49,250	700	700	700	0	0	2,100	20,000	20,000	7,150	0	49,250	MN01	1	
19	RESERVED FOR FUTURE USE																
20	RESERVED FOR FUTURE USE																
*21	Henry Mohr - The Manor Group 1800 Block N. George Street (8.76 Ac @ 1000 GPD/Acre)	KH-190	8,760	350	350	5,000	3,060	0	8,760	0	0	0	0	8,760	MN01	1	15
*22	Rutters Commercial Area Susquehanna Tr./Lightner Road (9.4 Ac @ 1000 GPD/Acre)	KH-171A	9,350	0	0	0	0	0	0	1,050	0	8,300	0	9,350	MN01	1	24
23	Susquehanna Trail, LP (4) Farmbrook Industrial Park 3380 Susquehanna Trail (1 Industrial @ 453 GPD)	27-1	453	0	0	0	0	0	0	453	0	0	0	453	MN01	1	
24	MTMA - Act 537 500 Block Church Road - Project #2 (3 EDU's @ 350 GPD)	5-44,44B,44C	1,050	350	350	350	0	0	1,050	0	0	0	0	1,050	MN01	1	
25	Masonic Drive Hotel, Restaurant & Bank (15 EDUs @ 350 GPD)	KH-171	5,250	700	3,500	0	0	0	4,200	1,050	0	0	0	5,250	MN01	1	
*26	Sinking Springs Farm Office Area (4 Acres @ 1000 GPD/Acre)	KH-175	4,000	0	0	0	0	0	0	2,000	2,000	0	0	4,000		1	

	Name & Description		Map & Parcel	Gallons Currently Reserved	All Projected Connections in Gallons per Day (GPD) 2014	2015	2016	2017	2018	2014 - '18 Subtotal	2019 2023	2024 2028	2029 2033	2034 Ultimate	Points of Connection Total Gallons	Flow Meter	York City MH No.	Man Twp MH No.
27	Penn State Investors Bentz Tract (1 EDU @ 350 GPD)		KH-150	350	0	0	0	0	0	0	350	0	0	0	350	MN01	1	
28	York County Solid Waste Authority Incinerator PA DEP Permit No. 6787408 (1 Ind. @ 46,932 GPD)	(6)	KI-216A	46,932	1,000	35,000	10,932	0	0	46,932	0	0	0	0	46,932	MN01	1	
*29	White Oak Associates Commercial (1 EDU @ 350 GPD)		KH-189	350	0	0	0	0	0	0	350	0	0	0	350	MN01	1	25
30	David Fahs 500 Block Church Road (1 EDU @ 350 GPD)		LH-17B	350	350	0	0	0	0	350	0	0	0	0	350	MN01	1	
31	RESERVED FOR FUTURE USE																	
*32	Tyronne Miller (north side) (10 EDU's @ 350 GPD)		KH/52B	3,500	350	350	0	0	0	700	2,800	0	0	0	3,500	MN01	1	
*33	First Logistics Center (formerly Raintree Ind. Park) (1 IND @ 7,492 GPD)		LH-20D	7,492	4,300	2,192	1,000	0	0	7,492	0	0	0	0	7,492	MN01	1	PS4
*34	Hunter's Hill Eye Care 2811 N. George Street (2 EDUs @ 3,500 GPD)			700	700	0	0	0	0	700	0	0	0	0	700	MN01	1	
*35	Gold's Gym Hotel 2350 N. George Street (1 Comm. @ 12,000 GPD)		8-149	12,000	10,000	2,000	0	0	0	12,000	0	0	0	0	12,000	MN01	1	
36	RSD Investments 3335 Farmtrail Road PA DEP Permit No. 6780405 (1 Ind. @ 685 GPD)	(4)	27-10	685	0	0	0	0	0	0	685	0	0	0	685	MN01	1	
37	Wheatfield Estates Raintree Road (66 EDU's @ 350 GPD)	(4)		23,100	7,000	3,500	3,500	3,850	3,500	21,350	1,750	0	0	0	23,100	MN01	1	PS4
38	RESERVED FOR FUTURE USE																	
39	Thomas Emig Greenleaf Road (1 EDUs @ 350 GPD)		4-1E	350	350	0	0	0	0	350	0	0	0	0	350	MN01	1	

	Name & Description		Map & Parcel	Gallons Currently Reserved	All Projected Connections in Gallons per Day (GPD) 2014	2015	2016	2017	2018	2014 - '18 Subtotal	2019 2023	2024 2028	2029 2033	2034 Ultimate	Points of Connection Total Gallons	Flow Meter	York City MH No.	Man Twp MH No.
40	Federal Express 505 Farmbrook Drive PA DEP Permit No. 6780405 (1 Comm. @ 1,153 GPD)	(4)	27-5	1,153	0	0	0	0	0	0	1,153	0	0	0	1,153	MN01	1	
41	Wilner Realty 351 Loucks Road North Mall Renovation (1 Comm. @ 1,770 GPD)		16-33	2,030	350	0	0	0	0	350	1,680	0	0	0	2,030	MN02	4	
42	Central York School Dist. Roundtown School Site (Growth)		5-40	1,720	0	0	0	0	0	0	1,720	0	0	0	1,720	MN01	1	
*43	Stewart Associates - Bull Rd. (25 acres W. of Greenbriar Rd.) (92.8 EDU's @ 350 GPD)		KH-65D&JH-79	32,500	350	350	2,100	2,100	2,100	7,000	10,000	10,000	5,500	0	32,500	MN03	IP2-13	N/A
44	Central York School Dist. Hayshire School Site (Growth)		JH-115	1,559	0	0	0	0	0	0	0	1,559	0	0	1,559	MN03	IP2-13	
*45	Craft/Hamme Church Road (6 EDU's @ 400 GPD)	(10)	JH-115	2,400	350	350	0	0	0	700	1,700	0	0	0	2,400	MN03	IP2-13	N/A
*46	MTMA - Act 537 Church Rd./Roosevelt Ave. - Project #1 (2 EDU's @ 350 GPD)	(10)		700	350	350	0	0	0	700	0	0	0	0	700	MN03	IP2-13	N/A
47	MacGregor Downs (All Phases) Brandywine Lane (3 EDUs @ 350 GPD)		40-1A	700	0	0	0	0	0	0	0	0	700	0	700	MN01	1	
*48	Welbourne Reserve Susquehanna Trail North (451 EDUs @ 350 GPD)	(5)	LH-107 LH-108	157,850	1,050	7,000	7,000	7,000	7,000	29,050	52,500	52,500	23,800	0	157,850		1	PS4
49	RESERVED FOR FUTURE USE																	
*50	George Kain Office 2800 N. George Street (5.82 Ac @ 1000 GPD/Acre)		3-1,1A,9A	5,820	350	0	0	0	0	350	0	0	0	5,470	5,820	MN01	1	25
51	RESERVED FOR FUTURE USE																	
52	RESERVED FOR FUTURE USE																	

C.S. DAVIDSON, INC.

EXHIBIT NO. MT-5
February 6, 2014

	Name & Description		Map & Parcel	Gallons Currently Reserved	All Projected Connections in Gallons per Day (GPD) 2014	2015	2016	2017	2018	2014 - '18 Subtotal	2019 2023	2024 2028	2029 2033	2034 Ultimate	Points of Connection Total Gallons	Flow Meter	York City MH No.	Man Twp MH No.
53	Blaine Gingerich AnnaMay Street (1 EDU @ 350 GPD)		KH-126A	350	0	0	0	0	0	0	350	0	0	0	350	MN01	1	
54	RESERVED FOR FUTURE USE																	
55	RESERVED FOR FUTURE USE																	
*56	Tan Bach Industrial 3385 Susquehanna Trail (1 Industrial @ 60 GPD)	(4)	LH-24	60	0	0	0	0	0	0	60	0	0	0	60	MN01	1	PS4
57	Markey Industrial Park Blackbridge Road (21.89 Ac x 1,000 GPD/Ac)	(6)	KI-231P thru U	21,890	700	350	0	0	0	1,050	0	0	20,840	0	21,890	MN01	1	
*58	Lemkelde Farm (100 EDU's @ 350 GPD)	(4)	LH-88	35,000	0	350	350	350	350	1,400	15,000	15,000	3,600	0	35,000	MN01	1	PS4
59	Tyrone Miller South Side (2 EDU's @ 350 GPD)		KH-152F	700	350	350	0	0	0	700	0	0	0	0	700	MN01	1	
60	RESERVED FOR FUTURE USE																	
61	RESERVED FOR FUTURE USE																	
62	MTMA - Act 537 Church Road - Project #6 (8 EDUs @ 350 GPD)	(10)		2,800	0	0	0	0	0	0	2,800	0	0	0	2,800	MN03	1P2-13	
63	Rutter's High Density 61 Acres (305 EDUs)			106,750	0	500	2,500	2,500	2,500	8,000	35,000	35,000	28,750	0	106,750	MN01	1	
64	MTMA - Act 537 Bear Road/Susquehanna Trail (40 EDUs x 350 GPD)	(4)		14,000	0	0	0	0	0	0	14,000	0	0	0	14,000	MN01	1	
*65	CF Property (31 AC @ 1,000 Gal/AC)	(4)	LH-29	31,000	350	350	20,000	350	350	21,400	9,600	0	0	0	31,000	MN01	1	PS4
66	Hummel/Poole Brandy Wine Woods (1 EDU @ 350 GPD)			350	350	0	0	0	0	350	0	0	0	0	350	MN01	1	
67	RESERVED FOR FUTURE USE																	
*68	Stewart Associates (Ind) 20.39 AC		JH-79	1,050	0	0	0	0	0	0	0	1,050	0	0	1,050	MN03	IP2-13	N/A

	Name & Description		Map & Parcel	Gallons Currently Reserved	All Projected Connections in Gallons per Day (GPD) 2014	2015	2016	2017	2018	2014 - '18 Subtotal	2019 2023	2024 2028	2029 2033	2034 Ultimate	Points of Connection Total Gallons	Flow Meter	York City MH No.	Man Twp MH No.
69	Highland Partnership (office)		KH-23	490	350	0	0	0	0	350	140	0	0	0	490	N/A	IP2-1	
70	Cousler Park Residential (1 EDU)		KH-86,87,88	350	0	350	0	0	0	350	0	0	0	0	350	MN01	1	
71	Don Baker Farmbrook Lane (1 EDU @ 350 GPD)	(4)	LH-89	350	0	0	0	0	0	0	350	0	0	0	350	MN03	1	
*72	Sinking Springs Farm Medium Density Residential		KH-176	113,400	0	0	0	0	0	0	20,000	20,000	20,000	53,400	113,400	MN01	1	25
*73	Sinking Springs Farm High Density Residential/Office		KH-176	65,000	0	0	0	0	0	0	20,000	20,000	20,000	5,000	65,000	MN01	1	2
*74	Boyer Farm (Del Hauck)	(4)	LH-79	13,300	350	0	0	0	0	350	12,950	0	0	0	13,300	MN01	1	PS4
*75	David Fahs (Residual Lands) (58 EDUs @ 350 GPD)	(4)	LH-78	20,300	0	350	0	0	0	350	0	19,950	0	0	20,300	MN01	1	PS4
*76	Scerbo Industrial - Amelia Street (10 AC @ 1000 gpd/Ac)		KI-231F	10,000	350	9,300	0	0	0	9,650	350	0	0	0	10,000	MN01	1	8A
*77	Shindel (366 EDUs #350 GPD)	(5)	LH-69	128,100	0	350	350	350	350	1,400	52,500	52,500	21,700	0	128,100	MN01	1	PS4
78	Stillmeadow Church of Nazerene		KH-167A	5,000	3,000	2,000	0	0	0	5,000	0	0	0	0	5,000	MN01	1	
79	First Assembly of God		KH-170A	537	0	0	0	0	0	0	0	537	0	0	537	MN01	1	
*80	Rutters Commercial (approx 80 acres)		KH-171C	80,000	5,000	5,000	5,000	5,000	5,000	25,000	25,000	25,000	5,000	0	80,000	MN01	1	25
*81	Pump Station #2 Phaseout MTMA - Project #10	(4)		10,500	0	10,500	0	0	0	10,500	0	0	0	0	10,500	MN01	1	
*82	Prospect Hill Cemetary		JH-170	95,000	1,050	0	0	0	0	1,050	21,050	20,000	20,000	32,900	95,000	N/A	B10-17	N/A
83	Manchester Twp. Municipal Authority 2900 Block Lewisberry Road (7 EDUs x 350 GPD)		KH-179,180,181	2,450	700	0	0	0	0	700	0	1,750	0	0	2,450	MN01	1	
84	Brandywine Woods - Phase II (2 EDUs @ 350 gpd/unit)			1,400	700	700	0	0	0	1,400	0	0	0	0	1,400	MN01	1	
85	RESERVED FOR FUTURE USE																	
*86	Central School Dist.-New Middle School (77 EDUs & 350 GPD)		KH-176	26,950	0	1,050	7,000	7,000	5,000	20,050	6,900	0	0	0	26,950	MN01	1	23
87	RESERVED FOR FUTURE USE																	
88	MTMA - Act 537 - Project #3 Stillmeadow/Brandywine Lane (6 EDUs @ 350 GPD)			2,100	0	0	0	0	0	0	0	0	2,100	0	2,100	MN01	1	

C.S. DAVIDSON, INC.

EXHIBIT NO. MT-5
February 6, 2014

	Name & Description		Map & Parcel	Gallons Currently Reserved	All Projected Connections in Gallons per Day (GPD) 2014	2015	2016	2017	2018	2014 - '18 Subtotal	2019 2023	2024 2028	2029 2033	2034 Ultimate	Points of Connection Total Gallons	Flow Meter	York City MH No.	Man Twp MH No.
89	MTMA - Act 537 - Project #7A Pine Creek/Old Mill Inn (20 EDUs @ 350 GPD)	(4)		7,000	0	0	0	0	0	0	7,000	0	0	0	7,000	MN01	1	
90	Barley Beakler Susquehanna Trail (64 EDUs @ 350 GPD)	(5)	LH-56C	22,400	0	700	700	700	700	2,800	19,600	0	0	0	22,400	MN01	1	
91	J.G. Leasing Co., Inc. Stover's Glen (8 EDUs @ 350 GPD)			2,800	350	350	350	350	350	1,750	1,050	0	0	0	2,800	MN01	1	
92	J.G. Leasing Co., Inc. Butcher Court (2 EDUs @ 350 GPD)		KH&27	700	700	0	0	0	0	700	0	0	0	0	700	MN03	1P2-13	
93	J.G. Leasing Co., Inc. (1EDU @ 350 GPD)		15-406	350	0	0	0	0	0	0	350	0	0	0	350	MN03	1P2-13	
94	Richard Markey Industrial Zone Susquehanna Trail (192.8 @ 1,000 GALS/AC.)	(4)	MH-27 MH-51 MH-51A MH-28	192,800	0	5,000	5,000	5,000	5,000	20,000	50,000	50,000	50,000	22,800	192,800	MN01	1	
95	United Bio-fuels (Reardon) Farmtrail Road	(4)		10,000	350	0	0	0	0	350	0	0	9,650	0	10,000	MN01	1	
96	RESERVED FOR FUTURE USE																	
97	Lucas & Kimberly Parkes Valley Road '(1EDU @ 350 GPD)			350	350	0	0	0	0	350	0	0	0	0	350	MN01	1	
98	Berkeimer 600 Block Church Road - 3 EDUs			1,050	350	700	0	0	0	1,050	0	0	0	0	1,050	MN01	1	
99	Bollinger 600 Block Church Road - 2 EDUs			700	350	350	0	0	0	700	0	0	0	0	700	MN01	1	
*N/A	Miscellaneous Development (3 EDU's/Yr. @ 350 GPD)			26,250	1,050	1,050	1,050	1,050	1,050	5,250	5,250	5,250	5,250	5,250	26,250	MN01	1	8A
	TOTALS:			**1,533,881**	**74,173**	**106,672**	**82,462**	**45,560**	**33,250**	**342,117**	**436,313**	**377,591**	**252,340**	**125,520**	**1,533,881**			

C.S. DAVIDSON, INC.

EXHIBIT NO. MT-5
February 6, 2014

Name & Description	Map & Parcel	Gallons Currently Reserved	All Projected Connections in Gallons per Day (GPD) 2014	2015	2016	2017	2018	2014 - '18 Subtotal	2019 2023	2024 2028	2029 2033	2034 Ultimate	Points of Connection Total Gallons	Flow Meter	York City MH No.	Man Twp MH No.
NOTES:																
* No reservation agreement on file.																
(4) Project is tributary to Farmbrook Industrial Park Pump Station No. 4.			22,100	31,642	37,900	17,600	17,250	126,492	249,951	200,445	108,750	22,800	708,438			
(6) Project is tributary to Blackbridge Road Pump Station No. 6.			1,700	35,350	10,932	0	0	47,982	0	0	20,840	0	68,822			
(10) Project tributary to Caspian Court Pump Station No. 10.			700	700	0	0	0	1,400	4,500	0	0	0	5,900			
Subtotal York City MH No. 1		1,357,752	59,723	98,522	73,362	36,560	31,150	299,317	394,693	344,982	226,840	91,920	1,357,752			
Subtotal York City MH No. 4		21,230	700	350	7,000	6,900	0	14,950	5,580	0	0	700	21,230			
Subtotal York City MH No. IP2-1		490	350	0	0	0	0	350	140	0	0	0	490			
Subtotal York City MH No. IP2-13		43,809	3,150	1,400	2,100	2,100	2,100	10,850	14,850	12,609	5,500	0	43,809			
Subtotal York City MH No. B10-17		95,000	1,050	0	0	0	0	1,050	21,050	20,000	20,000	32,900	95,000			
Totals:		1,518,281	64,973	100,272	82,462	45,560	33,250	326,517	436,313	377,591	252,340	125,520	1,518,281			

(5) Subject to rezoning.

MANCHESTER TOWNSHIP
2013
SANITARY SEWER TRANSFERS AND ACQUISITIONS

TRANSFERS

FROM	TO	DATE APPROVED	FOR (location)	GPD	Treatment Area
Sibol's	Kinsley	9/10/13	405 Church Road	3,500	Springetts

ACQUISITIONS

FROM	TO	DATE APPROVED	FOR (location)	GPD	Treatment Area
Township	Ronald Trasitt	7/9/13	1975 Brian Lane	350	York
Township	Lutheran Social Services	12/10/13	Village at Sprenkle Drive	7,351	York

EXHIBIT NO. MT-6
February 6, 2014

MANCHESTER TOWNSHIP
2013
ON SITE SEPTIC PERMITS

Application Number	Date Issued	Name	Location	New/Repair/ Other	Status	SEO	Sewer Area
Z104296 (MT 71)	1-30-2013	Rutter's Dairy	75 Lightner Road	Repair – pump replacement	Final	Whitmore	York
Z104297 (MT 72)	2-5-2013	Noyes, John & Cherie	3960 Susquehanna Trail	New	Final	Whitmore	York
Z104298 (MT 73)	4-25-2013	Weikert, Alan	3675 Lewisberry Road	Repair	Working	Whitmore	York
Z104299 (MT 74)	5-9-2013	Melhorn, Gordon	3070 Crooked Wind Lane	New	Working	Whitmore	Dover
Z104300 (MT 75)	6-10-2013	Becker, Donna	3750 Bear Road	Repair	Final	Whitmore	York
Z120033 (MT76)	7-8-2013	Craft, James	3875 Board Road	Repair	Final	Whitmore	Springetts
Z120034 (MT77)	10-31-2013	Sinking Springs Farms	265 Sinking Springs Lane	Other – Perc & Probe prior to proposed subdivision	Working	Whitmore	York Springetts
Z120035 (MT78)	10-31-2013	Sinking Springs Farms	Lot#2 Sinking Springs Lane	Other – Perc & Probe prior to proposed subdivision	Working	Whitmore	York Springetts
Z120036 (MT79)	10-31-2013	Sinking Springs Farms	2855 Susquehanna Trail	Other – Perc & Probe prior to proposed subdivision	Working	Whitmore	York Springetts
Z120037 (MT80)	10-31-2013	Sinking Springs Farms	2710 Locust Lane	Other – Perc & Probe prior to proposed subdivision	Working	Whitmore	York Springetts
Z120038 (MT81)	10-31-2013	Sinking Springs Farms	2715 Locust Lane	Other – Perc & Probe prior to proposed subdivision	Working	Whitmore	York Springetts

EXHIBIT NO. MT-7
February 6, 2014

MANCHESTER TOWNSHIP
2013
ON SITE SEPTIC PERMITS

Application Number	Date Issued	Name	Location	New/Repair/ Other	Status	SEO	Sewer Area
Z120039 (MT82)	10-31-2013	Sinking Springs Farms	2483 Susquehanna Trail	Other – Perc & Probe prior to proposed subdivision	Working	Whitmore	York Springetts
Z120040 (MT83)	10-31-2013	Sinking Springs Farms	200 Appell Avenue	Other – Perc & Probe prior to proposed subdivision	Working	Whitmore	York Springetts
Z120041 (MT84)	10-31-2013	Sinking Springs Farms	270 Sinking Springs Lane	Other – Perc & Probe prior to proposed subdivision	Working	Whitmore	York Springetts
Z120042 (MT85)	10-31-2013	Sinking Springs Farms	275 Sinking Springs Lane	Other – Perc & Probe prior to proposed subdivision	Working	Whitmore	York Springetts

BUILDING TODAY
WAGMAN
SHAPING TOMORROW

EXHIBIT NO. MT-8
February 6, 2014

October 12, 2010

Mr. Stu Olweiler
Manchester Township
3200 Farmtrail Road
York, Pennsylvania 17406

Re: Wagman Properties – Sewer Reservations

Dear Stu:

As recently discussed, Wagman Properties has reserved approximately 19,000 gallons per day of sewer capacity across three separate parcels. Approximately 11,560 gallons is reserved in the York City facility and 7,500 in the Springettsbury facility.

To be more specific, the following is a summary of sewer capacity reserved by Wagman Properties;

Premise number	Gallons per day reserved	Plant
4239	1,350 GPD	Springettsbury
4211	6,150 GPD	Springettsbury
2574	11,510 GPD	York City

While we are keenly aware that the demand for sewer capacity may not be particularly strong at the moment, we wanted to officially inform you that we are interested in the disposition of our reserved capacity.

Please direct any and all interested parties to contact me at (717) 767-8314 or by email dlcross@wagman.com

Your time and consideration regarding this matter are greatly appreciated.

Sincerely,

David L. Cross
President & COO
Wagman Construction, Inc.

RECEIVED
OCT 14 2010
BY:

Cc: Mr. Richard Resh – C.S. Davidson (Township Engineer)
Mr. Mike Doverspike – Wagman Construction, Inc.

Resh, Richard G.

From: Ken Goodyear <k.goodyear@mantwp.com>
Sent: Wednesday, October 16, 2013 1:49 PM
To: James, Tim; Olewiler, Stu; Resh, Richard G.; Treglia, B J.
Subject: FW: Manchester Township Report

Please note revised pumping end date.

From: Ken Goodyear [mailto:k.goodyear@mantwp.com]
Sent: Wednesday, October 16, 2013 1:47 PM
To: Pardoe, Austin N
Subject: FW: Manchester Township Report

Austin,
Please see revised pumping end date.

Ken

From: Ken Goodyear [mailto:k.goodyear@mantwp.com]
Sent: Wednesday, October 16, 2013 9:29 AM
To: 'Pardoe, Austin N'
Subject: Manchester Township Report

Mr. Austin Pardoe
Pennsylvania Department of Environmental Protection
150 Roosevelt Avenue Ste 200
York, PA 17401-3381

At 8:20 pm on October 10, 2013 we received a high water level notification via a float located in manhole # 31 and the automatic dialer located in pump station 6. The high levels were due to the heavy rains that we received and were continuing (approximately 9"). Members of the Public Works Sewer Crew responded to the location and monitored the flows until 1:30 am on October 11, 2013 when it was determined relief pumping would be necessary. The pumping operation continued until 12:30 am on October 13, 2013 with approximately 1,128,000 gallons of diluted sewer being pumped . The relief pumping was discharged into an unnamed tributary of the Codorus Creek at GPS coordinates 39°59'48.34"N 76°44'04.83" which is located at the intersection of North George Street and Skyview Drive.

Measures being considered to help prevent /reduce:
Upgrade interceptor sewer line and relocate discharge point at the York City Sewer Treatment Plant.
Continued efforts to reduce I/I.
Install an additional pump station to segregate this area.

Ken Goodyear
Manchester Township
Public Works Superintendent

EXHIBIT NO. MT-10
February 6, 2014

2014 SANITARY SEWER REPAIRS
MANCHESTER TOWNSHIP
ENGINEER'S PROJECT NO. 0841.6.69.00

ITEM #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE		ESTIMATED TOTAL
PROJECT NO. 1 - CASPIAN DRIVE MH 272 TO MH 271						
2	**MISCELLANEOUS/SITE WORK PAYMENT ITEMS**					
2.01	MOBILIZATION	Ea.	1.00	$1,000.00		$1,000.00
2.01.01	MAINTENANCE AND PROTECTION OF TRAFFIC	Ea.	1.00	$1,000.00		$1,000.00
2.02	CLEARING AND GRUBBING	L.S.	0.00	$500.00		$0.00
2.02.01	TREE AND SHRUB REMOVAL					
	(a) 4"-8" CALIPER	EA.	0.00	$500.00		$0.00
	(b) 9"-17" CALIPER	EA.	0.00	$1,000.00		$0.00
	(c) >18" CALIPER	EA.	0.00	$2,000.00		$0.00
2.06	EROSION AND SEDIMENTATION CONTROL	L.S.	0.00	$500.00		$0.00
2.08.04	FINISH GRADING AND SEEDING	L.S.	0.00	$1,000.00		$0.00
5	**SANITARY SEWER PAYMENT ITEMS**					
5.01.04.04	4" DIA. PVC PIPE	L.F.	0.00	$55.00		$0.00
5.01.04.08	8" DIA. PVC PIPE					
	(b) 6' - 8' deep	L.F.	0.00	$90.00		$0.00
	(c) 8' - 10' deep	L.F.	48.00	$110.00		$5,280.00
	(d) 10'- 12' deep	L.F.	0.00	$120.00		$0.00
5.02.01	PVC WYES	EA.	0.00	$50.00		$0.00
5.02.02	PVC ELBOWS	EA.	1.00	$30.00		$30.00
5.08.01.81	4' DIAMETER 0.01' - 6.00' DEEP	EA.	1.00	$4,400.00		$4,400.00
5.08.01.82	4' DIAMETER 6.01' DEEP AND OVER	V.F.	4.00	$400.00		$1,600.00
5.09.01	STANDARD FRAME AND COVER	EA.	1.00	$350.00		$350.00
5.12.01	CONNECTION TO EXISTING MANHOLE	EA.	0.00	$1,500.00		$0.00
5.12.02	CONNECTION TO EXISTING MAIN	EA.	2.00	$500.00		$1,000.00
5.12.04	CONNECTION TO EXISTING LATERAL	EA.	1.00	$400.00		$400.00
5.13	CLEANOUTS	EA.	0.00	$175.00		$0.00
5.25.03	MANHOLE LEAK STOP	EA.	0.00	$750.00		$0.00
5.98	BYPASS PUMPING	L.S.	1.00	$1,000.00		$1,000.00
7	**TRENCH RESTORATION PAYMENT ITEMS**					
7.08.01.01	CEMENT CONCRETE CURB - VERTICAL	L.F.	0.00	$25.00		$0.00
7.09.01.04	4" THICK CONCRETE SIDEWALK	S.Y.	0.00	$10.00		$0.00
8	**TRENCH RESTORATION PAYMENT ITEMS**					
8.01	TRENCH PAVING	S.Y.	55.00	$50.00		$2,750.00
8.03	TEMPORARY PAVING	S.Y.	38.00	$20.00		$760.00
			SUBTOTAL			$19,570.00
			15% CONTIGENCY			$2,940.00
	SUBTOTAL FOR PROJECT NO. 1:		**TOTAL**			$22,510.00

PROJECT NO. 4 - LEWISBERRY ROAD MH 44 TO MH 45

2	**MISCELLANEOUS/SITE WORK PAYMENT ITEMS**					
2.01	MOBILIZATION	Ea.	1.00	$1,000.00		$1,000.00
2.01.01	MAINTENANCE AND PROTECTION OF TRAFFIC	Ea.	1.00	$1,000.00		$1,000.00
2.02	CLEARING AND GRUBBING	L.S.	0.00	$500.00		$0.00
2.02.01	TREE AND SHRUB REMOVAL					
	(a) 4"-8" CALIPER	EA.	0.00	$500.00		$0.00
	(b) 9"-17" CALIPER	EA.	0.00	$1,000.00		$0.00
	(c) >18" CALIPER	EA.	0.00	$2,000.00		$0.00
2.06	EROSION AND SEDIMENTATION CONTROL	L.S.	0.00	$500.00		$0.00
2.08.04	FINISH GRADING AND SEEDING	L.S.	0.00	$1,000.00		$0.00
5	**SANITARY SEWER PAYMENT ITEMS**					
5.01.04.06	6" DIA. PVC PIPE	L.F.	8.00	$55.00		$440.00
5.01.04.08	8" DIA. PVC PIPE					
	(a) 0'- 6' deep	L.F.	0.00	$90.00		$0.00
	(b) 6' - 8' deep	L.F.	0.00	$110.00		$0.00
	(c) 8'- 10' deep	L.F.	158.00	$115.00		$18,170.00
	(d) 10'- 12' deep	L.F.	36.00	$120.00		$4,320.00
5.02.01	PVC WYES	EA.	2.00	$50.00		$100.00
5.02.02	PVC ELBOWS	EA.	4.00	$30.00		$120.00
5.08.01.81	4' DIAMETER 0.01' - 6.00' DEEP	EA.	0.00	$4,400.00		$0.00
5.09.01	STANDARD FRAME AND COVER	EA.	0.00	$350.00		$0.00
5.12.01	CONNECTION TO EXISTING MANHOLE	EA.	1.00	$1,500.00		$1,500.00
5.12.02	CONNECTION TO EXISTING MAIN	EA.	1.00	$500.00		$500.00
5.12.03	CONNECTION TO EXISTING LATERAL	EA.	2.00	$400.00		$800.00
5.13	CLEANOUTS	EA.	0.00	$175.00		$0.00
5.25.03	MANHOLE LEAK STOP	EA.	0.00	$750.00		$0.00
5.98	BYPASS PUMPING	L.S.	1.00	$1,000.00		$1,000.00
7	**TRENCH RESTORATION PAYMENT ITEMS**					
7.08.01.01	CEMENT CONCRETE CURB - VERTICAL	L.F.	0.00	$25.00		$0.00
7.09.01.04	4" THICK CONCRETE SIDEWALK	S.Y.	0.00	$10.00		$0.00
8	**TRENCH RESTORATION PAYMENT ITEMS**					
8.01	TRENCH PAVING	S.Y.	157.00	$50.00		$7,850.00
8.03	TEMPORARY PAVING	S.Y.	111.00	$20.00		$2,220.00
			SUBTOTAL			$39,020.00
			15% CONTIGENCY			$5,850.00
	SUBTOTAL FOR PROJECT NO. 4:		**TOTAL**			$44,870.00

2014 SANITARY SEWER REPAIRS
MANCHESTER TOWNSHIP
ENGINEER'S PROJECT NO. 0841.6.69.00

PROJECT NO. 5 - LEWISBERRY ROAD MH 45 TO MH 46

ITEM #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE		ESTIMATED TOTAL
2	**MISCELLANEOUS/SITE WORK PAYMENT ITEMS**					
2.01	MOBILIZATION	Ea.	1.00	$1,000.00		$1,000.00
2.01.01	MAINTENANCE AND PROTECTION OF TRAFFIC	Ea.	1.00	$1,000.00		$1,000.00
2.02	CLEARING AND GRUBBING	L.S.	0.00	$500.00		$0.00
2.02.01	TREE AND SHRUB REMOVAL					
	(a) 4"-8" CALIPER	EA.	0.00	$500.00		$0.00
	(b) 9"-17" CALIPER	EA.	0.00	$1,000.00		$0.00
	(c) >18" CALIPER	EA.	0.00	$2,000.00		$0.00
2.06	EROSION AND SEDIMENTATION CONTROL	L.S.	0.00	$500.00		$0.00
2.08.04	FINISH GRADING AND SEEDING	L.S.	0.00	$1,000.00		$0.00
5	**SANITARY SEWER PAYMENT ITEMS**					
5.01.04.06	6" DIA. PVC PIPE	L.F.	8.00	$55.00		$440.00
5.01.04.08	8" DIA. PVC PIPE					
	(a) 0'- 6' deep	L.F.	0.00	$90.00		$0.00
	(b) 6' - 8' deep	L.F.	0.00	$110.00		$0.00
	(c) 8'- 10' deep	L.F.	0.00	$115.00		$0.00
	(d) 10'- 12' deep	L.F.	86.00	$120.00		$10,320.00
	(e) 12'- 14' deep	L.F.	140.00	$130.00		$18,200.00
5.02.01	PVC WYES	EA.	2.00	$50.00		$100.00
5.02.02	PVC ELBOWS	EA.	4.00	$30.00		$120.00
5.08.01.81	4' DIAMETER 0.01' - 6.00' DEEP	EA.	0.00	$4,400.00		$0.00
5.09.01	STANDARD FRAME AND COVER	EA.	0.00	$350.00		$0.00
5.12.01	CONNECTION TO EXISTING MANHOLE	EA.	1.00	$1,500.00		$1,500.00
5.12.02	CONNECTION TO EXISTING MAIN	EA.	1.00	$500.00		$500.00
5.12.03	CONNECTION TO EXISTING LATERAL	EA.	2.00	$400.00		$800.00
5.13	CLEANOUTS	EA.	0.00	$175.00		$0.00
5.25.03	MANHOLE LEAK STOP	EA.	0.00	$750.00		$0.00
5.98	BYPASS PUMPING	L.S.	1.00	$1,000.00		$1,000.00
7	**TRENCH RESTORATION PAYMENT ITEMS**					
7.08.01.01	CEMENT CONCRETE CURB - VERTICAL	L.F.	0.00	$25.00		$0.00
7.09.01.04	4" THICK CONCRETE SIDEWALK	S.Y.	0.00	$10.00		$0.00
8	**TRENCH RESTORATION PAYMENT ITEMS**					
8.01	TRENCH PAVING	S.Y.	180.00	$50.00		$9,000.00
8.03	TEMPORARY PAVING	S.Y.	128.00	$20.00		$2,560.00
			SUBTOTAL			$46,540.00
			15% CONTIGENCY			$6,980.00
	SUBTOTAL FOR PROJECT NO. 5:		**TOTAL**			$53,520.00

Appendix B
North York Borough Chapter 94 Municipal Wasteload Management

JRH
James R. Holley
& Associates, Inc.

February 27, 2014

CITY OF YORK - CHAPTER 94
WASTELOAD MANAGEMENT REPORT – 2013

NORTH YORK BOROUGH

A. Sewer Extensions

There were no new sewer extensions constructed or approved for construction, nor were there any proposed projects requiring sewer extensions during the calendar year.

B. Sewer System Monitoring, Maintenance and Repair

In 2013, Area # 1 of the Borough's sewer system was cleaned, using Manchester Township's Myers-Sherman Model 810 Vactor Truck and Township personnel. This is part of the regular sewer maintenance program established by the Borough to provide for the cleaning of each manhole section at least once every four years.

Roots were removed from a section of main on North Duke Street. A repair was made to the sewer main at a manhole in East Fifth Avenue.

There are no plans for major maintenance or repair projects other than the routine cleaning of the next quarter of the sewer system as indicated above. In 2014, the Borough is planning a project to use a root removing chemical in some areas of the Borough which experience problems with roots.

C. Conditions of Sewer System

Overall, the Borough collection system is in good operating condition. There are no portions of the system overloaded at present nor are any such conditions anticipated in the future. This is due to the fact that almost the entire Borough has been improved and there is very little area available for development. The only apparent possibility of significant increases in flow would be radical redevelopment or change in property use.

D. Pump Station

The West Sixth Avenue pumping station has been operating satisfactorily throughout 2013 without any breakdowns. Each of the dual centrifugal pumps was rated on December 31, 2002 and the average pump capacity was computed at 132 GPM. The controls are so arranged that both pumps could operate at the same time. The average flow pumped during 2013 was 2,061 GPD with the minimum being 792 GPD and the maximum being 13,803 GPD based on elapsed time meter records (It appears from the time meter records for pump 2 that the meter is not working properly and the Borough is currently working on correcting the problem). Since the actual capacity of the station is greater than 190,080 GPD, no future overload condition is anticipated. No growth in the pump station service area is anticipated thru 2015. The station does not have an overflow pipe and is equipped with a standby emergency power unit. It is in very good condition, as it is on a routine maintenance schedule which requires checking approximately once a week by North York Borough personnel.

E. Waste Flow Data

1. 2013 Connections

A new connection for a new apartment building containing 32 units was made to the Borough's existing sanitary sewer system on East Seventh Avenue in 2013. The new connection is located in the area of the Borough which flows to the City flow meter NY-01, therefore flow data will be recorded by the existing meter.

2. Waste Flow Projections

The flow from the Borough in 2013 averaged 185,968 GPD which was 4.2% higher than that of 2012. Since only one of the seven Borough connections to the trunkline is metered, these flows are based on readings from City Flow Meter NY-01 plus computed flow from the other connections that have no sewage meter. These computed flows consist of the sum of water meter readings for all commercial and industrial connections not located in the flow meter service area and 350 GPD per EDU for each residential connection in the other six service areas.

The projected growth for the next five years is shown on Exhibit No. NYB-1. A conversion of an existing industrial building to 25 apartment units is proposed for 2014. The building will have a water meter to determine flows.

3. Sewer Connection Totals for Previous Years

The total number of sewer connections for each of the past (5) years were as follows:

2009	2010	2011	2012	2013
0	0	5	0	1(32units)

James R. Holley & Assoc., Inc. February 27, 2014

NORTH YORK BOROUGH 2013 SEWAGE FLOWS

	1ST QUARTER	2ND QUARTER	3RD QUARTER	4TH QUARTER	TOTALS	AVG (GPD)
Flow Meter NY-01	8,530,000	9,013,000	8,339,000	11,901,000	37,783,000	
Metered	540,100	576,500	608,600	393,000	2,118,200	
Unmetered	6,898,500	6,975,150	7,051,800	7,051,800	27,977,250	
TOTALS:	15,968,600	16,564,650	15,999,400	19,345,800	67,878,450	185,968

Flow meter data from City of York metering records
Water meter data provided by the York Water Company.
Unmetered data taken from City of York billing records.

James R. Holley & Assoc., Inc.

February 27, 2014

NORTH YORK BOROUGH SEWAGE PUMPING STATION 2013

Date	Pump 1		Pump 2		Total Station				
	Hour Reading	Hour Elapsed (Hr)	Hour Reading	Hour Elapsed (Hr)	Total Hours	Total Days	Avg Hours/ Day	Period Flow @ 132 gpm (Gal)	Avg. Daily Flow @ 132 gpm (Gal)
12/31/12	3389.1	0.4	3097.2	0.2	0.6	2	0.3	4,752	2,376
01/02/13	3389.5	1.8	3097.4	0.4	2.2	7	0.3	17,424	2,489
01/09/13	3391.3	1.6	3097.8	0.4	2.0	7	0.3	15,840	2,263
01/16/13	3392.9	1.4	3098.2	0.5	1.9	7	0.3	15,048	2,150
01/23/13	3394.3	1.7	3098.7	0.3	2.0	8	0.3	15,840	1,980
01/31/13	3396.0	1.2	3099.0	0.2	1.4	6	0.2	11,088	1,848
02/06/13	3397.2	1.4	3099.2	0.2	1.6	8	0.2	12,672	1,584
02/14/13	3398.6	1.5	3099.4	0.2	1.7	6	0.3	13,464	2,244
02/20/13	3400.1	1.6	3099.6	0.1	1.7	8	0.2	13,464	1,683
02/28/13	3401.7	1.3	3099.7	0.2	1.5	6	0.3	11,880	1,980
03/06/13	3403.0	1.4	3099.9	0.2	1.6	8	0.2	12,672	1,584
03/14/13	3404.4	1.5	3100.1	0.2	1.7	6	0.3	13,464	2,244
03/20/13	3405.9	1.6	3100.3	0.2	1.8	7	0.3	14,256	2,037
03/27/13	3407.5	1.4	3100.5	0.1	1.5	8	0.2	11,880	1,485
04/04/13	3408.9	0.8	3100.6	0.1	0.9	5	0.2	7,128	1,426
04/09/13	3409.7	1.6	3100.7	0.1	1.7	8	0.2	13,464	1,683
04/17/13	3411.3	1.1	3100.8	0.2	1.3	7	0.2	10,296	1,471
04/24/13	3412.4	1.2	3101.0	0.2	1.4	7	0.2	11,088	1,584
05/01/13	3413.6	1.5	3101.2	0.2	1.7	7	0.2	13,464	1,923
05/08/13	3415.1	0.6	3101.4	0.1	0.7	5	0.1	5,544	1,109
05/13/13	3415.7	0.8	3101.5	0.2	1.0	4	0.3	7,920	1,980
05/17/13	3416.5	2.6	3101.7	0.3	2.9	13	0.2	22,968	1,767
05/30/13	3419.1	1.1	3102.0	0.1	1.2	7	0.2	9,504	1,358
06/06/13	3420.2	1.0	3102.1	0.1	1.1	6	0.2	8,712	1,452
06/12/13	3421.2	1.6	3102.2	0.3	1.9	7	0.3	15,048	2,150
06/19/13	3422.8	1.4	3102.5	0.1	1.5	7	0.2	11,880	1,697
06/26/13	3424.2	1.2	3102.6	0.2	1.4	6	0.2	11,088	1,848
07/02/13	3425.4	0.8	3102.8	0.0	0.8	5	0.2	6,336	1,267

James R. Holley & Assoc., Inc. February 27, 2014

NORTH YORK BOROUGH SEWAGE PUMPING STATION 2013

Date	Pump 1		Pump 2		Total Station				
	Hour Reading	Hour Elapsed (Hr)	Hour Reading	Hour Elapsed (Hr)	Total Hours	Total Days	Avg Hours/ Day	Period Flow @ 132 gpm (Gal)	Avg. Daily Flow @ 132 gpm (Gal)
07/07/13	3426.2	1.0	3102.8	0.1	1.1	5	0.2	8,712	1,742
07/12/13	3427.2	1.0	3102.9	0.1	1.1	5	0.2	8,712	1,742
07/17/13	3428.2	3.6	3103.0	0.3	3.9	15	0.3	30,888	2,059
08/01/13	3431.8	1.2	3103.3	0.2	1.4	6	0.2	11,088	1,848
08/07/13	3433.0	3.3	3103.5	0.3	3.6	7	0.5	28,512	4,073
08/14/13	3436.3	1.3	3103.8	0.3	1.6	7	0.2	12,672	1,810
08/21/13	3437.6	1.6	3104.1	0.2	1.8	7	0.3	14,256	2,037
08/28/13	3439.2	1.5	3104.3	0.1	1.6	8	0.2	12,672	1,584
09/05/13	3440.7	2.1	3104.4	0.3	2.4	8	0.3	19,008	2,376
09/13/13	3442.8	1.3	3104.7	0.3	1.6	7	0.2	12,672	1,810
09/20/13	3444.1	1.0	3105.0	0.2	1.2	7	0.2	9,504	1,358
09/27/13	3445.1	1.9	3105.2	0.3	2.2	6	0.4	17,424	2,904
10/03/13	3447.0	0.5	3105.5	0.2	0.7	7	0.1	5,544	792
10/10/13	3447.5	10.8	3105.7	1.4	12.2	7	1.7	96,624	13,803
10/17/13	3458.3	1.2	3107.1	0.3	1.5	6	0.3	11,880	1,980
10/23/13	3459.5	1.2	3107.4	0.3	1.5	8	0.2	11,880	1,485
10/31/13	3460.7	1.1	3107.7	0.5	1.6	7	0.2	12,672	1,810
11/07/13	3461.8	0.7	3108.2	0.3	1.0	6	0.2	7,920	1,320
11/13/13	3462.5	1.3	3108.5	0.7	2.0	8	0.3	15,840	1,980
11/21/13	3463.8	0.5	3109.2	0.1	0.6	5	0.1	4,752	950
11/26/13	3464.3	1.3	3109.3	0.6	1.9	8	0.2	15,048	1,881
12/04/13	3465.6	1.5	3109.9	0.6	2.1	8	0.3	16,632	2,079
12/12/13	3467.1	1.0	3110.5	0.1	1.1	7	0.2	8,712	1,245
12/19/13	3468.1	0.7	3110.6	0.2	0.9	5	0.2	7,128	1,426
12/24/13	3468.8	2.0	3110.8	0.2	2.2	7	0.3	17,424	2,489
12/31/13	3470.8		3111.0						

James R. Holley & Assoc., Inc. February 27, 2014

NORTH YORK BOROUGH SEWAGE PUMPING STATION 2013

Date	Pump 1		Pump 2		Total Station				
	Hour Reading	Hour Elapsed (Hr)	Hour Reading	Hour Elapsed (Hr)	Total Hours	Total Days	Avg Hours/ Day	Period Flow @ 132 gpm (Gal)	Avg. Daily Flow @ 132 gpm (Gal)
TOTALS	81.7		13.8		95.5	365		756,360	
AVERAGE PER DAY	0.22		0.04		0.26		0.26		2,061

Data from North York Borough Personnel
North York Borough is currently working on correcting a problem with elapsed time meter for pump 2

James R. Holley & Assoc., Inc.

February 27, 2014
EXHIBIT NO. NYB-1

NORTH YORK BOROUGH
PROJECTED CONNECTIONS TO CITY OF YORK
WASTEWATER TREATMENT PLANT

	Name & Description	Map & Parcel	All Projected Connections in gallons per Day (GPD) 2014	2015	2016	2017	2018	14-'18 Subtotal	2019 2023	2024 2028	2029 2033	2034 Ultimate	Total Gallons	Flow Meter	York City MH No.
1	New structures on existing vacant lots or apartment conversions (1 EDU/year)	varies	350	350	350	350	350	1,750	1,750	1,750	1,750	1,750	8,750	NY01	A4
2	Expansion of existing industrial or commercial uses (1 EDU/year)	varies	350	350	350	350	350	1,750	1,750	1,750	1,750	1,750	8,750	NY01	A4
3	New structures on existing vacant lots or apartment conversions	varies	0	0	0	0	0	0	0	0	0	0	0	N/A	A7
4	Expansion of existing industrial or commercial uses (1 EDU/year)	varies	0	0	0	0	0	0	0	0	0	0	0	N/A	A7
5	New structures on existing vacant lots or apartment conversions	varies	350	350	350	350	350	1,750	1,750	1,750	1,750	1,750	8,750	N/A	A9
6	Expansion of existing industrial or commercial uses (1 EDU/year)	varies	0	0	0	0	0	0	0	0	0	0	0	N/A	A9
7	New structures on existing vacant lots or apartment conversions	varies	8750	0	0	0	0	8,750	0	0	0	0	8,750	N/A	B10B
8	Expansion of existing industrial or commercial uses (1 EDU/year)	varies	0	0	0	0	0	0	0	0	0	0	0	N/A	B10B
9	New structures on existing vacant lots or apartment conversions	varies	0	0	0	0	0	0	0	0	0	0	0	N/A	B8
10	Expansion of existing industrial or commercial uses (1 EDU/year)	varies	0	0	0	0	0	0	0	0	0	0	0	N/A	B8
11	New structures on existing vacant lots or apartment conversions (1 EDU/year)	varies	0	0	0	0	0	0	0	0	0	0	0	N/A	27-3:B10
12	Expansion of existing industrial or commercial uses (1 EDU/year)	varies	0	0	0	0	0	0	0	0	0	0	0	N/A	27-3:B10
13	New structures on existing vacant lots or apartment conversions	varies	0	0	0	0	0	0	0	0	0	0	0	N/A	A20:A21
14	Expansion of existing industrial or commercial uses (1 EDU/year)	varies	0	0	0	0	0	0	0	0	0	0	0	N/A	A20:A21
	TOTALS		9,800	1,050	1,050	1,050	1,050	14,000	5,250	5,250	5,250	5,250	35,000		

James R. Holley & Assoc., Inc.

February 27, 2014
EXHIBIT NO. NYB-2

TABULATION OF AVAILABLE
SEWER RESERVE CAPACITY

COLLECTION AND TRANSPORTATION SYSTEM
From: North York Borough

WASTEWATER TREATMENT FACILITY
To: City of York

SOURCES FOR PROJECTION	2013	2014	2015	2016	2017	2018
Existing Flow from Current Users (2)	185,968	185,968	195,768	196,818	197,868	198,918
Projected Flows from Current Users	0	0	0	0	0	0
Projected Flow Increase from New Customers (3)	0	9,800	1,050	1,050	1,050	1,050
Total Estimated Wastewater Flows	185,968	195,768	196,818	197,868	198,918	199,968
Total Permitted Capacity/Agreement (4)	531,200	531,200	531,200	531,200	531,200	531,200
Percentage Usage	35.01%	36.85%	37.05%	37.25%	37.45%	37.64%
Total Amount of Available Capacity	345,232	335,432	334,382	333,332	332,282	331,232

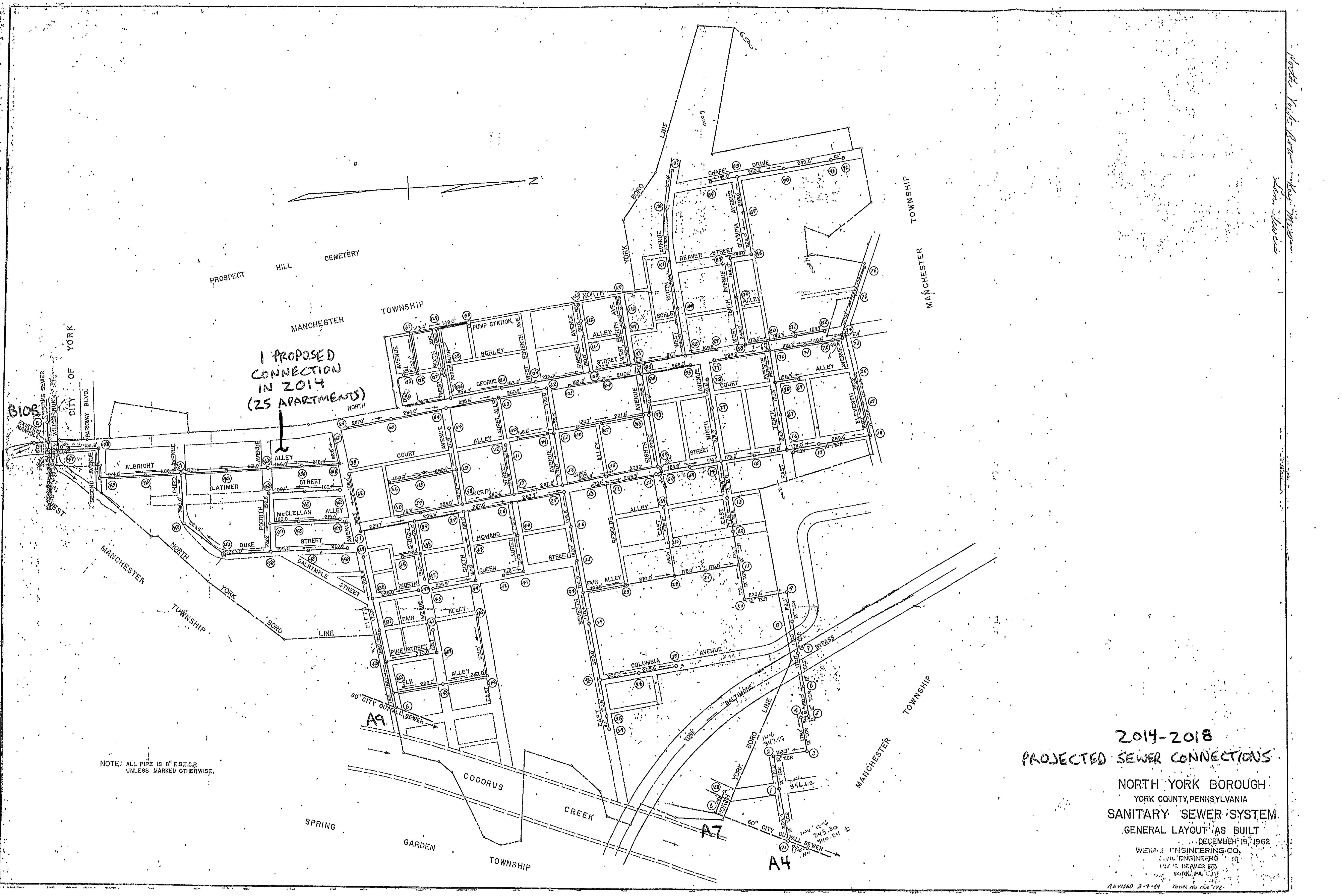
NOTES AND ASSUMPTIONS:

(1) Flows are in gallons per day (GPD)

(2) City Flow Meter NY-01 plus metered and unmetered flows.

(3) Projected growth - See Exhibit No. NYB-1.

(4) Per intermunicipal agreement, amendment #2, Dated September 16, 2003


North York Boro Key Map
Len Lewis
2014-2018
PROJECTED SEWER CONNECTIONS
NORTH YORK BOROUGH
YORK COUNTY, PENNSYLVANIA
SANITARY SEWER SYSTEM
GENERAL LAYOUT AS BUILT
DECEMBER 19, 1962
CIVIL ENGINEERS
YORK, PA.
REVISED 3-4-69
1 PROPOSED CONNECTION IN 2014 (25 APARTMENTS)
B108
A9
A7
A4
NOTE: ALL PIPE IS 8" E.S.T.C.R UNLESS MARKED OTHERWISE.
PROSPECT HILL CEMETERY
MANCHESTER TOWNSHIP
SPRING GARDEN TOWNSHIP
CITY OF YORK
YORK BORO LINE
CODORUS CREEK
60" CITY OUTFALL SEWER
EXISTING SEWER
EXISTING MANHOLE
WILLIS RUN
PARKWAY BLVD.
NORTH
WEST
ALBRIGHT
LATIMER
McCLELLAN ALLEY
DUKE STREET
DALRYMPLE STREET
COURT
ALLEY
STREET
SECOND AVENUE
THIRD AVENUE
FOURTH AVENUE
FIFTH
SIXTH AVE
WEST SEVENTH AVE
EIGHTH AVENUE
NINTH
TENTH AVENUE
ELEVENTH AVENUE
PUMP STATION
SCHLEY
GEORGE
SIGSBEE AVENUE
OLYMPIA AVENUE
BEAVER STREET
CHAPEL DRIVE
LAUREL ALLEY
HOWARD
QUEEN
FAIR ALLEY
MEADE
PINE STREET
ELK
RENOLDS
COLUMBIA AVENUE
BALTIMORE
BYPASS
EAST

Appendix C
Spring Garden Township Chapter 94 Municipal Wasteload Management

C.S.Davidson, Inc.
Excellence in Civil Engineering

February 5, 2014

CITY OF YORK - CHAPTER 94
WASTELOAD MANAGEMENT REPORT - 2013

SPRING GARDEN TOWNSHIP

A. System Monitoring, Maintenance and Repairs

The sewer maintenance crew has three full-time employees (see exhibit No. SGT-1) and is responsible for routine maintenance and repairs of the sanitary sewer system in Spring Garden Township. The major equipment that the crew has available to utilize in the maintenance of the sanitary sewers are tabulated on Exhibit No. SGT-2.

The sewer maintenance crew can also draw upon the manpower and equipment available from the rest of the Township public works department. Nine additional public works employees in the highway department are available to assist the sewer maintenance crew if the need arises. Additional equipment available includes a backhoe/loader, air compressor, additional dump trucks, welding and cutting equipment, and other equipment within the public works department.

The pump stations are checked each weekday by municipal personnel. Major pump station repairs are performed by Hydra-Numatic Sales Co. The Township Sewer Maintenance crew performed cleaning and flushing services in designated areas. During 2013, 35,367 L.F. of sanitary sewers were flushed and 10,690 L.F. were flushed and televised (see Exhibit No. SGT-3). Next year, the Township plans to clean and flush about 35,000 L.F. of main and televise about 5,000 L.F. No Sewer System Evaluation Survey (SSES) work was performed last year.

B. Collection System Condition

1. Description of System: The system tributary to the City of York includes 53.18 miles of sewers, one inverted siphon, and three pump stations. Wastewater from these areas connects to the City system at 40 different points, three of which have sewage flow meters. The Spring Garden Township System also transports flows from several areas in York Township (40,385 gpd). Wastewater in some sections of Spring Garden Township is also transported through the

York Township system and City Flow Meter No. YT-01 (158,315 gpd). Most of the Spring Garden Township system is in substantially fair operating condition, with the older areas requiring more maintenance, especially in areas with trees.

2. Conveyance Capacity: No backups occurred in 2013. Spring Garden Township financed part of the City's Poorhouse Run interceptor/siphon improvements completed last year.

3. Major Rehabilitation: In 2013, the Township's maintenance crew repaired sewers mains and laterals (see Exhibit No. SGT-4). The Township also hired Rogele, Inc. to repair or replace piping for Project Nos. 2 through 4 (see Exhibit No. SGT-5). The Township is currently considering the following projects for its 2014 Sanitary Sewer Maintenance Program (see Exhibit No. SGT-10).

Poorhouse Run Interceptor: Projects 5 through 14 - $219,000

Greendale Road: Projects 1 through 4 - $144,000

Sewer replacement work on Rathon Road and Hoffman Road will be postponed.

The Poorhouse Run Interceptor work will require regulatory permitting, including NPDES Permit for Each Disturbance, DEP General Permits for Temporary Stream Crossing for Construction Equipment Access, and for Sewer Service Lateral Replacement across a stream. Construction is anticipated to occur in late summer 2014.

4. Tyler Run Interceptor Improvements: York Township has started on a Capacity Study to determine if the sanitary sewer pipeline through Spring Garden Township should be increased in size. Flow meters were installed in June. When the data is collected, it will be analyzed to develop a model of the sewer line to determine how many more connections can be added until the Tyler Run Interceptor must be upsized. Mr. Rehab, Inc. began to root cutting inside pipelines in September 2013 in the Spring Garden Township area of the Tyler Run Interceptor. They used a robotic cutter due to the fact that this pipe run has the potential for collapse and televised to determine what type of repairs are needed. On 09/16/13, The York Water &

Sewer Authority discussed a $38,000 proposal from Gannett Fleming to assist with the evaluation of the Tyler Run Interceptor. The engineering firm will identify improvements needed to the interceptor to provide adequate capacity to convey Township build-out wastewater flows. York Township's 2014 Budget included $150,000 for repairs to the Tyler Run Interceptor. The Spring Garden Township's share of the costs is unknown, if any.

C. Pump Station Condition

1. Richland Avenue Pump Station: This facility was privately owned until its adoption by Spring Garden Township in November 1990. The pump station has a design capacity of 200 GPM. This facility has no emergency standby power. The pumping capacity was field verified in December 2011 at 283 GPM. Elapsed time meter readings for 2013 indicate the following:

283 GPM Rated in 2011	RICHLAND AVENUE PUMP STATION			
	Hours of Operation/Day	Gallons Pumped/Day	Actual Pump Capacity (GPD)	Peaking Factor
Minimum	0.08	1,358		
Average	0.20	3,396		
Maximum	0.79	13,414	407,520	3.95

The projected 2-year flows are estimated as follows:

	2013	2014	2015	Design Capacity (GPD)
Avg. Daily Flow (GPD)	3,396	10,096	11,296	
Max. Daily Flow (GPD)	13,414	39,879	44,619	288,000
% Loading (of Design)	4.7%	13.8%	15.5%	
% Loading (of Capacity)	3.3%	9.8%	10.9%	

Pump No. 2 failed on 9/18/12 and was repaired on 10/4/12.

3. Brockway Drive South Pump Station: The Brockway Drive facility was built by private developers and adopted by the Township in 1991. The pump station has a design capacity of 175 GPM, has no overflow or bypass, and is equipped with emergency standby generator. The pumping capacity was field verified in December 2009 at 179 GPM. Elapsed time meter readings for 2013 indicate the following:

179 GPM Rated in 2009	WYNDHAM HILLS SOUTH PUMP STATION			
	Hours of Operation/Day	Gallons Pumped/Day	Actual Pump Capacity (GPD)	Peaking Factor
Minimum	4.37	46,934		
Average	5.64	60,574		
Maximum	9.25	99,345	257,760	1.64

The projected 2-year flows are estimated as follows:

	2013	2014	2015	Design Capacity (GPD)
Avg. Daily Flow (GPD)	60,574	67,924	73,524	
Max. Daily Flow (GPD)	99,345	111,400	120,584	252,000
% Loading (of Design)	39.4%	44.2%	47.9%	
% Loading (of Capacity)	38.5%	43.2%	46.8%	

4. Southwynd Pump Station: This facility was built by the Township in 1992 on Wyndsung DRive. The pump station has a design capacity of 80 GPM, has no overflow or bypass, and is equipped with emergency standby power and elapsed time meters. The actual pumping capacity was field verified in December 2009 at 74 GPM. Elapsed time meter readings for 2013 indicate the following:

74 GPM Rated in 2009	SOUTHWYND PUMP STATION			
	Hours of Operation/Day	Gallons Pumped/Day	Actual Pump Capacity (GPD)	Peaking Factor
Minimum	0.84	3,730		
Average	1.05	4,662		
Maximum	1.51	6,704	106,560	1.44

The projected 2-year flows are estimated as follows:

	2013	2014	2015	Design Capacity (GPD)
Avg. Daily Flow (GPD)	4,662	7,462	8,512	
Max. Daily Flow (GPD)	6,704	10,731	12,241	115,200
% Loading (of Design)	5.8%	9.3%	10.6%	
% Loading (of Capacity)	6.3%	10.1%	11.5%	

5. Pump Station Maintenance and Repairs: The standby generators are inspected and tested weekly.

D. Sanitary Sewer Extensions:

1. Extensions: In 2013, no developer sanitary sewer extensions were built.

2. Proposed Projects: The following project was issued a BWQM Permit in 1972, but has not been constructed:

Project Name	BWQM Permit No.	Status
Oakridge Sanitary Sewer Dist.	6772422	Delayed due to low priority rating and lack of EPA/PA DEP funds.

A feasibility study of this area is under review by the Board of Commissioners. C.S. Davidson, Inc. prepared a cost estimate for pressure sewer options with individual grinder pumps in April 2007. The location of all other proposed projects is shown on the attached maps in red.

3. Graphic Information Service (GIS): In 2013, C.S. Davidson, Inc. updated GIS mapping for Sanitary Sewers in Ward 4 of Spring Garden Township tributary to the City of York. Plans for Wards 1, 2, 3, and 5 tributary to the City system and Springettsbury Township WWTP will be updated in 2014. Mapping shows both public and private sewers, including manholes.

E. Waste Flow Data

1. The estimated flows for the current year and the projected next five years are shown on the attached Exhibit Nos. SGT-6 and SGT-7.

2. The total number of sewer connections (see Exhibit No. SGT-9) completed in Spring Garden Township during each of the last five years are as follows:

2009	2010	2011	2012	2013
9	19	16	9	18

F. Nutrient Trading Program 2003 thru 2013

1. Based upon 25 lbs. per year of nitrogen, the available credits through December 31, 2013 are computed as follows:

2003	21 EDUs x 11 yrs. x 25 lbs.	5,775
2004	0 EDUs	0
2005	5 EDUs x 9 yrs. x 25 lbs. =	1,125

2006	12 EDUs x 8 yrs. x 25 lbs. =	2,400
2007	5 EDUs x 7 yrs. x 25 lbs. =	875
2008	4 EDUs x 6 yrs. x 25 lbs. =	600
2009	6 EDUs x 5 yrs. x 25 lbs. =	750
2010	8 EDUs x 4 yrs. x 25 lbs. =	800
2011	7 EDUs x 3 yrs. x 25 lbs. =	525
2012	7 EDUs x 2 yr. x 25 lbs. =	350
2013	7 EDUs x 1 yr. x 25 lbs. =	175

2. However, regulations do not allow credits to be accumulated.

G. Sewer Accounts

As of 12/31/13, Spring Garden Township has the following sewer billing accounts:

Tributary to York City System:	4,097
Tributary to York Township System:	237

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2013
CHAPTER 94 REPORT
PERSONEL & TRAINING

BRENT BARLEY

- HIRE DATE – 12/01/03
- POSITION – CREW LEADER
- WASTE WATER LICENSE ID – 267274
- 2/08/13 MS4 TRAINING W/ C.S. DAVIDSON
- 2/27/13 BASIC HYDROLICS CLASS *PA DEP* #6166
- 4/19/13 CPR, AED, & FIRST AID
- 6/12/13 ODOR PRODUCTION, PREVENTION, & CONTROL *PA DEP* #6190
- 6/12/13 MICROBIOLOGY OF ANAEROBIC DIGESTERS *PA DEP* #3562
- 6/13/13 PA ONE CALL *SAFETY DAYS*
- 9/25/13 MOCK GAS LEAK, 603 WINDSOR ST
- 10/31/13 *LTAP* WINTER MAINTENANCE / *A2*
- 11/13/13 PA ONE CALL LOCATOR CLASS

CRIEG SCOTT

- HIRE DATE – 10/25/04
- POSITION – CREW PERSON
- WASTE WATER LICENSE ID – 267286
- 2/27/13 BASIC HYDROLICS CLASS *PA DEP* #6166
- 4/19/13 CPR, AED, & FIRST AID
- 6/12/13 ODOR PRODUCTION, PREVENTION, & CONTROL *PA DEP* #6190
- 6/12/13 MICROBIOLOGY OF ANAEROBIC DIGESTERS *PA DEP* #3562
- 6/13/13 PA ONE CALL *SAFETY DAYS*
- 9/18/13 GORMAN RUPP PUMP MAINTENANCE
- 9/25/13 MOCK GAS LEAK, 603 WINDSOR ST
- 10/31/13 *LTAP* WINTER MAINTENANCE / *A2*
- 11/13/13 PA ONE CALL LOCATOR CLASS

RUSS FULLER

- HIRE DATE – 7/02/07
- POSITION – CREW PERSON
- WASTE WATER LICENSE ID – 299095
- 2/27/13 BASIC HYDROLICS CLASS *PA DEP* #6166
- 4/19/13 CPR, AED, & FIRST AID
- 6/12/13 ODOR PRODUCTION, PREVENTION, & CONTROL *PA DEP* #6190
- 6/12/13 MICROBIOLOGY OF ANAEROBIC DIGESTERS *PA DEP* #3562
- 6/13/13 PA ONE CALL *SAFETY DAYS*
- 9/18/13 GORMAN RUPP PUMP MAINTENANCE
- 9/25/13 MOCK GAS LEAK, 603 WINDSOR ST
- 10/31/13 *LTAP* WINTER MAINTENANCE / *A2*
- 11/13/13 PA ONE CALL LOCATOR CLASS
- 11/19/13 SECURING WATER & WASTEWATER TREATMENT PLANTS *PA DEP* #2952

2013
CHAPTER 94 REPORT
EQUIPMENT & SEWER SYSTEMS OPERATIONS

S-1 / F-250

- CARRIES ALL SAFETY EQUIPMENT FOR CONFINED SPACE ENTRY
- PAINT & FLAGS FOR PA ONE CALLS
- MAINTENANCE TOOLS

S-2 / FLUSH – VAC CON TRUCK

- CLEANS STORM PIPES & SANITARY MAINS
- WASH & SUCK OUT INLETS, MH'S, & WET WELLS

S-3 / TV VAN

- TELEVISING STORM PIPE & SANITARY MAINS & LATERALS

TR-1

- MOWING & CLEARING OF TOWNSHIP R.O.W.'S

SEWER MAINTENANCE

- KEEPING STORM & SANITARY MAINS & LATERALS OPEN
- ADJUST MH LIDS & FRAMES & STORM INLETS FOR PAVING
- MAINTAINING STORM & SANIYARY R.O.W.'S
- MAINTAIN PUMP STATIONS & GENERATORS
- PA ONE CALLS

<u>TOTALS FOR 2013</u>

FLUSHING
YORK CITY – 35,367ft
SPRINGETTSBURY TWP – 20,455ft

TV'ING
YORK CITY – 10,690ft
SPRINGETTBURY TWP – 1,669ft

DATE	STREET	MH START	MH END	LENGTH	MH CONDITIO	COMMENTS	FLUSH
6-5-13	YORKSHIRE TERR	925	924	148'	GOOD	MAINTENANCE	YORK
6-5-13	RATHON RD	626	625	186'	GOOD	MAINTENANCE	YORK
6-5-13	RATHON RD	626	627	80'	GOOD	MAINTENANCE	YORK
7-5-13	GRANDVIEW RD	313	314	400'	GOOD	MAINTENANCE	YORK
7-8-13	FARQUHAR DR	838	837	90'	GOOD	2016 PAVING	YORK
7-8-13	FARQUHAR DR	837	836	300'	GOOD	2016 PAVING	YORK
7-8-13	FARQUHAR DR	836	830	100'	GOOD	2016 PAVING	YORK
8-12-13	SPRINGETTSBURY AVE	855	854	233'	GOOD	REPLACEMENT	YORK
8-12-13	SPRINGETTSBURY AVE	852	853	272'	GOOD	REPLACEMENT	YORK
8-21-13	SECOND AVE	85	84	387'	GOOD	MAINTENANCE	YORK
8-21-13	SECOND AVE	84	83	272'	GOOD	MAINTENANCE	YORK
8-29-13	VIRGINIA AVE	864	865	168'	GOOD	MAINTENANCE	YORK
8-29-13	VIRGINIA AVE	860	861	144'	GOOD	MAINTENANCE	YORK
8-29-13	VIRGINIA AVE	849	858	279'	GOOD	MAINTENANCE	YORK
9-04-13	DEVON RD	438	439	310'	GOOD	MAINTENANCE	YORK
9-04-13	BROAD ST	438	440	221'	GOOD	MAINTENANCE	YORK
9-04-13	BROAD ST R.O.W.	438	435	166'	GOOD	MAINTENANCE	YORK
9-11-13	VIRGINIA AVE	936	937	85'	GOOD	MAINTENANCE	YORK
9-11-13	VIRGINIA AVE	930	934	158'	GOOD	MAINTENANCE	YORK
9-11-13	OLD FARM LN	491	492	390'	GOOD	MAINTENANCE	YORK
9-11-13	OLD FARM LN	490	491	400'	GOOD	MAINTENANCE	YORK
9-12-13	OLD FARM LN	489	490	147'	GOOD	MAINTENANCE	YORK
9-12-13	OLD FARM LN	488	489	260'	GOOD	MAINTENANCE	YORK
9-12-13	OLD FARM LN	487	488	38'	GOOD	MAINTENANCE	YORK
10-21-13	LUDLOW AVE	863	864	185'	GOOD	MAINTENANCE	YORK
10-25-13	QUEEN ST R.O.W.	585	589	153'	GOOD	MAINTENANCE	YORK
10-25-13	QUEEN ST R.O.W.	589	590	310'	GOOD	MAINTENANCE	YORK
10-25-13	QUEEN ST R.O.W.	590	591	225'	GOOD	MAINTENANCE	YORK
10-25-13	HILLOCK LN	584	585	155'	GOOD	MAINTENANCE	YORK
11-05-13	FAIRVIEW DR	798	799	245'	GOOD	MAINTENANCE	YORK

DATE	STREET	MH START	MH END	LENGTH	MH CONDITIO	COMMENTS	FLUSH
11-06-13	SECOND AVE	84	83	272'	GOOD	MAINTENANCE	YORK
11-11-13	MIDLAND AVE	252	253	269'	GOOD	MAINTENANCE	YORK
11-11-13	OGONTZ ST	294	295	279'	GOOD	MAINTENANCE	YORK
11-11-13	HILL ST	281	282	257'	GOOD	MAINTENANCE	YORK
11-11-13	HILL ST	280	281	200'	GOOD	MAINTENANCE	YORK
11-11-13	SPRINGDALE AVE	277	278	225'	GOOD	MAINTENANCE	YORK
11-11-13	ALBEMARLE ST	222	223	306'	GOOD	MAINTENANCE	YORK
11-13-13	HOLLYWOOD TERR	320	321	368'	GOOD	MAINTENANCE	YORK
11-13-13	GRANDVIEW RD	323	324	285'	GOOD	MAINTENANCE	YORK
11-13-13	GRANDVIEW RD	315	316	218'	GOOD	MAINTENANCE	YORK
11-14-13	GLENDALE RD	534	535	400'	GOOD	MAINTENANCE	YORK
11-14-13	GLENDALE RD	533	534	333'	GOOD	MAINTENANCE	YORK
11-14-13	GREENDALE RD	601	602	377'	GOOD	MAINTENANCE	YORK
11-14-13	TRI HILL DR	674	675	275'	GOOD	MAINTENANCE	YORK
11-14-13	HIGHLAND RD	742	743	310'	GOOD	MAINTENANCE	YORK
11-14-13	SIPHON	1353	1352	334'	GOOD	MAINTENANCE	YORK
11-14-13	YORKSHIRE TERR	925	926	155'	GOOD	MAINTENANCE	YORK
1-21-13	GREENDALE RD	547	548	290'	GOOD	ROOTS	YORK
1-23-13	CLOVER LN	445	448	269'	GOOD	MAINTENANCE	YORK
1-29-13	JACKSON ST	848	849	284'	GOOD	GAS WORK	YORK
1-29-13	JACKSON ST	847	848	286'	GOOD	GAS WORK	YORK
1-29-13	JACKSON ST	856	857	118'	GOOD	GAS WORK	YORK
1-29-13	JACKSON ST	855	856	305'	GOOD	GAS WORK	YORK
1-30-13	GREENDALE RD	548	549	130'	GOOD	MAINTENANCE	YORK
2-13-13	GREENDALE RD	546	547	200'	GOOD	I&I STUDY	YORK
2-13-13	GREENDALE RD	545	546	235'	GOOD	I&I STUDY	YORK
2-13-13	CRESTLYN RD	545	550	280'	GOOD	I&I STUDY	YORK
2-13-13	GREENDALE RD	545	544	115'	GOOD	I&I STUDY	YORK
2-21-13	CRESTLYN RD	545	500	280'	GOOD	I&I STUDY	YORK
2-28-13	GREENDALE RD	544	445	115'	GOOD	I&I STUDY	YORK

DATE	STREET	MH START	MH END	LENGTH	MH CONDITIO	COMMENTS	FLUSH
2-28-13	GREENDALE RD	543	544	113'	GOOD	I&I STUDY	YORK
2-28-13	GREENDALE RD	542	543	227'	GOOD	I&I STUDY	YORK
2-28-13	POORHOUSE R.O.W.	541	542	226'	GOOD	I&I STUDY	YORK
2-28-13	GREENDALE RD	572	542	112'	GOOD	I&I STUDY	YORK
3-7-13	BEETREE RD	943	944	239'	GOOD	MAINTENANCE	YORK
3-7-13	POORHOUSE R.O.W.	572	542	78'	GOOD	I&I STUDY	YORK
3-7-13	POORHOUSE R.O.W.	542	541	226'	GOOD	I&I STUDY	YORK
3-7-13	POORHOUSE R.O.W.	541	540	215'	GOOD	I&I STUDY	YORK
3-13-13	TRI HILL RD	765	766	387'	GOOD	MAINTENANCE	YORK
3-20-13	SECOND AVE	84	83	272'	BRICK	MAINTENANCE	YORK
3-21-13	HILL ST	142	146	365'	GOOD	MAINTENANCE	YORK
3-21-13	MIDLAND AVE	252	253	269'	BRICK	MAINTENANCE	YORK
3-21-13	OGONTZ ST	294	295	279'	BRICK	MAINTENANCE	YORK
3-21-13	HILL ST	281	282	257'	BRICK	MAINTENANCE	YORK
3-21-13	HILL ST	280	281	200'	BRICK	MAINTENANCE	YORK
3-21-13	SPRINGDALE AVE	277	278	225'	BRICK	MAINTENANCE	YORK
3-21-13	ALBEMARLE ST	222	223	306'	GOOD	MAINTENANCE	YORK
3-21-13	ALBEMARLE ST	221	222	113'	GOOD	MAINTENANCE	YORK
3-21-13	HOLLYWOOD TERR	320	321	368'	GOOD	MAINTENANCE	YORK
3-21-13	GRANDVIEW RD	323	324	285'	GOOD	MAINTENANCE	YORK
3-21-13	GRANDVIEW RD	315	316	218'	GOOD	MAINTENANCE	YORK
3-21-13	HOLLYWOOD DR	310	311	280'	GOOD	MAINTENANCE	YORK
3-21-13	GRANDVIEW RD	522	523	400'	GOOD	MAINTENANCE	YORK
3-21-13	GLENDALE RD	534	535	400'	GOOD	MAINTENANCE	YORK
3-21-13	GLENDALE RD	533	534	400'	GOOD	MAINTENANCE	YORK
3-21-13	GREENDALE RD	601	602	377'	GOOD	MAINTENANCE	YORK
3-21-13	TRI HILL RD	674	675	275'	GOOD	MAINTENANCE	YORK
3-21-13	HIGHLAND RD	742	743	310'	GOOD	MAINTENANCE	YORK
3-21-13	SIPHON	1353	1352	334'	GOOD	MAINTENANCE	YORK
3-22-13	SMALLBROOK LN	947	948	146'	GOOD	MAINTENANCE	YORK

DATE	STREET	MH START	MH END	LENGTH	MH CONDITIO	COMMENTS	FLUSH
3-22-13	SMALLBROOK LN	946	947	154'	GOOD	MAINTENANCE	YORK
3-22-13	SMALLBROOK LN	946	906	166'	GOOD	MAINTENANCE	YORK
3-22-13	YORKSHIRE TERR	926	927	312'	GOOD	MAINTENANCE	YORK
3-22-13	YORKSHIRE TERR	925	926	155'	GOOD	MAINTENANCE	YORK
11-14-13	YORKSHIRE TERR	925	924	148'	GOOD	MAINTENANCE	YORK
11-14-13	RATHON RD	626	625	186'	GOOD	MAINTENANCE	YORK
11-14-13	RATHON RD	626	627	80'	GOOD	MAINTENANCE	YORK
3-22-13	YORKSHIRE TERR	925	924	148'	GOOD	MAINTENANCE	YORK
3-22-13	RATHON RD	626	625	186'	GOOD	MAINTENANCE	YORK
3-22-13	RATHON RD	626	627	80'	GOOD	MAINTENANCE	YORK
4-10-13	SPAHN AVE	131	132	240'	GOOD	MAINTENANCE	YORK
4-24-13	WYNDHAM R.O.W.	1206	1207	175'	GOOD	MAINTENANCE	YORK
4-24-13	WYNDHAM R.O.W.	1207	1208	166'	GOOD	MAINTENANCE	YORK
5-6-13	POORHOUSE R.O.W.	538	539	110'	GOOD	I&I STUDY	YORK
5-6-13	POORHOUSE R.O.W.	537	538	189'	GOOD	I&I STUDY	YORK
5-6-13	POORHOUSE R.O.W.	495	537	303'	GOOD	I&I STUDY	YORK
5-6-13	POORHOUSE R.O.W.	496	497	160'	GOOD	I&I STUDY	YORK
5-6-13	POORHOUSE R.O.W.	495	496	40'	GOOD	I&I STUDY	YORK
5-7-13	POORHOUSE R.O.W.	498	494	48'	GOOD	I&I STUDY	YORK
5-7-13	POORHOUSE R.O.W.	494	484	240'	GOOD	I&I STUDY	YORK
5-7-13	POORHOUSE R.O.W.	484	483	171'	GOOD	I&I STUDY	YORK
5-7-13	POORHOUSE R.O.W.	485	481	215'	GOOD	I&I STUDY	YORK
5-7-13	POORHOUSE R.O.W.	480	481	142'	GOOD	I&I STUDY	YORK
5-7-13	POORHOUSE R.O.W.	479	480	118'	GOOD	I&I STUDY	YORK
5-7-13	POORHOUSE R.O.W.	478	479	323'	GOOD	I&I STUDY	YORK
5-7-13	POORHOUSE R.O.W.	477	478	314'	GOOD	I&I STUDY	YORK
5-10-13	POORHOUSE R.O.W.	477	1340	365'	GOOD	I&I STUDY	YORK
5-10-13	POORHOUSE R.O.W.	1340	1339	400'	GOOD	I&I STUDY	YORK
5-10-13	POORHOUSE R.O.W.	1339	CITY	389'	GOOD	I&I STUDY	YORK
5-10-13	POORHOUSE R.O.W.	477	476	200'	GOOD	I&I STUDY	YORK

DATE	STREET	MH START	MH END	LENGTH	MH CONDITIO	COMMENTS	FLUSH
6-11-13	SOUTHERN RD	528	527	344'	GOOD	MAINTENANCE	YORK
6-11-13	SOUTHERN RD	528	529	385'	GOOD	MAINTENANCE	YORK
6-13-13	OLD ORCHARD RD	449	450	215'	GOOD	MAINTENANCE	YORK
5-23-13	SECOND AVE	84	83	272'	GOOD	MAINTENANCE	YORK
6-4-13	MIDLAND AVE	252	253	269'	GOOD	MAINTENANCE	YORK
6-4-13	OGONTZ ST	294	295	279'	GOOD	MAINTENANCE	YORK
6-4-13	HILL ST	281	282	257'	GOOD	MAINTENANCE	YORK
6-4-13	HILL ST	280	281	200'	GOOD	MAINTENANCE	YORK
6-4-13	SPRINGDALE AVE	277	278	225'	GOOD	MAINTENANCE	YORK
6-4-13	ALBEMARLE ST	222	223	306'	GOOD	MAINTENANCE	YORK
6-4-13	ALBEMARLE ST	221	222	113'	GOOD	MAINTENANCE	YORK
6-4-13	HOLLYWOOD TERR	320	321	368'	GOOD	MAINTENANCE	YORK
6-4-13	GRANDVIEW RD	323	324	285'	GOOD	MAINTENANCE	YORK
6-4-13	GRANDVIEW RD	315	316	218'	GOOD	MAINTENANCE	YORK
6-4-13	HOLLYWOOD DR	310	311	280'	GOOD	MAINTENANCE	YORK
6-4-13	GRANDVIEW RD	522	523	400'	GOOD	MAINTENANCE	YORK
6-4-13	GLENDALE RD	534	535	400'	GOOD	MAINTENANCE	YORK
6-4-13	GLENDALE RD	533	534	333'	GOOD	MAINTENANCE	YORK
6-4-13	GREENDALE RD	601	602	377'	GOOD	MAINTENANCE	YORK
6-4-13	TRIHILL DR	674	675	275'	GOOD	MAINTENANCE	YORK
6-4-13	HIGHLAND RD	742	743	310'	GOOD	MAINTENANCE	YORK
6-4-13	SIPHON	1353	1352	334'	GOOD	MAINTENANCE	YORK
6-5-13	COUNTRY CLUB RD	908	909	199'	GOOD	MAINTENANCE	YORK
6-5-13	SMALLBROOK LN	947	948	146'	GOOD	MAINTENANCE	YORK
6-5-13	SMALLBROOK LN	946	947	154'	GOOD	MAINTENANCE	YORK
6-5-13	SMALLBROOK LN	946	906	166'	GOOD	MAINTENANCE	YORK
6-5-13	YORKSHIRE TERR	925	926	155'	GOOD	MAINTENANCE	YORK

DATE	STREET	MH START	MH END	LENGTH	MH CONDITION	COMMENTS	TV
1-21-13	GREENDALE RD	547	548	290'	GOOD	ROOTS	YORK
1-29-13	JACKSON ST	856	857	118'	GOOD	GAS REPAIR	YORK
1-29-13	JACKSON ST	855	856	307'	GOOD	GAS REPAIR	YORK
1-30-13	JACKSON ST	848	849	284'	GOOD	GAS REPAIR	YORK
1-30-13	JACKSON ST	847	848	286'	GOOD	GAS REPAIR	YORK
1-30-13	GREENDALE RD	383	382	128'	GOOD	I & I	YORK
2-14-13	GREENDALE RD	546	547	202'	GOOD	MAINTENANCE	YORK
2-14-13	GREENDALE RD	545	546	235'	GOOD	I & I / ROOTS	YORK
3-07-13	POORHOUSE RUN	542	572	78'	GOOD	I & I	YORK
3-07-13	POORHOUSE RUN	541	542	225'	GOOD	I & I	YORK
3-07-13	POORHOUSE RUN	540	541	218'	GOOD	I & I	YORK
3-07-13	POORHOUSE RUN	539	540	344'	GOOD	I & I	YORK
3-19-13	POORHOUSE RUN	538	539	102'	GOOD	I & I	YORK
3-01-13	GREENDALE RD	543	544	108'	GOOD	MAINTENANCE	YORK
3-01-13	GREENDALE RD	544	545	113'	GOOD	MAINTENANCE	YORK
3-07-13	HIGHLAND TERR	943	944	229'	GOOD	ROOTS	YORK
3-15-13	TRI HILL DR	765	766	301'	GOOD	MAINTENANCE	YORK
5-06-13	POORHOUSE RUN	494	495	48'	GOOD	I & I STUDY	YORK
5-06-13	POORHOUSE RUN	495	496	6'	GOOD	OFFSET	YORK
5-06-13	POORHOUSE RUN	537	538	193'	GOOD	I & I STUDY	YORK
5-06-13	POORHOUSE RUN	495	537	302'	GOOD	I & I STUDY	YORK
5-07-13	POORHOUSE RUN	484	494	241'	GOOD	I & I STUDY	YORK
5-07-13	POORHOUSE RUN	483	484	173'	GOOD	I & I STUDY	YORK
5-07-13	POORHOUSE RUN	482	483	215'	GOOD	I & I STUDY	YORK
5-07-13	POORHOUSE RUN	496	497	161'	GOOD	I & I STUDY	YORK
5-07-13	POORHOUSE RUN	495	496	37'	GOOD	I & I STUDY	YORK
5-07-13	POORHOUSE RUN	480	482	140'	GOOD	I & I STUDY	YORK
5-07-13	POORHOUSE RUN	479	480	122'	GOOD	I & I STUDY	YORK
5-07-13	POORHOUSE RUN	478	479	318'	GOOD	I & I STUDY	YORK
5-10-13	POORHOUSE RUN	477	478	322'	GOOD	I & I STUDY	YORK

DATE	STREET	MH START	MH END	LENGTH	MH CONDITION	COMMENTS	TV
5-10-13	POORHOUSE RUN	476	477	214'	GOOD	I & I STUDY	YORK
5-10-13	POORHOUSE RUN	1340	477	363'	GOOD	I & I STUDY	YORK
5-10-13	POORHOUSE RUN	1339	1340	396'	GOOD	I & I STUDY	YORK
5-10-13	POORHOUSE RUN	CITY	1339	385'	GOOD	I & I STUDY	YORK
8-13-13	SPRINGETTSBURY AVE	852	853	305'	GOOD	SEWER REPAIRS	YORK
8-13-13	SPRINGETTSBURY AVE	853	854	214'	GOOD	SEWER REPAIRS	YORK
7-08-13	FARQUHAR DR	837	838	89'	GOOD	2015 PAVING	YORK
7-09-13	FARQUHAR DR	836	837	258'	GOOD	2015 PAVING	YORK
7-09-13	FARQUHAR DR	830	836	99'	GOOD	2015 PAVING	YORK
9-07-13	BEE TREE RD	944	945	399'	GOOD	2015 PAVING	YORK
9-11-13	VIRGINIA AVE	936	937	84'	GOOD	SEWER REPAIRS	YORK
9-11-13	OLD FARM LN	491	492	392'	GOOD	2014 PAVING	YORK
9-11-13	OLD FARM LN	490	491	400'	GOOD	2014 PAVING	YORK
9-12-13	OLD FARM LN	488	489	257'	GOOD	2014 PAVING	YORK
9-12-13	OLD FARM LN	489	490	150'	GOOD	2014 PAVING	YORK
9-12-13	VIRGINIA AVE	930	934	156'	GOOD	SEWER REPAIRS	YORK
10-21-13	LUDLOW AVE	863	864	183'	GOOD	MAINTENANCE	YORK
10-25-13	QUEEN ST R.O.W.	589	590	308'	GOOD	MAINTENANCE	YORK
10-25-13	QUEEN ST R.O.W.	585	589	192'	GOOD	MAINTENANCE	YORK

2013
CHAPTER 94 REPORT
IN HOUSE REPAIRS

SEWER MAIN & LATERAL REPAIRS

REPLACED WYE @ MAIN & LENGHTH OF LATERAL TO CURB W/ CLEANOUT

SECOND AVE

- 1618, 1622, 1624, 1629, 1630, 1633, 1640, 1644

W. JACKSON ST

- 516, 517, 518, 519

VIRGINIA AVE

- 821, 825, 827

TRI HILL RD

- 245

STORM SEWER

EBERTS LN

- EXTENDED OUTFALL MC#3 W/ 20ft OF 24in HDPE PIPE & RIP RAP
- PLACED 280ft OF 6in PERFORATED PIPE

POORHOUSE RUN R.O.W.

- OUTFALL PHR #7, REPLACED 30ft OF 18in CMP PIPE W/ 18in HDPE & RIP RAP

TRI HILL RD

- REPLACED 60ft OF 18in CMP W/ 18in HDPE
- REPAIRED 20ft OF 24in CMP STORM PIPE

VIRGINIA AVE

- REPLACED 300ft OF 24in CMP W/ 24in HDPE
- ADDED 2 STORM INLETS W/ 320ft OF 18in HDPE STORM PIPE

EXHIBIT NO. SGT-5
February 5, 2014

C.S.Davidson, Inc.
Excellence in Civil Engineering

APPLICATION FOR PAYMENT

No. 5 (final)
Date: 12/3/2013

OWNER: Spring Garden Township
ADDRESS: 558 South Ogontz Street
York, PA 17403

Engineer Project No.: 0270.6.B5.04
Contract:
2013 Sanitary Sewer Maintenance

CONTRACTOR: Rogele, Inc.
ADDRESS: 1025 S. 21st Street, PO Box 1757
Harrisburg, PA 17105

Application Covers Period Ending:
10/31/2013

The undersigned certifies that all work performed and materials accepted, but not incorporated, for which Application for Payment is hereby made, has been completed in accordance with the Contract Documents, and that the measured quantities of work shown on the attached Payment Schedule are correct. Subject to final verification of quantities by the Engineer upon completion of all work and final inspection. The undersigned further certifies that any and all claims for payment as of the date of this pay period are hereby made, and that no additional claims of any nature will hereafter be made for work completed as of the end of this pay period, excepting only for claims arising from corrections of quantity measurements.

The undersigned certifies that the TOTAL VALUE OF ALL WORK AND MATERIAL TO DATE (5) shown below, less the total amounts previously paid, constitutes the full claim, including retainage, of the Contractor against the Owner as of the date of this pay period.

Date: 12/5/2013

CONTRACTOR: Rogele, Inc.
By: [signature]

Total Value of Contract Items to Date (Itemized on Payment Schedule)		$355,888.50 (1)
Extra Work Approved on Previous Applications	$8,770.59	(2)
Extra Work This Application (Attach Detailed Records)	-$13,327.99	-$4,557.40 (3)
Materials Accepted, not Incorporated in completed work (See Inventory)		(4)
TOTAL VALUE OF ALL WORK & MATERIAL TO DATE		$351,331.10 (5)
Less Amounts Previously Paid		$347,806.10 (6)
Total Claim of Contractor (Includes Retainage)		$3,525.00 (7)

**********(ENGINEER APPROVAL)**********

Recommend Retainage of 0% of (1) above. $0.00 (8)

NET AMOUNT APPROVED FOR PAYMENT $3,525.00 (9)

Date: 12/04/13 Signed: [signature] for C.S. DAVIDSON, INC., ENGINEER

CONTRACT BUDGET CONTROL

AUTHORIZATION	DATE	CONTRACT AMOUNT (BASED ON ESTIMATED QUANTITIES)	
		Change Order	Current Contract Amount
Proposal Quantities			$355,888.50
Change Order No. 1	8/14/2013	$0.00	$355,888.50
Change Order No. 2	8/14/2013	$8,770.59	$364,659.09
Change Order No. 3	12/3/2013	-$13,327.99	$351,331.10
Change Order No. 4			
Change Order No. 5			
Change Order No. 6			
Change Order No. 7			
Change Order No. 8			
Change Order No. 9			
Change Order No. 10			
Change Order No. 11			
Change Order No. 12			
Change Order No. 13			
Change Order No. 14			
Change Order No. 15			
Change Order No. 16			
Change Order No. 17			
Change Order No. 18			
Change Order No. 19			
Change Order No. 20			

C.S.Davidson, Inc.
Excellence in Civil Engineering

PAYMENT SCHEDULE OF CONTRACT ITEMS

FROM:
CONTRACTOR: Rogele, Inc.
ADDRESS: 1025 S. 21st Street, PO Box 1757
Harrisburg, PA 17105

APPLICATION NUMBER: 5 (final)
SHEET 1 of 4
PAY PERIOD ENDING: 10/31/2013

CONTRACT DESCRIPTION:

2013 Sanitary Sewer Maintenance

TO:
OWNER: Spring Garden Township
ADDRESS: 558 South Ogontz Street
York, PA 17403

TOTAL AMOUNT OF CONTRACT BASED ON ESTIMATED QUANTITIES: **$84,679.00**

Bid Item No.	Description	Proposal Quantity	Unit	Unit Quantity To Date	Contract Unit Price	Total Value To Date
PROJECT NO. 1 - FIRST AVENUE (MH71 TO MH 72)						
2	**MISCELLANEOUS/SITE WORK PAYMENT ITEMS**					
2.01	Mobilization	1	L.S.	1	$1,925.00	$1,925.00
2.01.01	Maintenance and protection of traffic	1	L.S.	1	$420.00	$420.00
2.08	Finish grading and seeding	1	L.S.	1	$680.00	$680.00
5	**SANITARY SEWER PAYMENT ITEMS**					
5.01.04.06.A	6" diameter PVC pipe with full depth stone backfill	238	L.F.	238	$93.00	$22,134.00
5.01.04.08.A	8" diameter PVC pipe with full depth stone backfill					
	(b) 6'-8' deep	268	L.F.	268	$83.00	$22,244.00
	(c) 8'-10' deep	10	L.F.	10	$100.00	$1,000.00
5.02.01	PVC wyes	14	Ea.	14	$62.00	$868.00
5.02.02	PVC elbows	28	Ea.	28	$13.00	$364.00
5.08.01.81	4' Diameter 0.01' - 6.00' deep	1	Ea.	1	$4,235.00	$4,235.00
5.08.01.82	4' Diameter 6.01' - deep and over	5	V.F.	5	$15.00	$75.00
5.09.03	Standard frame and cover	1	Ea.	1	$840.00	$840.00
5.12.01	Connection to existing manhole	1	Ea.	1	$650.00	$650.00
5.12.02	Connection to existing main	3	Ea.	3	$180.00	$540.00
5.12.95	Connection to existing lateral	14	Ea.	14	$85.00	$1,190.00
5.13	Cleanouts	12	Ea.	12	$456.00	$5,472.00
5.13.92	Cast iron cleanout cover box (in driveway)	4	Ea.	4	$105.00	$420.00
5.98	Bypass pumping	1	L.S.	1	$1,000.00	$1,000.00
7	**SIDEWALK RESTORATION PAYMENT ITEMS**					
7.08.01.01	Cement concrete curb-vertical	78	L.F.	78	$50.00	$3,900.00
7.09.01.04	4" thick concrete sidewalk	39	S.F.	39	$23.00	$897.00
8	**TRENCH RESTORATION PAYMENT ITEMS**					
8.01	Trench paving	345	S.Y.	345	$37.00	$12,765.00
8.03	Temporary paving	255	S.Y.	255	$12.00	$3,060.00

SUBTOTAL OR TOTAL OF CONTRACT ITEMS TO DATE: $84,679.00

PAYMENT SCHEDULE OF CONTRACT ITEMS

FROM:
CONTRACTOR: Rogele, Inc.
ADDRESS: 1025 S. 21st Street, PO Box 1757
Harrisburg, PA 17105

APPLICATION NUMBER: 5 (final)

PAY PERIOD ENDING: 10/31/2013

CONTRACT DESCRIPTION:

2013 Sanitary Sewer Maintenance

TO:
OWNER: Spring Garden Township
ADDRESS: 558 South Ogontz Street
York, PA 17403

TOTAL AMOUNT OF CONTRACT BASED ON ESTIMATED QUANTITIES: **$196,768.00**

Bid Item No.	Description	Proposal Quantity	Unit	Unit Quantity To Date	Contract Unit Price	Total Value To Date
PROJECT NO. 2 - WEST SPRINGETTSBURY AVENUE (MH852 TO MH 854)						
2	**MISCELLANEOUS/SITE WORK PAYMENT ITEMS**					
2.01	Mobilization	1	L.S.	1	$3,360.00	$3,360.00
2.01.01	Maintenance and Protection of Traffic	1	L.S.	1	$1,600.00	$1,600.00
2.02.01	Tree and Shrub Removal					
	(a) 4" - 8" Caliper	2	Ea.	2	$375.00	$750.00
	(b) 9" - 17" Caliper	2	Ea.	2	$500.00	$1,000.00
	(c) > - 18" Caliper	0	Ea.	0	$750.00	$0.00
2.08	Finish Grading and Seeding	1	L.S.	1	$680.00	$680.00
5	**SANITARY SEWER PAYMENT ITEMS**					
5.01.04.06	6" Diameter PVC Pipe with Full depth stone backfill	20	L.F.	20	$100.00	$2,000.00
5.01.04.06.A	6" Diameter PVC Pipe with Full depth stone backfill	462	L.F.	462	$120.00	$55,440.00
5.01.04.08.A	8" Diameter PVC Pipe with Full depth stone backfill					
	(b) 6'-8' deep	134	L.F.	134	$77.00	$10,318.00
	(c) 8'-10' deep	112	L.F.	112	$92.00	$10,304.00
	(d) 10' - 12' deep	112	L.F.	112	$109.00	$12,208.00
	(e) 12'- 14' deep	113	L.F.	113	$130.00	$14,690.00
	(f) 14' -16' deep	46	L.F.	46	$180.00	$8,280.00
5.02.01	PVC Wyes	24	Ea.	24	$62.00	$1,488.00
5.02.02	PVC Elbows	48	Ea.	48	$13.00	$624.00
5.08.01.81	4' Diameter 0.01' - 6.00' Deep	3	Ea.	3	$4,300.00	$12,900.00
5.08.01.82	4' Diameter 6.01' - Deep and Over	125	V.F.	125	$15.00	$1,875.00
5.09.03	Standard Frame and Cover	3	Ea.	3	$840.00	$2,520.00
5.12.02	Connection to existing main	1	Ea.	1	$180.00	$180.00
5.12.95	Connection to existing lateral	28	Ea.	28	$85.00	$2,380.00
5.13	Cleanouts	28	Ea.	28	$456.00	$12,768.00
5.13.92	Cast Iron cleanout cover box (in driveway)	4	Ea.	4	$105.00	$420.00
5.98	Bypass Pumping	1	L.S.	1	$500.00	$500.00
5.99	Cap Existing Main	1	Ea.	1	$60.00	$60.00
7	**SIDEWALK RESTORATION PAYMENT ITEMS**					
7.08.01.01	Cement concrete curb-Vertical	84	L.F.	84	$50.00	$4,200.00
7.09.01.04	4" Thick concrete sidewalk	40	S.F.	40	$23.00	$920.00
7.09.01.06	6" Thick concrete Driveway Apron	48	S.F.	48	$35.00	$1,680.00
8	**TRENCH RESTORATION PAYMENT ITEMS**					
8.01	Trench Paving	680	S.Y.	680	$37.00	$25,160.00
8.01.A	Trench Paving (S.R. 4001)	33	S.Y.	33	$71.00	$2,343.00
8.03	Temporary Paving	510	S.Y.	510	$12.00	$6,120.00

SUBTOTAL OR TOTAL OF CONTRACT ITEMS TO DATE: $196,768.00

PAYMENT SCHEDULE OF CONTRACT ITEMS

FROM:
CONTRACTOR: Rogele, Inc.
ADDRESS: 1025 S. 21st Street, PO Box 1757
Harrisburg, PA 17105

APPLICATION NUMBER: 5 (final)
SHEET 3 of 4
PAY PERIOD ENDING: 10/31/2013
CONTRACT DESCRIPTION:

2013 Sanitary Sewer Maintenance

TO:
OWNER: Spring Garden Township
ADDRESS: 558 South Ogontz Street
York, PA 17403

TOTAL AMOUNT OF CONTRACT BASED ON ESTIMATED QUANTITIES: **$42,506.50**

Bid Item No.	Description	Proposal Quantity	Unit	Unit Quantity To Date	Contract Unit Price	Total Value To Date
PROJECT NO. 3 - VIRGINIA AVENUE (MH937 TO MH 936)						
2	**MISCELLANEOUS/SITE WORK PAYMENT ITEMS**					
2.01	Mobilization	1	L.S.	1	$1,425.00	$1,425.00
2.01.01	Maintenance and Protection of Traffic	1	L.S.	1	$300.00	$300.00
2.08	Finish Grading and Seeding	1	L.S.	1	$200.00	$200.00
3	STORM SEWER PAYMENT ITEMS					
3.01.04.15	SLCPP - 15" Diameter	38	L.F.	38	$56.00	$2,128.00
3.01.04.24	SLCPP - 24" Diameter	63	L.F.	63	$65.00	$4,095.00
3.01.04.98	Connect to existing inlet	3	Ea.	3	$183.00	$549.00
3.01.04.99	Connection to existing pipe	1	Ea.	1	$180.00	$180.00
5	**SANITARY SEWER PAYMENT ITEMS**					
5.01.04.06	6" Diameter PVC Pipe	10	L.F.	10	$51.00	$510.00
5.01.04.06.A	6" Diameter PVC Pipe with Full depth stone backfill	25	L.F.	25	$110.00	$2,750.00
5.01.04.08.A	8" Diameter PVC Pipe with Full depth stone backfill (d) 10'-12' deep	84	L.F.	84	$112.00	$9,408.00
5.02.01	PVC Wyes	1	Ea.	1	$62.00	$62.00
5.02.02	PVC Elbows	2	Ea.	2	$13.00	$26.00
5.08.01.81	4' Diameter 0.01' - 6.00' Deep	2	Ea.	2	$4,260.00	$8,520.00
5.08.01.82	4' Diameter 6.01' - Deep and Over	10.5	V.F.	10.5	$15.00	$157.50
5.09.03	Standard Frame and Cover	2	Ea.	2	$840.00	$1,680.00
5.10.99	Internal drop	2	Ea.	2	$705.00	$1,410.00
5.12.02	Connection to existing main	3	Ea.	3	$180.00	$540.00
5.12.95	Connection to existing lateral	2	Ea.	2	$85.00	$170.00
5.13	Cleanouts	1	Ea.	1	$456.00	$456.00
5.98	Bypass Pumping	1	L.S.	1	$580.00	$580.00
8	**TRENCH RESTORATION PAYMENT ITEMS**					
8.01	Trench Paving	160	S.Y.	160	$37.00	$5,920.00
8.03	Temporary Paving	120	S.Y.	120	$12.00	$1,440.00

SUBTOTAL OR TOTAL OF CONTRACT ITEMS TO DATE: $42,506.50

PAYMENT SCHEDULE OF CONTRACT ITEMS

FROM:
CONTRACTOR: Rogele, Inc.
ADDRESS: 1025 S. 21st Street, PO Box 1757
Harrisburg, PA 17105

APPLICATION NUMBER: 5 (final)
SHEET 4 of 4
PAY PERIOD ENDING: 10/31/2013
CONTRACT DESCRIPTION:

2013 Sanitary Sewer Maintenance

TO:
OWNER: Spring Garden Township
ADDRESS: 558 South Ogontz Street
York, PA 17403

TOTAL AMOUNT OF CONTRACT BASED ON ESTIMATED QUANTITIES: **$31,935.00**

Bid Item No.	Description	Proposal Quantity	Unit	Unit Quantity To Date	Contract Unit Price	Total Value To Date
PROJECT NO. 4 - VIRGINIA AVENUE (MH 934 TO MH 930)						
2	**MISCELLANEOUS/SITE WORK PAYMENT ITEMS**					
2.01	Mobilization	1	L.S.	1	$1,300.00	$1,300.00
2.01.01	Maintenance and Protection of Traffic	1	L.S.	1	$150.00	$150.00
5	**SANITARY SEWER PAYMENT ITEMS**					
5.01.04.08.A	8" Diameter PVC Pipe with Full depth stone backfill					
	(b) 6'-8' deep	85	L.F.	85	$76.00	$6,460.00
	(c) 8'-10' deep	80	L.F.	80	$84.00	$6,720.00
5.08.01.81	4' Diameter 0.01' - 6.00' Deep	2	Ea.	2	$3,780.00	$7,560.00
5.08.01.82	4' Diameter 6.01' - Deep and Over	5	V.F.	5	$15.00	$75.00
5.09.03	Standard Frame and Cover	2	Ea.	2	$840.00	$1,680.00
5.12.02	Connection to existing main	3	Ea.	3	$180.00	$540.00
5.98	Bypass Pumping	1	L.S.	1	$580.00	$580.00
8	**TRENCH RESTORATION PAYMENT ITEMS**					
8.01	Trench Paving	150	S.Y.	150	$37.00	$5,550.00
8.03	Temporary Paving	110	S.Y.	110	$12.00	$1,320.00

SUBTOTAL OR TOTAL OF CONTRACT ITEMS TO DATE: $31,935.00

RECAP:

SUBTOTAL PROJECT NO. 1:	**$84,679.00**
SUBTOTAL PROJECT NO. 2:	**$196,768.00**
SUBTOTAL PROJECT NO. 3:	**$42,506.50**
SUBTOTAL PROJECT NO. 4:	**$31,935.00**
TOTAL AMOUNT OF ALL PROJECTS:	**$355,888.50**

C.S. DAVIDSON, INC.

February 5, 2014
EXHIBIT NO. SGT-6

SPRING GARDEN TOWNSHIP
PROJECTED CONNECTIONS TO CITY OF YORK
WASTEWATER TREATMENT PLANT

	Name & Description	Original Proposed Gallons	Previously Connected	Net Gallons	Map & Parcel	All Projected Connections in Gallons per Day (GPD) 2014	2015	2016	2017	2018	2014-18 Subtotal	2019 2023	2024 2028	2029 2033	2034 Ultimate	Total Gallons	York City MH No.	Flow Meter
1	Sincerely Yorks Personal Care Home Third Avenue (2 EDUs @ 350 GPD)	700	0	700		700	0	0	0	0	700	0	0	0	0	700	L9-12	
2	Rutter's/Nells Richland Avenue (1 Comm. @ 30,000 GPD)	30,000	0	30,000	31&1 29&1A	18,000	12,000	0	0	0	30,000	0	0	0	0	30,000	A68	
4	Wyndham Hills South (1) Wyndham Drive South (75 lots @ 350 GPD)	26,350	24,600	1,750	32	700	1,050	0	0	0	1,750	0	0	0	0	1,750	T26	YT01
5	Rosenmiller Farm a. Ph. 3 - Grantley Road (29 lots @ 350 GPD)	2,800	0	2,800	31	1,750	1,050	0	0	0	2,800	0	0	0	0	2,800	T26	YT01
	b. Ph. 5 - Starcross Road (8 lots @ 350 GPD)	2,800	2,450	350	HI	350	0	0	0	0	350	0	0	0	0	350	T26	YT01
	c. Tract 2 - Starcross Road (1 lot @ 350 GPD)	350	0	350	II&4C	350	0	0	0	0	350	0	0	0	0	350	T26	YT01
6	York College of PA Little Run Lodge Student Housing	60,000	0	60,000	29-1	0	60,000	0	0	0	60,000	0				60,000	K9	
7	Mt. Rose Plaza Mt. Rose Avenue Restaurant (4,000 GPD) Vacant Giant Store (9,000 GPD) Vacant Land (11,000 (GPD)	24,000	0	24,000	32&2	0	0	0	0	0	24,000	0				24,000	C27-16	
8	Oakridge Sanitary Sewer District DER Permit No. 6772422 (130 EDUs @ 350 GPD)	45,500	0	45,500	23	0	0	0	45,500	0	45,500	0	0	0	0	45,500	T26	YT01
9	Kirkendall (3) 702 S. Richland Avenue (2.37 EDUs @350 GPD)	8,300	0	8,300	30&1A	6,700	1,200	400	0	0	8,300	0				8,300	71	
10	York Water Company Grantley Road (1 Lot @ 350 GPD)	350	0	350	II&3S	350	0	0	0	0	350	0				350	K16	SG01
11	Walter Kaltreider Tract 1701 S. Queen St. (Serv. Area 36 - personal care facility)	75,000	0	75,000	21-200	15,000	15,000	15,000	15,000	15,000	75,000	0	0	0	0	75,000	C39N	SG02
12	RESERVED FOR FUTURE USE																	

SPRING GARDEN TOWNSHIP
PROJECTED CONNECTIONS TO CITY OF YORK
WASTEWATER TREATMENT PLANT

	Name & Description	Original Proposed Gallons	Previously Connected	Net Gallons	Map & Parcel	All Projected Connections in Gallons per Day (GPD) 2014	2015	2016	2017	2018	2014-18 Subtotal	2019 2023	2024 2028	2029 2033	2034 Ultimate	Total Gallons	York City MH No.	Flow Meter
13	Shelly Eckenroth 525 Country Club Road	350	0	350		350	0	0	0	0	350	0				350	K16	SG01
14	York College/Freshman Dorms 725 Grantley Road (York Narrow Fabrics)	15,000	0	15,000		15,000	0	0	0	0	15,000	0				15,000	K16	SG01
15	Wyndham Hills Sewer District #2																	
	a. Summit Circle South & Wyndham Dr. South (1) (22 Lots @ 350 GPD)	4,550	0	4,550	32	1,750	1,750	1,050	0	0	4,550	0				4,550	T26	YT01
	b. Rosewood Lane & Dogwood Circle (1) (13 Lots @ 350 GPD)	4,200	0	4,200	32	1,050	1,050	1,050	1,050	0	4,200	0				4,200	T26	YT01
	c. Southwynd (1) (2) (39 Lots @ 350 GPD)	3,850	0	3,850	31	2,800	1,050	0	0	0	3,850	0				3,850	T26	YT01
	d. Oakdale Drive (1) (11 Lots @ 350 GPD)	1,750	0	1,750	31	1,050	700	0	0	0	1,750	0				1,750	T26	YT01
16	Penn State York Campus 1031 Edgecomb Avenue Building Additions	7,500	0	7,500	17&5	5,000	0	2,500	0	0	7,500	0				7,500	C39N	SG02A
17	Smallbrook Lane Sewer Extension (16 EDUs @ 350 GPD)	5,600	4,900	700	32	700	0	0	0	0	700	0				700	K16	SG01
18	Wyndham Hills North Side (180 EDUs @ 350 GPD)	63,000	9,800	53,200	32	3,500	3,500	3,500	3,000	3,500	17,000	18,000	17,500	700	0	53,200	K16	SG01
19	Unconnected Residential Properties and Vacant Lots Service Area - Direct Connections	350	0	350	varies	350					350					350	T25	
20	Unconnected Residential Properties and Vacant Lots - Service Area 24	350	0	350	varies	350					350					350	71	
21	Unconnected Residential Properties and Vacant Lots - Service Area 25	700	350	350	varies	350	0				350					350	K9	
22	Unconnected Residential Properties and Vacant Lots - Service Area 26	350	0	350	varies	350					350					350	K14	
23	Unconnected Residential Properties and Vacant Lots - Service Area 27	11,900	2,800	9,100	varies	350	1,750	1,750	1,750	1,750	7,350	1,750				9,100	K16	SG01
24	Unconnected Residential Properties and Vacant Lots - Service Area 29	5,950	350	5,600	varies	1,050	1,050	1,050	1,050	1,050	5,250	350				5,600	K40-2D	
25	Unconnected Residential Properties and Vacant Lots - Service Area 30	6,300	1,050	5,250	varies	1,050	1,050	1,050	1,050	1,050	5,250					5,250	K40-6	

SPRING GARDEN TOWNSHIP
PROJECTED CONNECTIONS TO CITY OF YORK
WASTEWATER TREATMENT PLANT

	Name & Description	Original Proposed Gallons	Previously Connected	Net Gallons	Map & Parcel	All Projected Connections in Gallons per Day (GPD) 2014	2015	2016	2017	2018	2014-18 Subtotal	2019 2023	2024 2028	2029 2033	2034 Ultimate	Total Gallons	York City MH No.	Flow Meter
26	Unconnected Residential Properties and Vacant Lots - Service Area 31	2,100	0	2,100	varies	350	350	350	350	350	1,750	350				2,100	K50	
27	Unconnected Residential Properties and Vacant Lots - Service Area 32	2,450	0	2,450	varies	350	350	350	350	350	1,750	350	350			2,450	K48	
28	Unconnected Residential Properties and Vacant Lots - Service Area 33	6,650	0	6,650	varies	1,050	1,050	1,050	1,050	1,050	5,250	1,400				6,650	SG-633	
29	Unconnected Residential Properties and Vacant Lots - Service Area 34	1,050	700	350	varies	350	0	0	0	0	350					350	C40-14	
30	Unconnected Residential Properties and Vacant Lots - Service Area 36	31,150	3,500	27,650	varies	1,750	1,750	1,750	1,750	1,750	8,750	8,750	8,750	1,400	0	27,650	C39N	SG02A
31	Unconnected Residential Properties and Vacant Lots - Service Area 37	21,000	1,400	19,600	varies	1,750	1,750	1,750	1,750	1,750	8,750	8,750	2,100			19,600	C27-10S	SG03
32	Unconnected Residential Properties and Vacant Lots - Service Area 38	350	0	350	varies	350					350					350	C27-10J	
33	Unconnected Residential Properties and Vacant Lots - Service Area 40	0	0	0	varies	0					0					0	C27-23	
34	Unconnected Residential Properties and Vacant Lots - Service Area 41	700	0	700	varies	350	350	0			700					700	C27-26	
35	Unconnected Residential Properties and Vacant Lots - Service Area 42	2,100	0	2,100	varies	350	350	350	350	350	1,750	350				2,100	L12-12	
36	Unconnected Residential Properties and Vacant Lots - Service Area 45	350	0	350	varies	350					350					350	L9-5F	
37	Unconnected Residential Properties and Vacant Lots - Service Area 47	350	0	350	varies	350					350					350	L7-16	
38	Unconnected Residential Properties and Vacant Lots - Service Area 50	2,450	0	2,450	varies	350	350	350	350	350	1,750	700				2,450	T26	YT01
39	Unconnected Residential Properties and Vacant Lots - Service Area 51	5,600	0	5,600	varies	1,050	1,050	1,050	1,050	1,050	5,250	350				5,600	T26	YT01
40	Unconnected Residential Properties and Vacant Lots - Service Area 51A	350	0	350	varies	350					350					350	T26	YT01
41	Unconnected Residential Properties and Vacant Lots - Service Area 51B	1,050	0	1,050	varies	350	350	350			1,050					1,050	T26	YT01
42	Unconnected Residential Properties and Vacant Lots - Service Area 53	9,800	0	9,800	varies	1,750	1,750	1,750	1,750	1,750	8,750	1,050				9,800	T26	YT01

SPRING GARDEN TOWNSHIP
PROJECTED CONNECTIONS TO CITY OF YORK
WASTEWATER TREATMENT PLANT

	Name & Description	Original Proposed Gallons	Previously Connected	Net Gallons	Map & Parcel	All Projected Connections in Gallons per Day (GPD) 2014	2015	2016	2017	2018	2014-18 Subtotal	2019 2023	2024 2028	2029 2033	2034 Ultimate	Total Gallons	York City MH No.	Flow Meter
43	Unconnected Residential Properties and Vacant Lots - Service Area 53A	350	0	350	varies	350					350					350	T26	YT01
44	Unconnected Residential Properties and Vacant Lots - Service Area 54	350	0	350	varies	350					350					350	T26	YT01
45	Unconnected Residential Properties and Vacant Lots - Service Area 55	350	0	350	varies	350					350					350	T26	YT01
46	Miscellaneous Commercial Growth (1 EDU/year @ 350 GPD) - Area 56	9,800	0	9,800	varies	350	350	350	350	350	1,750	1,750	1,750	1,750	2,800	9,800	T26	YT01
47	Unconnected Residential Properties and Vacant Lots - Service Area 57	350	0	350	varies	350					350					350	T26	YT01
48	Miscellaneous Commercial Growth (1 EDU/year @ 350 GPD) - Area 28	9,800	0	9,800	varies	350	350	350	350	350	1,750	1,750	1,750	1,750	2,800	9,800	K28	
49	Miscellaneous Commercial Growth (1 EDU/year @ 350 GPD) - Area 33	9,800	0	9,800	varies	350	350	350	350	350	1,750	1,750	1,750	1,750	2,800	9,800	SG-633	
50	Miscellaneous Commercial Growth (1 EDU/year @ 350 GPD) - Area 35	9,800	0	9,800	varies	350	350	350	350	350	1,750	1,750	1,750	1,750	2,800	9,800	C27-10S	SG03
51	Miscellaneous Industrial Growth (2 EDUs/year @ 350 GPD) - Area 49	19,600	0	19,600	varies	700	700	700	700	700	3,500	3,500	3,500	3,500	5,600	19,600	C4	
52	Miscellaneous Industrial Growth (2 EDUs/year @ 350 GPD) - Area DC	19,600	0	19,600	varies	700	700	700	700	700	3,500	3,500	3,500	3,500	5,600	19,600	A58	
53	Miscellaneous Residential Growth (2 EDUs/year @ 350 GPD) - Area 28	19,600	0	19,600	varies	700	700	700	700	700	3,500	3,500	3,500	3,500	5,600	19,600	T26	YT01
54	Miscellaneous Residential Growth (3 EDUs/year @ 350 GPD) - Area 36	29,400	0	29,400	varies	1,050	1,050	1,050	1,050	1,050	5,250	5,250	5,250	5,250	8,400	29,400	A68	
55	Miscellaneous Residential Growth (1 EDU/year @ 350 GPD) - Area 27	9,800	0	9,800	varies	350	350	350	350	350	1,750	1,750	1,750	1,750	2,800	9,800	K16	SG01
56	Miscellaneous Industrial Growth (1 EDU/year @ 350 GPD) - Area 38	9,800	0	9,800	varies	350	350	350	350	350	1,750	1,750	1,750	1,750	2,800	9,800	C27-10J	
57	Drover's Bank/Wellspan Richland Avenue & Indian Rock Dam Road	9,300	1,800	7,500	29&1A	0	0	7,500	0	0	7,500	0	0	0	0	7,500	K16	SG01
58	Wellspan Health S. Edgar Street	2,900	2,400	500	20&15	500	0	0	0	0	500	0	0	0	0	500	C39N	SG02A
59	York Building Products Loucks Mill Road	1,500	0	1,500		300	300	300	300	300	1,500	0	0	0	0	1,500	C4	

SPRING GARDEN TOWNSHIP
PROJECTED CONNECTIONS TO CITY OF YORK
WASTEWATER TREATMENT PLANT

	Name & Description	Original Proposed Gallons	Previously Connected	Net Gallons	Map & Parcel	All Projected Connections in Gallons per Day (GPD) 2014	2015	2016	2017	2018	2014-18 Subtotal	2019 2023	2024 2028	2029 2033	2034 Ultimate	Total Gallons	York City MH No.	Flow Meter
60	Smurfit Stone Kings Mill Road	31,000	0	31,000		3,500	13,500	14,000	0	0	31,000	0	0	0	0	31,000	K9	
61	Kinsley Properties rear 714 Loucks Mill Road	700	0	700	1-1C	700	0	0	0	0	700	0	0	0	0	700	C4	
62	Kinsley Properties 729 Loucks Mill Road	1,750	0	1,750	1-11	1,750	0	0	0	0	1,750	0	0	0	0	1,750	C4	
63	Glen-Gery Brick 1090 E. Boundary Ave.	4,000	0	4,000	17-13	0	4,000	0	0	0	4,000	0	0	0	0	4,000	C27-10S	SG03
64	Rosecroft (Terrace Condos) (100 Townhouses @ 350 GPD)	35,000	0	35,000	34&76	5,000	5,000	5,000	3,000	3,000	21,000	14,000	0	0	0	35,000	A68	
65	Brookfield (49 Townhouses @ 450 GPD)	22,050	10,050	12,000		5,000	1,750	1,750	1,750	1,750	12,000	0	0	0	0	12,000	A68	
66	Greenleigh (Fairway Villas) (92 Condos/T.Houses @ 350 GPD)	32,200	16,800	15,400	34&78/89	2,000	1,000	1,000	1,000	1,000	6,000	9,400	0	0	0	15,400	A68	
67	RESERVED FOR FUTURE USE																	
68	Joshua George - Virginia Avenue (1 EDU @ 350 GPD)	350	0	350		350	0	0	0	0	350	0	0	0	0	350	K16	
69	MacGregor S. & Kathleen S. Jones Lot 3 - Brockie Drive (1 EDU @ 350 GPD)	350	0	350		350	0	0	0	0	350	0	0	0	0	350	K16	
70	Copper Ridge (41 EDUs @ 450 GPD)	18,450	10,450	8,000	0	4,000	1,000	1,000	1,000	1,000	8,000	0	0	0	0	8,000	A68	
71	Stonegate (Townhomes) (142 EDUs @ 350 GPD)	49,700	41,100	8,600	0	4,600	1,000	1,000	1,000	1,000	8,600	0	0	0	0	8,600	A68	
72	Wellspan Properties (Medical Offices)	30,000	0	30,000	34&83	5,000	2,500	7,500	7,500	7,500	30,000	0	0	0	0	30,000	A68	
73	Larami Metals (1 Manufacturing @ 350 GPD)	350	0	350	34&1C	0	0	0	0	0	0	350	0	0	0	350	A68	
74	Existing Lots - Thorton (4 Single Family @ 350 GPD)	1,400	0	1,400	34&2	0	0	0	0	0	0	1,400	0	0	0	1,400	A68	
75	Existing Lots - Crows Nest (14 Single Family @ 350 GPD)	4,900	0	4,900	34&3	0	0	0	0	0	0	4,900	0	0	0	4,900	A68	
76	940 S. Beaver Street Extension (1 EDU @ 350 GPD)	350	0	350		0	350	0	0	0	350	0	0	0	0	350	K29	

SPRING GARDEN TOWNSHIP
PROJECTED CONNECTIONS TO CITY OF YORK
WASTEWATER TREATMENT PLANT

	Name & Description	Original Proposed Gallons	Previously Connected	Net Gallons	Map & Parcel	All Projected Connections in Gallons per Day (GPD) 2014	2015	2016	2017	2018	2014-18 Subtotal	2019 2023	2024 2028	2029 2033	2034 Ultimate	Total Gallons	York City MH No.	Flow Meter
77	Macosko Subdivision (45 Single Family @ 350 GPD)	1,400	0	1,400		1,400	0	0	0	0	1,400	0	0	0	0	1,400	K16	SG01
78	Starcross & Shady Dell Area (4 EDUs @ 350 GPD)	14,000	0	14,000		0	0	0	0	0	0	7,000	7,000	0	0	14,000	YT01	
79	Fairview Drive Extended (2 EDUs @ 350 GPD)	700	0	700		0	0	0	0	0	0	700	0	0	0	700	YT01	
80	Johnston Controls (40 EDUs @ 350 GPD)	84,000	0	84,000		0	21,000	18,000	18,000	15,000	72,000	12,000	0	0	0	84,000	A61	
81	York College Expansions (80 EDUs @ 350 GPD)	28,000	0	28,000		0	0	0	0	0	0	7,000	7,000	7,000	7,000	28,000	T18	
N/A	Miscellaneous Devleopment (10 EDUs/year @ 350 GPD)	87,500	0	87,500		3,500	3,500	3,500	3,500	3,500	17,500	17,500	17,500	17,500	17,500	87,500		
	TOTALS:	1,105,600	134,500	971,100		134,750	171,800	102,250	119,450	70,400	598,650	142,650	86,450	52,850	66,500	971,100		
	Tributray to Pump Station																	
(1)	Tributary to Wyndham Hills South Pump Sta.	40,700	24,600	16,100		7,350	5,600	2,100	1,050	0	16,100	0	0	0	0	16,100		
(2)	Tributary to Southwynd Pump Station	3,850	0	3,850		2,800	1,050	0	0	0	3,850	0	0	0	0	3,850		
(3)	Tributary to Richland Avenue Pump Station	8,300	0	8,300		6,700	1,200	400	0	0	8,300	0	0	0	0	8,300		
	Tributary to Manhole Number																	
	Tributary to MH A68	253,450	78,400	175,050		44,650	25,300	18,300	16,300	16,300 0	120,850	35,300	5,250	5,250	8,400	175,050		
	Tributary to MH T26	142,200	27,050	115,150		16,100	11,200	6,650	50,750	4,200	88,900	7,350	5,250	5,250	8,400	115,150		
	Tributary to MH K9	92,050	350	91,700		3,850	73,850	14,000	0	0	91,700	0	0	0	0	91,700		
	Tributary to MH C27-16	24,000	0	24,000		0	0	0	0	0	24,000	0	0	0	0	24,000		
	Tributary to MH 71	8,650	0	8,650		7,050	1,200	400	0	0	8,650	0	0	0	0	8,650		
	Tributary to MH K16	115,300	19,300	96,000		20,600	5,600	13,100	5,100	5,600	50,000	21,500	19,250	2,450	2,800	96,000		
	Tributary to MH C39N	116,550	5,900	110,650		22,250	16,750	19,250	16,750	16,750	91,750	8,750	8,750	1,400	0	110,650		
	Tributary to MH T25	350	0	350		350	0	0	0	0	350	0	0	0	0	350		
	Tributary to MH K14	350	0	350		350	0	0	0	0	350	0	0	0	0	350		
	Tributary to MH K40-2D	5,950	350	5,600		1,050	1,050	1,050	1,050	1,050	5,250	350	0	0	0	5,600		
	Tributary to MH K40-6	6,300	1,050	5,250		1,050	1,050	1,050	1,050	1,050	5,250	0	0	0	0	5,250		
	Tributary to MH K50	6,300	1,050	5,250		1,050	1,050	1,050	1,050	1,050	5,250	0	0	0	0	5,250		
	Tributary to MH K48	2,450	0	2,450		350	350	350	350	350	1,750	350	350	0	0	2,450		
	Tributary to MH SG-633	16,450	0	16,450		1,400	1,400	1,400	1,400	1,400	7,000	3,150	1,750	1,750	2,800	16,450		
	Tributary to MH C40-14	1,050	700	350		350	0	0	0	0	350	0	0	0	0	350		
	Tributary to MH C27-10S	34,800	1,400	33,400		2,100	6,100	2,100	2,100	2,100	14,500	10,500	3,850	1,750	2,800	33,400		
	Tributary to MH C27-10J	10,150	0	10,150		700	350	350	350	350	2,100	1,750	1,750	1,750	2,800	10,150		
	Tributary to MH C27-23	0	0	0		0	0	0	0	0	0	0	0	0	0	0		
	Tributary to MH C27-26	700	0	700		350	350	0	0	0	700	0	0	0	0	700		
	Tributary to MH L12-12	2,100	0	2,100		350	350	350	350	350	1,750	350	0	0	0	2,100		
	Tributary to MH L9-5F	350	0	350		350	0	0	0	0	350	0	0	0	0	350		
	Tributary to MH L7-16	350	0	350		350	0	0	0	0	350	0	0	0	0	350		
	Tributary to MH K28	9,800	0	9,800		350	350	350	350	350	1,750	1,750	1,750	1,750	2,800	9,800		
	Tributary to MH C4	23,550	0	23,550		3,450	1,000	1,000	1,000	1,000	7,450	3,500	3,500	3,500	5,600	23,550		
	Tributary to MH A58	19,600	0	19,600		700	700	700	700	700	3,500	3,500	3,500	3,500	5,600	19,600		

SPRING GARDEN TOWNSHIP
PROJECTED CONNECTIONS TO CITY OF YORK
WASTEWATER TREATMENT PLANT

Name & Description	Original Proposed Gallons	Previously Connected	Net Gallons	Map & Parcel	All Projected Connections in Gallons per Day (GPD) 2014	2015	2016	2017	2018	2014-18 Subtotal	2019 2023	2024 2028	2029 2033	2034 Ultimate	Total Gallons	York City MH No.	Flow Meter
Tributary to MH L9-12	700	0	700		700	0	0	0	0	700	0	0	0	0	700		
Tributary to MH YT01	14,700	0	14,700		0	0	0	0	0	0	7,700	7,000	0	0	14,700		
Tributary to MH A61	84,000	0	84,000		0	21,000	18,000	18,000	15,000	72,000	12,000	0	0	0	84,000		
Tributary to MH T18	28,000	0	28,000		0	0	0	0	0	0	7,000	7,000	7,000	7,000	28,000		

C.S. DAVIDSON, INC.

EXHIBIT NO. SGT-7
February 5, 2014

TABULATION OF AVAILABLE
SEWER RESERVE CAPACITY

COLLECTION AND TRANSPORTATION SYSTEM
From: Spring Garden Township

WASTEWATER TREATMENT FACILITY
To: City of York

	2013	2014	2015	2016	2017	2018	Future Years
Existing Flow From Current Users	1,749,712	1,749,712	1,889,187	2,060,987	2,163,237	2,282,687	2,353,087
Projected Flows From Current Users	0	4,725	0	0	0	0	0
Projected Flow Increase From New Customers	0	134,750	171,800	102,250	119,450	70,400	372,450
Total Estimated Wastewater Flows	1,749,712	1,889,187	2,060,987	2,163,237	2,282,687	2,353,087	2,725,537
Percent Usage	58.10%	62.73%	68.44%	71.83%	75.80%	78.14%	90.50%
Total Permitted Capacity/Agreement	3,011,500	3,011,500	3,011,500	3,011,500	3,011,500	3,011,500	3,011,500
Total Amount of Available Capacity	1,261,788	1,122,313	950,513	848,263	728,813	658,413	285,963

NOTES AND ASSUMPTIONS:

(1) City Flow Meters SG01 through SG03 plus portion of York City Meter YT01 less York Township flows through City Meters SG02 and SG03.

(2) Assumes 75% of 2013 connections (18 connections = 6,300 GPD) not reflected in (1) above.

(3) See attached list of projected connections (Exhibit No. SGT-6).

2013
CHAPTER 94 REPORT
PUMP STATION MAINTENANCE

RICHLAND AVE

- WEEKLY PUMP HOUR RECORDINGS
- WEEKLY BIO BUG TREATMENTS
- QUARTERLY WASH & CLEANING OUT OF WET WELL
- QUARTERLY EXERCISE OF BACK UP GENERATOR

WYNDHAM HILL S. PUMP STATION

- WEEKLY PUMP HOUR RECORDINGS
- WEEKLY BIO BUG TREATMENTS
- QUARTERLY WASH & CLEANING OUT OF WET WELL
- PUMPS ARE GREASED & FILTERS CHANGED AS NEEDED
- GENERATOR EXERCISES WEEKLY, HOURS ARE RECORDED & FLUIDS ARE CHECKED
- HOUR METER TO PUMP #3 WAS REPLACED
- *GETTLE ELECTRIC* INSTALLED (900VA UPS) POWER BACK UP TO CONTROLER DURING MET ED POWER LOSS
- *GETTLE ELECTRIC* UPDATED ELECTRICAL SCHEMATICS IN DRY WELL CONTROL BOX

WYNDSONG DR. PUMP STATION

- WEEKLY PUMP HOUR RECORDINGS
- WEEKLY BIO BUG TREATMENTS
- QUARTERLY WASH & CLEANING OUT OF WET WELL
- PUMPS ARE GREASED & GLOBES CLEANED AS NEEDED
- GENERATOR EXERCISES WEEKLY, HOURS ARE RECORDED & FLUIDS ARE CHECKED
- INSTALLED SHUTTER MOTOR TO GENERATOR HOUSE

Sanitary Sewer Connection
York City

Connections 2013

NAME	PERMIT NO	ADDRESS	SERVICE	AREA	TYPE	DATE ISSUED	DATE CONNECTED	NO OF CONNECTIONS	EQUIVALENT FLOW (GPD)	REPLACEMENT ON LOT SEPTIC
ROCK RIDGWAY	2013-001	1597 CLOVER LANE	YC	36	R	1/23/2013	1/28/2013	1	350	Replacement
NVR INC	2013-008	1284 ELDERSLIE LN	YC		R	3/8/2013	7/10/2013	1	350	New
NVR INC	2013-009	1288 ELDERSLIE LN	YC		R	3/8/2013	7/10/2013	1	350	NEW
NVR INC	2013-003	1264 ELDERSLIE LN	YC		R	3/8/2013	6/24/2013	1	350	New
NVR INC	2013-002	1260 ELDERSLIE LN	YC		R	3/8/2013	6/24/2013	1	350	New
NVR INC	2013-005	1272 ELDERSLIE LN	YC		R	3/8/2013	6/24/2013	1	350	New
SAMUEL MALDONADO	2013-6057	946 GRANDVIEW RD	YC	37	R	4/26/2013	5/1/2013	1	350	REPLACEMENT
TED TAORMINA	2013-6055	1487 VIRGINIA AVE	YC	27	R	4/22/2013	4/25/2013	1	350	REPLACEMENT
JAMES HEATH	2013-018	1121 WOODLAND RD	YC		R	4/30/2013	5/2/2013	1	350	Replacement
GREGORY STRICKLER	2013-021	584 SUMMIT TERRACE	YC	27	R	7/23/2013	7/24/2013	1	350	REPLACEMENT
NVR INC/RYAN HOMES	2013-013	923 STONEHAVEN WAY	YC		R	4/26/2013	8/27/2013	1	350	NEW
NVR-RYAN HOMES	2013-015	931 STONE HAVEN WAY	YC		R	4/26/2013	8/27/2013	1	350	NEW
NVR INC/RYAN HOMES	2013-017	939 STONEHAVEN WAR	YC		R	4/26/2013	8/28/2013	1	350	New
FRANK & MARLENE GIFFRIDA	2013-022	1710 RANDOLPH DR	YC	53-T	R	8/22/2013	8/26/2013	1	350	REPLACEMENT ON LOT SEPTIC
NVR INC/RYAN HOMES	2013-014	927 STONE HAVEN WAY	YC		R	4/26/2013	8/26/2013	1	350	NEW
JOSHUA GEORGE	2013-024	1195 VIRGINIA AVE	YC	27	R	10/23/2013	10/28/2013	1	350	REPLACEMENT
N A CRAUMER	2013-020	1120 LANCASTER AVE	YC	37	R	11/12/2013	11/13/2013	1	350	REPLACEMENT
NICHOLAS SCHIFFGENS	2013-025	1342 E PROSPECT ST	YC	41	R	11/13/2013	11/18/2013	1	350	REPLACEMENT

EXHIBIT NO. SGT-9
FEBRUARY 5, 2014

1/9/2014

Wendy Stermer-Deardorff
Sewer Billing Clerk

EXHIBIT NO. SGT-10
February 5, 2014

2014 SANITARY SEWER REPAIRS
SPRING GARDEN TOWNSHIP
ENGINEER'S PROJECT NO. 0270.6.B5.06

ITEM #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE		ESTIMATED TOTAL
PROJECT NO. 1 - GREENDALE ROAD MH548 TO MH 549						
2	**MISCELLANEOUS/SITE WORK PAYMENT ITEMS**					
2.01	MOBILIZATION	Ea.	1.00	$1,000.00		$1,000.00
2.01.01	MAINTENANCE AND PROTECTION OF TRAFFIC	Ea.	1.00	$500.00		$500.00
2.02	CLEARING AND GRUBBING	L.S.	0.00	$500.00		$0.00
2.02.01	TREE AND SHRUB REMOVAL					
	(a) 4"-8" CALIPER	EA.	0.00	$500.00		$0.00
	(b) 9"-17" CALIPER	EA.	0.00	$1,000.00		$0.00
	(c) >18" CALIPER	EA.	0.00	$2,000.00		$0.00
2.06	EROSION AND SEDIMENTATION CONTROL	L.S.	1.00	$500.00		$500.00
2.08.04	FINISH GRADING AND SEEDING	L.S.	1.00	$1,000.00		$1,000.00
5	**SANITARY SEWER PAYMENT ITEMS**					
5.01.04.04	4" DIA. PVC PIPE	L.F.	24.00	$55.00		$1,320.00
5.01.04.08	8" DIA. PVC PIPE					
	(b) 6' - 8' deep	L.F.	45.00	$85.00		$3,825.00
	(c) 8' - 10' deep	L.F.	0.00	$90.00		$0.00
	(d) 10'- 12' deep	L.F.	0.00	$100.00		$0.00
5.02.01	PVC WYES	EA.	0.00	$50.00		$0.00
5.02.02	PVC ELBOWS	EA.	1.00	$30.00		$30.00
5.08.01.81	4' DIAMETER 0.01' - 6.00' DEEP	EA.	0.00	$4,400.00		$0.00
5.08.01.82	4' DIAMETER 6.01' DEEP AND OVER	V.F.	0.00	$400.00		$0.00
5.09.01	STANDARD FRAME AND COVER	EA.	0.00	$350.00		$0.00
5.12.01	CONNECTION TO EXISTING MANHOLE	EA.	1.00	$1,500.00		$1,500.00
5.12.02	CONNECTION TO EXISTING MAIN	EA.	1.00	$500.00		$500.00
5.12.04	CONNECTION TO EXISTING BUILDING SEWER	EA.	1.00	$170.00		$170.00
5.13	CLEANOUTS	EA.	0.00	$175.00		$0.00
5.25.03	MANHOLE LEAK STOP	EA.	1.00	$750.00		$750.00
5.98	BYPASS PUMPING	L.S.	1.00	$1,000.00		$1,000.00
7	**TRENCH RESTORATION PAYMENT ITEMS**					
7.08.01.01	CEMENT CONCRETE CURB - VERTICAL	L.F.	0.00	$25.00		$0.00
7.09.01.04	4" THICK CONCRETE SIDEWALK	S.Y.	0.00	$10.00		$0.00
8	**TRENCH RESTORATION PAYMENT ITEMS**					
8.01	TRENCH PAVING	S.Y.	43.00	$50.00		$2,150.00
8.03	TEMPORARY PAVING	S.Y.	30.00	$20.00		$600.00
			SUBTOTAL			$14,850.00
			15% CONTIGENCY			$2,230.00
	SUBTOTAL FOR PROJECT NO. 1:		**TOTAL**			$17,080.00

2014 SANITARY SEWER REPAIRS
SPRING GARDEN TOWNSHIP
ENGINEER'S PROJECT NO. 0270.6.B5.06

ITEM #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE		ESTIMATED TOTAL
PROJECT NO. 2 - GREENDALE RD. MH 547 TO MH 548						
2	**MISCELLANEOUS/SITE WORK PAYMENT ITEMS**					
2.01	MOBILIZATION	Ea.	1.00	$1,000.00		$1,000.00
2.01.01	MAINTENANCE AND PROTECTION OF TRAFFIC	Ea.	1.00	$500.00		$500.00
2.02	CLEARING AND GRUBBING	L.S.	0.00	$500.00		$0.00
2.02.01	TREE AND SHRUB REMOVAL					
	(a) 4"-8" CALIPER	EA.	0.00	$500.00		$0.00
	(b) 9"-17" CALIPER	EA.	0.00	$1,000.00		$0.00
	(c) >18" CALIPER	EA.	0.00	$2,000.00		$0.00
2.06	EROSION AND SEDIMENTATION CONTROL	L.S.	1.00	$500.00		$500.00
2.08.04	FINISH GRADING AND SEEDING	L.S.	1.00	$1,000.00		$1,000.00
2.99	EASEMENT	Ea.	0.00	$500.00		$0.00
5	**SANITARY SEWER PAYMENT ITEMS**					
5.01.04.06	6" DIA. PVC PIPE	L.F.	87.00	$55.00		$4,785.00
5.01.04.08	8" DIA. PVC PIPE					
	(a) 0'- 6' deep	L.F.	0.00	$85.00		$0.00
	(b) 6' - 8' deep	L.F.	0.00	$90.00		$0.00
	(d) 10'- 12' deep	L.F.	0.00	$100.00		$0.00
	(e) 12'- 14' deep	L.F.	285.00	$120.00		$34,200.00
5.02.01	PVC WYES	EA.	8.00	$50.00		$400.00
5.02.02	PVC ELBOWS	EA.	16.00	$30.00		$480.00
5.08.01.81	4' DIAMETER 0.01' - 6.00' DEEP	EA.	0.00	$4,400.00		$0.00
5.09.01	STANDARD FRAME AND COVER	EA.	0.00	$350.00		$0.00
5.12.01	CONNECTION TO EXISTING MANHOLE	EA.	2.00	$1,500.00		$3,000.00
5.12.02	CONNECTION TO EXISTING MAIN	EA.	0.00	$500.00		$0.00
5.12.03	CONNECTION TO EXISTING LATERAL	EA.	4.00	$170.00		$680.00
5.12.04	CONNECTION TO EXISTING BUILDING SEWER	EA.	4.00	$170.00		$680.00
5.13	CLEANOUTS	EA.	0.00	$175.00		$0.00
5.25.03	MANHOLE LEAK STOP	EA.	1.00	$750.00		$750.00
5.98	BYPASS PUMPING	L.S.	1.00	$2,000.00		$2,000.00
7	**TRENCH RESTORATION PAYMENT ITEMS**					
7.08.01.01	CEMENT CONCRETE CURB - VERTICAL	L.F.	0.00	$25.00		$0.00
7.09.01.04	4" THICK CONCRETE SIDEWALK	S.Y.	0.00	$10.00		$0.00
8	**TRENCH RESTORATION PAYMENT ITEMS**					
8.01	TRENCH PAVING	S.Y.	300.00	$50.00		$15,000.00
8.03	TEMPORARY PAVING	S.Y.	215.00	$20.00		$4,300.00
			SUBTOTAL			$69,280.00
			15% CONTIGENCY			$10,390.00
	SUBTOTAL FOR PROJECT NO. 2:		**TOTAL**			$79,670.00

2014 SANITARY SEWER REPAIRS
SPRING GARDEN TOWNSHIP
ENGINEER'S PROJECT NO. 0270.6.B5.06

ITEM #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE		ESTIMATED TOTAL
PROJECT NO. 3 - GREENDALE RD. MH 546 TO 547						
2	**MISCELLANEOUS/SITE WORK PAYMENT ITEMS**					
2.01	MOBILIZATION	Ea.	1.00	$1,000.00		$1,000.00
2.01.01	MAINTENANCE AND PROTECTION OF TRAFFIC	Ea.	1.00	$500.00		$500.00
2.02	CLEARING AND GRUBBING	L.S.	0.00	$500.00		$0.00
2.06	EROSION AND SEDIMENTATION CONTROL	L.S.	1.00	$500.00		$500.00
2.08.04	FINISH GRADING AND SEEDING	L.S.	1.00	$500.00		$500.00
5	**SANITARY SEWER PAYMENT ITEMS**					
5.01.04.06	6" DIA. PVC PIPE	L.F.	37.00	$55.00		$2,035.00
5.01.04.08	8" DIA. PVC PIPE					
	(a) 0' - 6' deep	L.F.	0.00	$60.00		$0.00
	(b) 6' - 8' deep	L.F.	0.00	$65.00		$0.00
	(c) 8' - 10' deep	L.F.	0.00	$70.00		$0.00
	(d) 10'- 12' deep	L.F.	0.00	$100.00		$0.00
	(e) 12'- 14' deep	L.F.	21.00	$250.00		$5,250.00
5.02.01	PVC WYES	EA.	3.00	$50.00		$150.00
5.02.02	PVC ELBOWS	EA.	6.00	$30.00		$180.00
5.08.01.81	4' DIAMETER 0.01' - 6.00' DEEP	EA.	0.00	$4,400.00		$0.00
5.08.01.82	4' DIAMETER 6.01' DEEP AND OVER	V.F.	0.00	$400.00		$0.00
5.09.01	STANDARD FRAME AND COVER	EA.	0.00	$350.00		$0.00
5.12.01	CONNECTION TO EXISTING MANHOLE	EA.	1.00	$1,500.00		$1,500.00
5.12.02	CONNECTION TO EXISTING MAIN	EA.	1.00	$500.00		$500.00
5.12.03	CONNECTION TO EXISTING LATERAL	EA.	1.00	$170.00		$170.00
5.12.04	CONNECTION TO BUILDING SEWER	EA.	2.00	$170.00		$340.00
5.13	CLEANOUTS	EA.	0.00	$175.00		$0.00
5.20.03	CUT ROOTS AT JOINTS	L.F.	202.00	$1.00		$202.00
5.24	ROOT INHIBITOR	LBS.	10.00	$45.00		$450.00
5.98	BYPASS PUMPING	L.S.	1.00	$2,000.00		$2,000.00
8	**TRENCH RESTORATION PAYMENT ITEMS**					
8.01	TRENCH PAVING	S.Y.	50.00	$50.00		$2,500.00
8.03	TEMPORARY PAVING	S.Y.	37.00	$20.00		$740.00
			SUBTOTAL			$18,520.00
			15% CONTIGENCY			$2,780.00
	SUBTOTAL FOR PROJECT NO. 3:		**TOTAL**			$21,300.00

2014 SANITARY SEWER REPAIRS
SPRING GARDEN TOWNSHIP
ENGINEER'S PROJECT NO. 0270.6.B5.06

PROJECT NO. 4 - GREENDALE RD. MH 545 TO MH 546

ITEM #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE		ESTIMATED TOTAL
2	**MISCELLANEOUS/SITE WORK PAYMENT ITEMS**					
2.01	MOBILIZATION	Ea.	1.00	$1,000.00		$1,000.00
2.01.01	MAINTENANCE AND PROTECTION OF TRAFFIC	Ea.	1.00	$500.00		$500.00
2.02	CLEARING AND GRUBBING	L.S.	0.00	$500.00		$0.00
2.06	EROSION AND SEDIMENTATION CONTROL	L.S.	1.00	$500.00		$500.00
2.08.04	FINISH GRADING AND SEEDING	L.S.	1.00	$500.00		$500.00
5	**SANITARY SEWER PAYMENT ITEMS**					
5.01.04.04	4" DIA. PVC PIPE	L.F.	45.00	$55.00		$2,475.00
5.01.04.08	8" DIA. PVC PIPE					
	(a) 0' - 6' deep	L.F.	0.00	$60.00		$0.00
	(b) 6' - 8' deep	L.F.	9.00	$150.00		$1,350.00
	(c) 8' - 10' deep	L.F.	9.00	$170.00		$1,530.00
	(d) 10'- 12' deep	L.F.	8.00	$200.00		$1,600.00
	(e) 12'- 14' deep	L.F.	0.00	$250.00		$0.00
5.02.01	PVC WYES	EA.	4.00	$50.00		$200.00
5.02.02	PVC ELBOWS	EA.	8.00	$30.00		$240.00
5.08.01.81	4' DIAMETER 0.01' - 6.00' DEEP	EA.	0.00	$4,400.00		$0.00
5.08.01.82	4' DIAMETER 6.01' DEEP AND OVER	V.F.	0.00	$400.00		$0.00
5.09.01	STANDARD FRAME AND COVER	EA.	0.00	$350.00		$0.00
5.12.02	CONNECTION TO EXISTING MAIN	EA.	12.00	$500.00		$6,000.00
5.12.03	CONNECTION TO EXISTING LATERAL	EA.	3.00	$170.00		$510.00
5.12.04	CONNECTION TO BUILDING SEWER	EA.	1.00	$170.00		$170.00
5.24	ROOT INHIBITOR	LBS.	10.00	$45.00		$450.00
5.98	BYPASS PUMPING	L.S.	1.00	$2,000.00		$2,000.00
8	**TRENCH RESTORATION PAYMENT ITEMS**					
8.01	TRENCH PAVING	S.Y.	60.00	$50.00		$3,000.00
8.03	TEMPORARY PAVING	S.Y.	42.00	$20.00		$840.00
			SUBTOTAL			$22,870.00
			15% CONTIGENCY			$3,430.00
	SUBTOTAL FOR PROJECT NO. 4:		**TOTAL**			$26,300.00

2014 SANITARY SEWER REPAIRS
SPRING GARDEN TOWNSHIP
ENGINEER'S PROJECT NO. 0270.6.B5.06

ITEM #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE		ESTIMATED TOTAL
PROJECT NO. 5 - POOR HOUSE RUN MH 542 TO MH 572						
2	MISCELLANEOUS/SITE WORK PAYMENT ITEMS					
2.01	MOBILIZATION	Ea.	1.00	$100.00		$100.00
2.01.01	MAINTENANCE AND PROTECTION OF TRAFFIC	Ea.	1.00	$500.00		$500.00
2.02	CLEARING AND GRUBBING	L.S.	1.00	$500.00		$500.00
2.06	EROSION AND SEDIMENTATION CONTROL	L.S.	1.00	$100.00		$100.00
2.08.04	FINISH GRADING AND SEEDING	L.S.	1.00	$100.00		$100.00
5	SANITARY SEWER PAYMENT ITEMS					
5.25.03	MANHOLE LEAK STOP	EA.	1.00	$750.00		$750.00
			SUBTOTAL			$2,050.00
			15% CONTIGENCY			$310.00
	SUBTOTAL FOR PROJECT NO. 5:		TOTAL			$2,360.00

2014 SANITARY SEWER REPAIRS
SPRING GARDEN TOWNSHIP
ENGINEER'S PROJECT NO. 0270.6.B5.06

PROJECT NO. 6 - POOR HOUSE RUN MH 541 TO MH 542

ITEM #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE		ESTIMATED TOTAL
2	**MISCELLANEOUS/SITE WORK PAYMENT ITEMS**					
2.01	MOBILIZATION	Ea.	1.00	$1,000.00		$1,000.00
2.01.01	MAINTENANCE AND PROTECTION OF TRAFFIC	Ea.	0.00	$500.00		$0.00
2.02	CLEARING AND GRUBBING	L.S.	1.00	$500.00		$500.00
2.06	EROSION AND SEDIMENTATION CONTROL	L.S.	1.00	$1,000.00		$1,000.00
2.08.04	FINISH GRADING AND SEEDING	L.S.	1.00	$1,000.00		$1,000.00
5	**SANITARY SEWER PAYMENT ITEMS**					
5.01.04.04	4" DIA. PVC PIPE	L.F.	3.00	$150.00		$450.00
5.01.04.08	8" DIA. PVC PIPE					
	(a) 0' - 6' deep	L.F.	0.00	$60.00		$0.00
	(b) 6' - 8' deep	L.F.	0.00	$150.00		$0.00
	(c) 8' - 10' deep	L.F.	0.00	$170.00		$0.00
	(d) 10'- 12' deep	L.F.	80.00	$200.00		$16,000.00
	(e) 12'- 14' deep	L.F.	0.00	$250.00		$0.00
5.02.01	PVC WYES	EA.	1.00	$50.00		$50.00
5.02.02	PVC ELBOWS	EA.	2.00	$30.00		$60.00
5.08.01.81	4' DIAMETER 0.01' - 6.00' DEEP	EA.	0.00	$4,400.00		$0.00
5.08.01.82	4' DIAMETER 6.01' DEEP AND OVER	V.F.	0.00	$400.00		$0.00
5.09.01	STANDARD FRAME AND COVER	EA.	0.00	$350.00		$0.00
5.12.01	CONNECTION TO EXISTING MANHOLE	EA.	1.00	$1,500.00		$1,500.00
5.12.02	CONNECTION TO EXISTING MAIN	EA.	1.00	$500.00		$500.00
5.12.03	CONNECTION TO EXISTING LATERAL	EA.	1.00	$170.00		$170.00
5.12.04	CONNECTION TO BUILDING SEWER	EA.	0.00	$170.00		$0.00
5.25.03	MANHOLE LEAK STOP	EA.	0.00	$750.00		$0.00
5.24	ROOT INHIBITOR	LBS.	0.00	$45.00		$0.00
5.98	BYPASS PUMPING	L.S.	1.00	$2,000.00		$2,000.00
8	**TRENCH RESTORATION PAYMENT ITEMS**					
8.01	TRENCH PAVING	S.Y.	0.00	$50.00		$0.00
8.03	TEMPORARY PAVING	S.Y.	0.00	$20.00		$0.00
			SUBTOTAL			$24,230.00
			15% CONTIGENCY			$3,630.00
	SUBTOTAL FOR PROJECT NO. 6:		**TOTAL**			$27,860.00

2014 SANITARY SEWER REPAIRS
SPRING GARDEN TOWNSHIP
ENGINEER'S PROJECT NO. 0270.6.B5.06

ITEM #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE		ESTIMATED TOTAL
PROJECT NO. 7 - POOR HOUSE RUN MH 540 TO MH 541						
2	**MISCELLANEOUS/SITE WORK PAYMENT ITEMS**					
2.01	MOBILIZATION	Ea.	1.00	$1,000.00		$1,000.00
2.01.01	MAINTENANCE AND PROTECTION OF TRAFFIC	Ea.	0.00	$500.00		$0.00
2.02	CLEARING AND GRUBBING	L.S.	1.00	$500.00		$500.00
2.06	EROSION AND SEDIMENTATION CONTROL	L.S.	1.00	$1,000.00		$1,000.00
2.08.04	FINISH GRADING AND SEEDING	L.S.	1.00	$1,000.00		$1,000.00
2.09.01	STREAM CROSSINGS	Ea.	1.00	$7,500.00		$7,500.00
5	**SANITARY SEWER PAYMENT ITEMS**					
5.01.04.04	4" DIA. PVC PIPE	L.F.	9.00	$150.00		$1,350.00
5.01.04.08	8" DIA. PVC PIPE					
	(a) 0' - 6' deep	L.F.	0.00	$60.00		$0.00
	(b) 6' - 8' deep	L.F.	12.00	$150.00		$1,800.00
	(c) 8' - 10' deep	L.F.	0.00	$170.00		$0.00
	(d) 10'- 12' deep	L.F.	0.00	$200.00		$0.00
	(e) 12'- 14' deep	L.F.	0.00	$250.00		$0.00
5.02.01	PVC WYES	EA.	3.00	$50.00		$150.00
5.02.02	PVC ELBOWS	EA.	6.00	$30.00		$180.00
5.08.01.81	4' DIAMETER 0.01' - 6.00' DEEP	EA.	0.00	$4,400.00		$0.00
5.08.01.82	4' DIAMETER 6.01' DEEP AND OVER	V.F.	0.00	$400.00		$0.00
5.09.01	STANDARD FRAME AND COVER	EA.	0.00	$350.00		$0.00
5.12.01	CONNECTION TO EXISTING MANHOLE	EA.	0.00	$1,500.00		$0.00
5.12.02	CONNECTION TO EXISTING MAIN	EA.	6.00	$500.00		$3,000.00
5.12.03	CONNECTION TO EXISTING LATERAL	EA.	3.00	$170.00		$510.00
5.12.04	CONNECTION TO BUILDING SEWER	EA.	0.00	$170.00		$0.00
5.25.03	MANHOLE LEAK STOP	EA.	0.00	$750.00		$0.00
5.24	ROOT INHIBITOR	LBS.	0.00	$45.00		$0.00
5.91.08	8" CIPP LINING	L.F.	218.00	$45.00		$9,810.00
5.98	BYPASS PUMPING	L.S.	1.00	$2,000.00		$2,000.00
8	**TRENCH RESTORATION PAYMENT ITEMS**					
8.01	TRENCH PAVING	S.Y.	0.00	$50.00		$0.00
8.03	TEMPORARY PAVING	S.Y.	0.00	$20.00		$0.00
			SUBTOTAL			$29,800.00
			15% CONTIGENCY			$4,470.00
	SUBTOTAL FOR PROJECT NO. 7:		**TOTAL**			$34,270.00

2014 SANITARY SEWER REPAIRS
SPRING GARDEN TOWNSHIP
ENGINEER'S PROJECT NO. 0270.6.B5.06

ITEM #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE		ESTIMATED TOTAL
PROJECT NO. 8 - POOR HOUSE RUN MH 539 TO MH 540						
2	**MISCELLANEOUS/SITE WORK PAYMENT ITEMS**					
2.01	MOBILIZATION	Ea.	1.00	$1,000.00		$1,000.00
2.01.01	MAINTENANCE AND PROTECTION OF TRAFFIC	Ea.	0.00	$500.00		$0.00
2.02	CLEARING AND GRUBBING	L.S.	1.00	$500.00		$500.00
2.06	EROSION AND SEDIMENTATION CONTROL	L.S.	1.00	$1,000.00		$1,000.00
2.08.04	FINISH GRADING AND SEEDING	L.S.	1.00	$1,000.00		$1,000.00
2.09.01	STREAM CROSSINGS	Ea.	0.00	$7,500.00		$0.00
5	**SANITARY SEWER PAYMENT ITEMS**					
5.01.04.04	4" DIA. PVC PIPE	L.F.	12.00	$150.00		$1,800.00
5.01.04.08	8" DIA. PVC PIPE					
	(a) 0' - 6' deep	L.F.	0.00	$60.00		$0.00
	(b) 6' - 8' deep	L.F.	184.00	$150.00		$27,600.00
	(c) 8' - 10' deep	L.F.	160.00	$170.00		$27,200.00
	(d) 10'- 12' deep	L.F.	0.00	$200.00		$0.00
	(e) 12'- 14' deep	L.F.	0.00	$250.00		$0.00
5.02.01	PVC WYES	EA.	4.00	$50.00		$200.00
5.02.02	PVC ELBOWS	EA.	8.00	$30.00		$240.00
5.08.01.81	4' DIAMETER 0.01' - 6.00' DEEP	EA.	0.00	$4,400.00		$0.00
5.08.01.82	4' DIAMETER 6.01' DEEP AND OVER	V.F.	0.00	$400.00		$0.00
5.09.01	STANDARD FRAME AND COVER	EA.	0.00	$350.00		$0.00
5.12.01	CONNECTION TO EXISTING MANHOLE	EA.	2.00	$1,500.00		$3,000.00
5.12.02	CONNECTION TO EXISTING MAIN	EA.	0.00	$500.00		$0.00
5.12.03	CONNECTION TO EXISTING LATERAL	EA.	4.00	$170.00		$680.00
5.12.04	CONNECTION TO BUILDING SEWER	EA.	0.00	$170.00		$0.00
5.25.03	MANHOLE LEAK STOP	EA.	0.00	$750.00		$0.00
5.24	ROOT INHIBITOR	LBS.	0.00	$45.00		$0.00
5.91.08	8" CIPP LINING	L.F.	0.00	$45.00		$0.00
5.98	BYPASS PUMPING	L.S.	1.00	$2,000.00		$2,000.00
8	**TRENCH RESTORATION PAYMENT ITEMS**					
8.01	TRENCH PAVING	S.Y.	0.00	$50.00		$0.00
8.03	TEMPORARY PAVING	S.Y.	0.00	$20.00		$0.00
			SUBTOTAL			$66,220.00
			15% CONTIGENCY			$9,930.00
	SUBTOTAL FOR PROJECT NO. 8:		**TOTAL**			$76,150.00

2014 SANITARY SEWER REPAIRS
SPRING GARDEN TOWNSHIP
ENGINEER'S PROJECT NO. 0270.6.B5.06

PROJECT NO. 9 - POOR HOUSE RUN MH 538 TO MH 539

2	**MISCELLANEOUS/SITE WORK PAYMENT ITEMS**					
2.01	MOBILIZATION	Ea.	1.00	$1,000.00		$1,000.00
2.01.01	MAINTENANCE AND PROTECTION OF TRAFFIC	Ea.	0.00	$500.00		$0.00
2.02	CLEARING AND GRUBBING	L.S.	1.00	$500.00		$500.00
2.06	EROSION AND SEDIMENTATION CONTROL	L.S.	1.00	$1,000.00		$1,000.00
2.08.04	FINISH GRADING AND SEEDING	L.S.	1.00	$1,000.00		$1,000.00
2.09.01	STREAM CROSSINGS	Ea.	0.00	$7,500.00		$0.00
5	**SANITARY SEWER PAYMENT ITEMS**					
5.01.04.04	4" DIA. PVC PIPE	L.F.	0.00	$150.00		$0.00
5.01.04.08	8" DIA. PVC PIPE					
	(a) 0' - 6' deep	L.F.	0.00	$60.00		$0.00
	(b) 6' - 8' deep	L.F.	12.00	$150.00		$1,800.00
	(c) 8' - 10' deep	L.F.	0.00	$170.00		$0.00
	(d) 10'- 12' deep	L.F.	0.00	$200.00		$0.00
	(e) 12'- 14' deep	L.F.	0.00	$250.00		$0.00
5.02.01	PVC WYES	EA.	0.00	$50.00		$0.00
5.02.02	PVC ELBOWS	EA.	0.00	$30.00		$0.00
5.08.01.81	4' DIAMETER 0.01' - 6.00' DEEP	EA.	0.00	$4,400.00		$0.00
5.08.01.82	4' DIAMETER 6.01' DEEP AND OVER	V.F.	0.00	$400.00		$0.00
5.09.01	STANDARD FRAME AND COVER	EA.	0.00	$350.00		$0.00
5.12.01	CONNECTION TO EXISTING MANHOLE	EA.	1.00	$1,500.00		$1,500.00
5.12.02	CONNECTION TO EXISTING MAIN	EA.	1.00	$500.00		$500.00
5.12.03	CONNECTION TO EXISTING LATERAL	EA.	0.00	$170.00		$0.00
5.12.04	CONNECTION TO BUILDING SEWER	EA.	0.00	$170.00		$0.00
5.25.03	MANHOLE LEAK STOP	EA.	0.00	$750.00		$0.00
5.24	ROOT INHIBITOR	LBS.	0.00	$45.00		$0.00
5.91.08	8" CIPP LINING	L.F.	0.00	$45.00		$0.00
5.98	BYPASS PUMPING	L.S.	1.00	$1,000.00		$1,000.00
8	**TRENCH RESTORATION PAYMENT ITEMS**					
8.01	TRENCH PAVING	S.Y.	0.00	$50.00		$0.00
8.03	TEMPORARY PAVING	S.Y.	0.00	$20.00		$0.00
			SUBTOTAL			$8,300.00
			15% CONTIGENCY			$1,250.00
	SUBTOTAL FOR PROJECT NO. 9:		**TOTAL**			$9,550.00

PROJECT NO. 10 - POOR HOUSE RUN MH 495 TO MH 496

2	**MISCELLANEOUS/SITE WORK PAYMENT ITEMS**					
2.01	MOBILIZATION	Ea.	1.00	$1,000.00		$1,000.00
2.01.01	MAINTENANCE AND PROTECTION OF TRAFFIC	Ea.	0.00	$500.00		$0.00
2.02	CLEARING AND GRUBBING	L.S.	1.00	$500.00		$500.00
2.06	EROSION AND SEDIMENTATION CONTROL	L.S.	1.00	$1,000.00		$1,000.00
2.08.04	FINISH GRADING AND SEEDING	L.S.	1.00	$1,000.00		$1,000.00
2.09.01	STREAM CROSSINGS	Ea.	0.00	$7,500.00		$0.00
5	**SANITARY SEWER PAYMENT ITEMS**					
5.01.04.04	4" DIA. PVC PIPE	L.F.	0.00	$150.00		$0.00
5.01.04.08	8" DIA. PVC PIPE					
	(a) 0' - 6' deep	L.F.	0.00	$60.00		$0.00
	(b) 6' - 8' deep	L.F.	47.00	$150.00		$7,050.00
	(c) 8' - 10' deep	L.F.	0.00	$170.00		$0.00
	(d) 10'- 12' deep	L.F.	0.00	$200.00		$0.00
	(e) 12'- 14' deep	L.F.	0.00	$250.00		$0.00
5.02.01	PVC WYES	EA.	0.00	$50.00		$0.00
5.02.02	PVC ELBOWS	EA.	0.00	$30.00		$0.00
5.08.01.81	4' DIAMETER 0.01' - 6.00' DEEP	EA.	0.00	$4,400.00		$0.00
5.08.01.82	4' DIAMETER 6.01' DEEP AND OVER	V.F.	0.00	$400.00		$0.00
5.09.01	STANDARD FRAME AND COVER	EA.	0.00	$350.00		$0.00
5.10	MANHOLE DROP CONNECTION - 8" DIA.	V.F.	4.00	$250.00		$1,000.00
5.12.01	CONNECTION TO EXISTING MANHOLE	EA.	2.00	$1,500.00		$3,000.00
5.12.02	CONNECTION TO EXISTING MAIN	EA.	0.00	$500.00		$0.00
5.12.03	CONNECTION TO EXISTING LATERAL	EA.	0.00	$170.00		$0.00
5.12.04	CONNECTION TO BUILDING SEWER	EA.	0.00	$170.00		$0.00
5.25.03	MANHOLE LEAK STOP	EA.	0.00	$750.00		$0.00
5.24	ROOT INHIBITOR	LBS.	0.00	$45.00		$0.00
5.91.08	8" CIPP LINING	L.F.	0.00	$45.00		$0.00
5.98	BYPASS PUMPING	L.S.	1.00	$2,000.00		$2,000.00
8	**TRENCH RESTORATION PAYMENT ITEMS**					
8.01	TRENCH PAVING	S.Y.	0.00	$50.00		$0.00
8.03	TEMPORARY PAVING	S.Y.	0.00	$20.00		$0.00
			SUBTOTAL			$16,550.00
			15% CONTIGENCY			$2,480.00
	SUBTOTAL FOR PROJECT NO. 10:		**TOTAL**			$19,030.00

2014 SANITARY SEWER REPAIRS
SPRING GARDEN TOWNSHIP
ENGINEER'S PROJECT NO. 0270.6.B5.06

PROJECT NO. 11 - POOR HOUSE RUN MH 494 TO MH 495

2	**MISCELLANEOUS/SITE WORK PAYMENT ITEMS**					
2.01	MOBILIZATION	Ea.	1.00	$1,000.00		$1,000.00
2.01.01	MAINTENANCE AND PROTECTION OF TRAFFIC	Ea.	0.00	$500.00		$0.00
2.02	CLEARING AND GRUBBING	L.S.	1.00	$500.00		$500.00
2.06	EROSION AND SEDIMENTATION CONTROL	L.S.	1.00	$1,000.00		$1,000.00
2.08.04	FINISH GRADING AND SEEDING	L.S.	1.00	$1,000.00		$1,000.00
2.09.01	STREAM CROSSINGS	Ea.	0.00	$7,500.00		$0.00
5	**SANITARY SEWER PAYMENT ITEMS**					
5.01.04.04	4" DIA. PVC PIPE	L.F.	3.00	$150.00		$450.00
5.01.04.08	8" DIA. PVC PIPE					
	(a) 0' - 6' deep	L.F.	0.00	$60.00		$0.00
	(b) 6' - 8' deep	L.F.	0.00	$150.00		$0.00
	(c) 8' - 10' deep	L.F.	0.00	$170.00		$0.00
	(d) 10'- 12' deep	L.F.	0.00	$200.00		$0.00
	(e) 12'- 14' deep	L.F.	0.00	$250.00		$0.00
5.02.01	PVC WYES	EA.	1.00	$50.00		$50.00
5.02.02	PVC ELBOWS	EA.	2.00	$30.00		$60.00
5.08.01.81	4' DIAMETER 0.01' - 6.00' DEEP	EA.	0.00	$4,400.00		$0.00
5.08.01.82	4' DIAMETER 6.01' DEEP AND OVER	V.F.	0.00	$400.00		$0.00
5.09.01	STANDARD FRAME AND COVER	EA.	0.00	$350.00		$0.00
5.12.01	CONNECTION TO EXISTING MANHOLE	EA.	1.00	$1,500.00		$1,500.00
5.12.02	CONNECTION TO EXISTING MAIN	EA.	0.00	$500.00		$0.00
5.12.03	CONNECTION TO EXISTING LATERAL	EA.	1.00	$170.00		$170.00
5.12.04	CONNECTION TO BUILDING SEWER	EA.	0.00	$170.00		$0.00
5.25.03	MANHOLE LEAK STOP	EA.	0.00	$750.00		$0.00
5.24	ROOT INHIBITOR	LBS.	0.00	$45.00		$0.00
5.91.08	8" CIPP LINING	L.F.	0.00	$45.00		$0.00
5.98	BYPASS PUMPING	L.S.	0.00	$1,000.00		$0.00
8	**TRENCH RESTORATION PAYMENT ITEMS**					
8.01	TRENCH PAVING	S.Y.	0.00	$50.00		$0.00
8.03	TEMPORARY PAVING	S.Y.	0.00	$20.00		$0.00
			SUBTOTAL			$5,730.00
			15% CONTIGENCY			$860.00
	SUBTOTAL FOR PROJECT NO. 11:		**TOTAL**			$6,590.00

2014 SANITARY SEWER REPAIRS
SPRING GARDEN TOWNSHIP
ENGINEER'S PROJECT NO. 0270.6.B5.06

PROJECT NO. 12 - POOR HOUSE RUN MH 484 TO MH 494

2	**MISCELLANEOUS/SITE WORK PAYMENT ITEMS**					
2.01	MOBILIZATION	Ea.	1.00	$1,000.00		$1,000.00
2.01.01	MAINTENANCE AND PROTECTION OF TRAFFIC	Ea.	0.00	$500.00		$0.00
2.02	CLEARING AND GRUBBING	L.S.	1.00	$500.00		$500.00
2.06	EROSION AND SEDIMENTATION CONTROL	L.S.	1.00	$1,000.00		$1,000.00
2.08.04	FINISH GRADING AND SEEDING	L.S.	1.00	$1,000.00		$1,000.00
2.09.01	STREAM CROSSINGS	Ea.	0.00	$7,500.00		$0.00
5	**SANITARY SEWER PAYMENT ITEMS**					
5.01.04.04	4" DIA. PVC PIPE	L.F.	0.00	$150.00		$0.00
5.01.04.08	8" DIA. PVC PIPE					
	(a) 0' - 6' deep	L.F.	0.00	$60.00		$0.00
	(b) 6' - 8' deep	L.F.	0.00	$150.00		$0.00
	(c) 8' - 10' deep	L.F.	0.00	$170.00		$0.00
	(d) 10'- 12' deep	L.F.	6.00	$200.00		$1,200.00
	(e) 12'- 14' deep	L.F.	0.00	$250.00		$0.00
5.02.01	PVC WYES	EA.	0.00	$50.00		$0.00
5.02.02	PVC ELBOWS	EA.	0.00	$30.00		$0.00
5.08.01.81	4' DIAMETER 0.01' - 6.00' DEEP	EA.	0.00	$4,400.00		$0.00
5.08.01.82	4' DIAMETER 6.01' DEEP AND OVER	V.F.	0.00	$400.00		$0.00
5.09.01	STANDARD FRAME AND COVER	EA.	0.00	$350.00		$0.00
5.12.01	CONNECTION TO EXISTING MANHOLE	EA.	1.00	$1,500.00		$1,500.00
5.12.02	CONNECTION TO EXISTING MAIN	EA.	1.00	$500.00		$500.00
5.12.03	CONNECTION TO EXISTING LATERAL	EA.	0.00	$170.00		$0.00
5.12.04	CONNECTION TO BUILDING SEWER	EA.	0.00	$170.00		$0.00
5.25.03	MANHOLE LEAK STOP	EA.	0.00	$750.00		$0.00
5.24	ROOT INHIBITOR	LBS.	0.00	$45.00		$0.00
5.91.08	8" CIPP LINING	L.F.	0.00	$45.00		$0.00
5.98	BYPASS PUMPING	L.S.	1.00	$1,000.00		$1,000.00
8	**TRENCH RESTORATION PAYMENT ITEMS**					
8.01	TRENCH PAVING	S.Y.	0.00	$50.00		$0.00
8.03	TEMPORARY PAVING	S.Y.	0.00	$20.00		$0.00
			SUBTOTAL			$7,700.00
			15% CONTIGENCY			$1,160.00
	SUBTOTAL FOR PROJECT NO. 12:		**TOTAL**			$8,860.00

2014 SANITARY SEWER REPAIRS
SPRING GARDEN TOWNSHIP
ENGINEER'S PROJECT NO. 0270.6.B5.06

ITEM #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE		ESTIMATED TOTAL
PROJECT NO. 13 - POOR HOUSE RUN MH 480 TO MH 482 (481?)						
2	**MISCELLANEOUS/SITE WORK PAYMENT ITEMS**					
2.01	MOBILIZATION	Ea.	1.00	$1,000.00		$1,000.00
2.01.01	MAINTENANCE AND PROTECTION OF TRAFFIC	Ea.	0.00	$500.00		$0.00
2.02	CLEARING AND GRUBBING	L.S.	1.00	$500.00		$500.00
2.06	EROSION AND SEDIMENTATION CONTROL	L.S.	1.00	$1,000.00		$1,000.00
2.08.04	FINISH GRADING AND SEEDING	L.S.	1.00	$1,000.00		$1,000.00
2.09.01	STREAM CROSSINGS	Ea.	0.00	$7,500.00		$0.00
5	**SANITARY SEWER PAYMENT ITEMS**					
5.01.04.04	4" DIA. PVC PIPE	L.F.	3.00	$150.00		$450.00
5.01.04.08	8" DIA. PVC PIPE					
	(a) 0' - 6' deep	L.F.	0.00	$60.00		$0.00
	(b) 6' - 8' deep	L.F.	0.00	$150.00		$0.00
	(c) 8' - 10' deep	L.F.	4.00	$170.00		$680.00
	(d) 10'- 12' deep	L.F.	0.00	$200.00		$0.00
	(e) 12'- 14' deep	L.F.	0.00	$250.00		$0.00
5.02.01	PVC WYES	EA.	1.00	$50.00		$50.00
5.02.02	PVC ELBOWS	EA.	2.00	$30.00		$60.00
5.08.01.81	4' DIAMETER 0.01' - 6.00' DEEP	EA.	0.00	$4,400.00		$0.00
5.08.01.82	4' DIAMETER 6.01' DEEP AND OVER	V.F.	0.00	$400.00		$0.00
5.09.01	STANDARD FRAME AND COVER	EA.	0.00	$350.00		$0.00
5.12.01	CONNECTION TO EXISTING MANHOLE	EA.	0.00	$1,500.00		$0.00
5.12.02	CONNECTION TO EXISTING MAIN	EA.	2.00	$500.00		$1,000.00
5.12.03	CONNECTION TO EXISTING LATERAL	EA.	1.00	$170.00		$170.00
5.12.04	CONNECTION TO BUILDING SEWER	EA.	0.00	$170.00		$0.00
5.25.03	MANHOLE LEAK STOP	EA.	0.00	$750.00		$0.00
5.24	ROOT INHIBITOR	LBS.	0.00	$45.00		$0.00
5.98	BYPASS PUMPING	L.S.	1.00	$1,000.00		$1,000.00
8	**TRENCH RESTORATION PAYMENT ITEMS**					
8.01	TRENCH PAVING	S.Y.	0.00	$50.00		$0.00
8.03	TEMPORARY PAVING	S.Y.	0.00	$20.00		$0.00
			SUBTOTAL			$6,910.00
			15% CONTIGENCY			$1,040.00
	SUBTOTAL FOR PROJECT NO. 13:		**TOTAL**			$7,950.00

PROJECT NO. 14 - POOR HOUSE RUN MH 477 TO MH 478

2	**MISCELLANEOUS/SITE WORK PAYMENT ITEMS**					
2.01	MOBILIZATION	Ea.	1.00	$1,000.00		$1,000.00
2.01.01	MAINTENANCE AND PROTECTION OF TRAFFIC	Ea.	0.00	$500.00		$0.00
2.02	CLEARING AND GRUBBING	L.S.	1.00	$500.00		$500.00
2.06	EROSION AND SEDIMENTATION CONTROL	L.S.	1.00	$1,000.00		$1,000.00
2.08.04	FINISH GRADING AND SEEDING	L.S.	1.00	$1,000.00		$1,000.00
2.09.01	STREAM CROSSINGS	Ea.	0.00	$7,500.00		$0.00
5	**SANITARY SEWER PAYMENT ITEMS**					
5.01.04.04	4" DIA. PVC PIPE	L.F.	0.00	$150.00		$0.00
5.01.04.08	8" DIA. PVC PIPE					
	(a) 0' - 6' deep	L.F.	6.00	$140.00		$840.00
	(b) 6' - 8' deep	L.F.	0.00	$150.00		$0.00
	(c) 8' - 10' deep	L.F.	0.00	$170.00		$0.00
	(d) 10'- 12' deep	L.F.	0.00	$200.00		$0.00
	(e) 12'- 14' deep	L.F.	0.00	$250.00		$0.00
5.02.01	PVC WYES	EA.	0.00	$50.00		$0.00
5.02.02	PVC ELBOWS	EA.	0.00	$30.00		$0.00
5.08.01.81	4' DIAMETER 0.01' - 6.00' DEEP	EA.	0.00	$4,400.00		$0.00
5.08.01.82	4' DIAMETER 6.01' DEEP AND OVER	V.F.	0.00	$400.00		$0.00
5.09.01	STANDARD FRAME AND COVER	EA.	0.00	$350.00		$0.00
5.12.01	CONNECTION TO EXISTING MANHOLE	EA.	1.00	$1,500.00		$1,500.00
5.12.02	CONNECTION TO EXISTING MAIN	EA.	1.00	$500.00		$500.00
5.12.03	CONNECTION TO EXISTING LATERAL	EA.	0.00	$170.00		$0.00
5.12.04	CONNECTION TO BUILDING SEWER	EA.	0.00	$170.00		$0.00
5.25.03	MANHOLE LEAK STOP	EA.	0.00	$750.00		$0.00
5.24	ROOT INHIBITOR	LBS.	0.00	$45.00		$0.00
5.91.08	8" CIPP LINING	L.F.	0.00	$45.00		$0.00
5.98	BYPASS PUMPING	L.S.	1.00	$1,000.00		$1,000.00
8	**TRENCH RESTORATION PAYMENT ITEMS**					
8.01	TRENCH PAVING	S.Y.	0.00	$50.00		$0.00
8.03	TEMPORARY PAVING	S.Y.	0.00	$20.00		$0.00
			SUBTOTAL			$7,340.00
			15% CONTIGENCY			$1,100.00
	SUBTOTAL FOR PROJECT NO. 14:		**TOTAL**			$8,440.00

Appendix D
Springettsbury Township Chapter 94 Municipal Wasteload Management*

* Note: Detailed information regarding the Springettsbury Township wastewater treatment facility and sanitary sewer collection and conveyance systems, and compliance with Chapter 94 requirements, is located in the Springettsbury Township Wastewater Treatment Facility Chapter 94 Municipal Wasteload Management Report (NPDES PA0026808).

Appendix E
West Manchester Township Chapter 94 Municipal Wasteload Management

2013 CHAPTER 94 MUNICIPAL WASTELOAD MANAGEMENT REPORT – YORK CITY WASTEWATER TREATMENT FACILITY

West Manchester Township
York County, Pennsylvania

March 6, 2014

Prepared for:

West Manchester Township
380 East Berlin Road
York, PA 17408

Prepared by:

Dawood Engineering, Inc.
2020 Good Hope Road
Enola, PA 17025

DEI Project Number 409001.01

CITY OF YORK – CHAPTER 94
WASTELOAD MANAGEMENT REPORT – 2013

WEST MANCHESTER TOWNSHIP

A. System Monitoring, Maintenance, and Repair

The Township has the personnel and television, grouting, and flushing equipment to perform routine sanitary sewer maintenance (refer to Exhibit No. WMT-1). During 2013, 2,220 linear feet of Lincolnway area sanitary lines were flushed by Township staff (refer to Exhibit No. WMT-2), 897 linear feet were televised by Township staff (refer to Exhibit No. WMT-3), zero (0) blockages were opened, and four (4) clean-outs were repaired (refer to Exhibit No. WMT-4). In addition, 74,631 linear feet of sewer lines were flushed and televised by a contractor. The six (6) pumping facilities tributary to the York City system are checked at least three times per week by municipal personnel.

During 2013, a project was undertaken to extend the wet well and elevate the generator/control building of the Market Street Pump Station to prevent stormwater runoff from entering the pump station and shutting it down. This project was begun in late October and completed in the middle of December 2013.

Another project was undertaken to reline and grout a portion of the King Street Pump Station interceptor from Zarfoss Road. This project repaired approximately 2200 feet of 10" clay pipe main using cured in place pipe and joint/crack grouting to prevent infiltration into those pipes. This project was begun in December 2013 and completed in January 2014.

During 2013, West Manchester Township implemented a multi-year system-wide program of televising all the Township's sanitary lines. This information will be used to prioritize and determine repairs necessary to remove infiltration. The Township is also actively inspecting manholes for evidence of infiltration.

One overflow event was noted during 2013. This overflow occurred during the passage of Tropical Storm Karen on October 11, 2013 at MH-276 on Fayette Street. This storm event produced 9.62 inches of rainfall.

On June 21, 2012, PADEP issued a letter denying connections to the systems tributary to the Market Street and King Street Pump Stations until overloads are eliminated. As mentioned above, West Manchester Township has been active in addressing known problems as well as embarking on a televising program for areas tributary to the two pump stations to identify and locate areas of infiltration. The elevation of vital components at the Market Street Pump Station was completed in December 2013 thus removing the major source of overload to the pump station. It is the opinion of West Manchester Township that the overload situation at the Market Street Pump Station is now eliminated. At the King Street Pump Station, Pumps #1 (July), Pump #2 (January), and Pump #3 (also January) were repaired at different times throughout the year. The station was field rated after these repairs at 994 gpm, which is substantially higher than the 737 gpm field rating in 2012.

B. Collection System Condition

1. Description of System

The system tributary to York City is divided into twenty-two (22) districts and includes 47.60 miles of sewers. Wastewater from these areas connects to the City system at five (5) different points. The bulk of the Township system discharges flows into the West York Borough system. Approximately one-half of the flow at York City Meter WY01 located on West Poplar Street is estimated to be from the Township. Wastewater flows from the Westgate area are measured at York City Meter WM01. Most of the Township system is in fair operating condition, with the older areas requiring maintenance.

2. Conveyance Capacity

A tabulation of the separate flows to West York Borough and York City appear in Exhibit No. WMT-8.

3. Major Rehabilitation

During 2013, a project was undertaken to extend the wet well and elevate the generator/control building of the Market Street Pump Station to prevent stormwater runoff from entering the pump station and shutting it down. This project was begun in late October and completed in the middle of December 2013.

Another project was undertaken to reline and grout a portion of the King Street Pump Station interceptor starting at Zarfoss Road. This project repaired approximately 2200 feet of 10" clay pipe main using cured in place pipe and joint/crack grouting to prevent infiltration into those pipes. This project was begun in December 2013 and completed in January 2014.

The Township will continue to flush and televise the system during 2013 to assess and identify sources of inflow and infiltration to the system and to prioritize areas for replacement projects.

C. Pump Station Condition

1. West King Street Pump Station

This major pumping facility in the Township is located along West King Street Extended. The station (No. 1) serves most of the Lincolnway area and a small section of West York Borough. The station was replaced in 2005 and has a design capacity of 1,000 GPM. The previous overflow pipe was eliminated. The pump station is equipped with a telephone dialer system. Some minor repairs were made to the pumps and inflow meter and the pump station capacity was field rated in 2013 at 994 GPM. The meter readings for 2013 indicated the following conditions:

994 gpm Rated in 2013	WEST KING STREET PUMP STATION NO. 1			
	Hours of Operation/Day	Gallons Pumped/Day	Actual Pump Capacity (GPD)	Peaking Factor
Minimum	4.9	218,280		
Average	8.8	393,941		
Maximum	27.4	1,232,640	1,431,360	3.13

The projected 2-year flows are estimated as follows:

	2013	2014	2015	Design Capacity (GPD)
Avg. Daily Flow (GPD)	393,941	394,991	396,041	
Max. Daily Flow (GPD)	1,232,640	1,235,925	1,239,211	1,440,000
% Loading (of Design)	85.6%	85.8%	86.1%	
% Loading (of Capacity)	86.1%	86.3%	86.6%	

The interceptor project initiated to address the hydraulic overload condition of the pump station was completed during December 2009. Exhibit No. WMT-12 is a graph comparing the average daily flows through the pump station for 2009 through 2013. The graph demonstrates a reduction of flow in 2010 and early 2011 through the pump station since completion of the interceptor project. The exception was on July 12th-14th, 2010 when a total of 5.55 inches of rain was recorded at the Dover Wastewater Treatment Plant. Flow tributary to the West Market Street pump station was diverted to the West King Street pump station causing the higher flows reported during this time period. Outside of this event, the 2010 and early 2011 flows are generally lower than flows reported prior to the repair work and are well below the actual reported capacity of the pump station at 1,431,360 gpd. High rainfall throughout most of 2011 kept flows elevated. During the Tropical Storm Lee flooding event in early September 2011, flows had to be diverted from the West Market Street Pump Station for several days when that pump station was flooded and shut down by high stream flows in the tributary to Codorus Creek. 2012 continued this downward trend in flow with the exception of Hurricane Sandy at the end of October 2012. Flows were regularly at or below 350,000 gpd. 2013 continued with relatively steady flows below 400,000 gpd with the notable exception of the passage of the remnants of Tropical Storm Karen which dropped 9.62 inches of rainfall. At this time, the Market Street Pump Station was knocked out by flooding and flows were diverted to the King Street Pump Station. Market Street Pump Station has since been raised above the potential floodwaters.

2. Canary Circle Pump Station

This pump station and standby generator was placed into operation in April 2005 and was field rated at 135 GPM, more than its 80 GPM design capacity. Meter readings for 2013 indicated the following conditions:

135 gpm Rated in 2005	CANARY CIRCLE PUMP STATION NO. 4			
	Hours of Operation/Day	Gallons Pumped/Day	Actual Pump Capacity (GPD)	Peaking Factor
Minimum	0.57	4,629		
Average	1.00	8,119		
Maximum	2.86	23,143	194,400	2.85

The projected 2-year flows are estimated as follows:

	2013	2014	2015	Design Capacity (GPD)
Avg. Daily Flow (GPD)	8,119	8,119	8,119	
Max. Daily Flow (GPD)	23,143	23,143	23,143	115,200
% Loading (of Design)	20.1%	20.1%	20.1%	
% Loading (of Capacity)	11.9%	11.9%	11.9%	

No overload is projected at this station within the next two (2) years.

3. South Adams Street Pump Station

This wet well mounted pump station (No. 3) is located along Salem Road near the intersection with South Adams Street. The station was completed in 1978 and serves portions of Sanitary Sewer District No. 15 (West College Avenue area). The station has a design capacity of 80 GPM and does not have an overflow. The station has emergency standby power. The actual pumping capacity was field verified in December 2004 at 87 GPM. Meter readings for 2013 indicated the following conditions:

87 gpm Rated in 2004	SOUTH ADAMS STREET PUMP STATION NO. 2			
	Hours of Operation/Day	Gallons Pumped/Day	Actual Pump Capacity (GPD)	Peaking Factor
Minimum	2.71	14,169		
Average	3.68	19,190		
Maximum	10.38	54,158	125,280	2.82

The projected 2-year flows are estimated as follows:

	2013	2014	2015	Design Capacity (GPD)
Avg. Daily Flow (GPD)	19,190	19,540	19,890	
Max. Daily Flow (GPD)	54,158	55,145	56,133	115,200
% Loading (of Design)	47.0%	47.9%	48.7%	
% Loading (of Capacity)	43.2%	44.0%	44.8%	

No overload is projected at this station within the next two (2) years. The standby generator was replaced in 2004.

4. West Market Street Pump Station

The pump station is in good operating condition. Some minor pump repairs were made and this station was field rate in 2013 at 812 GPM, slightly below its design capacity of 900 GPM. A project to elevate the pump station was completed in mid-December 2013. This project elevated the top of the wet well and constructed an elevated pad for the generator and control building. These components were raised approximately 4.5' to elevated them over flood prone areas and prevent flood waters from entering the wet well and damaging the controls. The pumped station was knocked out of service after it was flooded in early October when approximately 9.6 inches of rain fell from the remnants of Tropical Storm Karen. Meter readings for 2013 indicate the following conditions:

812 gpm Rated in 2013	WEST MARKET STREET PUMP STATION NO. 3			
	Hours of Operation/Day	Gallons Pumped/Day	Actual Pump Capacity (GPD)	Peaking Factor
Minimum	4.3	185,400		
Average	8.7	374,912		
Maximum	14.7	636,540	1,169,280	1.70

The projected 2-year flows are estimated as follows:

	2013	2014	2015	Design Capacity (GPD)
Avg. Daily Flow (GPD)	374,912	377,112	385,262	
Max. Daily Flow (GPD)	636,540	640,275	654,113	1,296,000
% Loading (of Design)	49.1%	49.4%	50.5%	
% Loading (of Capacity)	54.4%	54.8%	55.9%	

No overload is projected at this station within the next two (2) years. The station has a standby generator.

5. Bull Road Pump Station

This pump station and standby generator was placed into operation in October, 1997. This station was field rated in December 2007 at 212 GPM, slightly more than its 200 GPM design capacity. Meter readings for 2013 indicated the following conditions:

212 gpm Rated in 2007	BULL ROAD PUMP STATION NO. 6			
	Hours of Operation/Day	Gallons Pumped/Day	Actual Pump Capacity (GPD)	Peaking Factor
Minimum	2.14	27,257		
Average	4.61	58,620		
Maximum	10.14	129,017	305,280	2.20

The projected 2-year flows are estimated as follows:

	2013	2014	2015	Design Capacity (GPD)
Avg. Daily Flow (GPD)	58,620	58,620	66,120	
Max. Daily Flow (GPD)	129,017	129,017	145,524	288,000
% Loading (of Design)	44.8%	44.8%	50.5%	
% Loading (of Capacity)	42.3%	42.3%	47.7%	

No overload is projected at this station within the next two (2) years.

6. South Salem Church Road Pump Station

This pump station and standby generator was placed into operation in October, 1999. This pump station was field rated in December 2007 at 244. Meter readings for 2013 indicate the following conditions:

244 gpm Rated in 2007	EMIG MILL PUMP STATION NO. 7			
	Hours of Operation/Day	Gallons Pumped/Day	Actual Pump Capacity (GPD)	Peaking Factor
Minimum	0.21	3,137		
Average	0.59	8,622		
Maximum	2.41	35,345	351,360	4.10

The projected 2-year flows are estimated as follows:

	2013	2014	2015	Design Capacity (GPD)
Avg. Daily Flow (GPD)	8,622	9,622	10,622	
Max. Daily Flow (GPD)	35,345	39,444	43,544	360,000
% Loading (of Design)	9.8%	11.0%	12.1%	
% Loading (of Capacity)	10.1%	11.2%	12.4%	

No overload is projected at this station within the next two (2) years.

D. Sanitary Sewer Extensions

1. Extensions: No sanitary sewer extensions were constructed during 2013.

2. Proposed Projects: All proposed projects are outlined on the attached map.

E. Waste Flow Data

1. Exhibit No. WMT-5 lists the permits issued for new connections in 2013.

2. The estimated flows for the current year and the projected next five years are shown on the attached Exhibit Nos. WMT-6 and WMT-7.

3. The total number of sewer connections completed in West Manchester Township during each of the last five (5) years are as follows:

2009	2010	2011	2012	2013
2	2	0	2	1

F. SUBSURFACE DISPOSAL SYSTEM REPAIRS

1. Thirteen (13) on-site subsurface disposal system repairs were made during 2013 (refer to Exhibit No. WMT-11).

G. Nutrient Trading Program 2004 thru 2013

1. One (1) property with on-site subsurface disposal systems was eliminated in 2013 (refer to Exhibit No. WMT-10).

2. Based upon 25 lbs. per year of nitrogen, the available credits through 12/31/13 are computed as follows:

Year	EDUs	Credits Thru 12/31/12
2004	0 EDUs	0
2005	0 EDUs	0
2006	2 EDUs x 4 yrs. X 25 lbs. =	200
2007	0 EDUs	0
2008	0 EDUs	0
2009	0 EDUs	0
2010	2 EDUs x 25 lbs. =	50
2011	0 EDUs	0
2012	0 EDUs	0
2013	1 EDUs	50

H. Customer Base

As of December 31, 2013, the Lincolnway system has:

Residential/Flat Rate Users:	2,154 Accounts (3176 EDU's)
Non-Residential Metered Users:	318 Accounts (512 EDU's)

West Manchester
Township
(717) 792-3505

Website: www.westmanchestertownship.com

380 East Berlin Road
York, Pa. 17408
fax: (717) 792-4374

E-mail: info@westmanchestertownship.com

February 27, 2014

SUBJECT: Sanitary Sewer System
Available Personnel & Equipment
Maintenance Repairs

To Whom It May Concern:

West Manchester Township's Sanitary Sewer System is maintained by three (3) full time employees consisting of a foreman and two laborers available for correction of stoppages and emergencies at any time. They also perform preventative maintenance work (cleaning, flushing, television, and grouting); minor repairs; and tree root removal.

Major repairs or replacement of sewer lines may be performed by sewer maintenance personnel (with assistance from road personnel) or by various contractors engaged by the Township as needed.

The Township has the following equipment for sanitary sewer maintenance:

1 ¾ Ton Pick Up Truck
1 Ton Service Truck
1 T.V. Unit in Cube Type Van with other sewer equipment
2 Electrical Sewer Rodders
1 Vector Sewer Cleaner
1 Ten Ton Dump Truck
1 Wacker
1 8" Test Plug Air Type
1 8" x 12" Plug Air Type
1 16" Plug Air Type
1 18" Plug Air Type
6 Manual Plugs from 8" to 18"
1 Gasoline Powered Blower
2 Gas Powered Sludge Pump
1 Pair Soil Pipe Cutters
1 Lateral Mini Camera

EXHIBIT WMT-1

2013 CHAPTER 94 REPORT
Lincolnway Sewer System

Line Flushing

DATE	MANHOLE TO MANHOLE	STREET OR LOCATION	DEBRIS	FEET	PIPE
07/02/13	8A to 8B	Ollie's Parking Lot, 1776 Rodney Rd	ROW	400'	8" Clay
10/02/13	120 to 121	Filbert Street		310	8" Clay
10/08/13	123 to 125	Filbert Street		240'	8" Clay
10/08/13	123 to 124	Berwick Street		100'	8" Clay
10/08/13	122 to 123	Filbert Street		260'	8" Clay
10/08/13	121 to 122	Filbert Street		300'	8" Clay
10/08/13	120 to 121	Filbert Street		300'	8" Clay
10/08/13	119 to 120	Filbert Street		310'	8" Clay

EXHIBIT WMT-2

2013 CHAPTER 94 REPORT
Lincolnway Sewer System

Daily TV Report

DATE	MANHOLE	STREET OR LOCATION	FEET/DEBRIS	PIPE
05/12/13	MH SRA 8 + SRA 8A?	Not on map/Hagerman Drive Lateral Roots in MH SRA8A?	Lat R – 33' Lat L – 68' Lat R 70' Lat R - 106' Lat R – 108' Lat L – 124' Lat L – 126' Lat L – 157' Lat R – 158' Lat R – 175' Lat L – 200' Lat R – 207' Total – 211'	8" PVC
05/12/13	SRA 6 + SRA 8	Hagerman Drive	Total – 84'	8" PVC
05/12/13	SRA 6 + SRA 7	Hagerman Drive	Lat R – 54' Lat L – 56' Lat R – 58' Lat L – 60' Lat R – 104' Lat L – 105' Lat R – 107' Lat L – 109' Lat R – 150' Lat L – 151' Lat R – 152' Lat L – 154' Total – 168'	8" PVC
05/12/13	SRA 6 – SRA 4	Hagerman Drive	Total – 190'	8" PVC
05/12/13	SRA 5B + SRA 5B	Hagerman Drive W	Lat R – 3' Lat R – 32' Lat R – 34' Lat L – 36' Lat L – 38' Lat L – 84' Lat R – 92' Lat L – 129' Total – 132'	8" PVC

EXHIBIT WMT-3

2013 CHAPTER 94 REPORT
Lincolnway Sewer System

Daily TV Report

DATE	MANHOLE	STREET OR LOCATION	FEET/DEBRIS	PIPE
05/12/13	SRA 5A + SRA 5	Hagerman Drive	Lat R – 7' Lat L – 28' Total – 67'	8" PVC
06/11/13	SRA 13 + SRA 14	Hagerman Drive	Lat L – 56' Lat L – 58' Lat L – 102' Lat L – 104' Total – 118'	8" PVC
06/11/13	SRA 12 – SRA 13	Hagerman Drive SRA 12 is 90 degree bend in MH	Lat R – 26' Lat R – 28' Lat R – 64' Lat R – 66' Total – 123'	8" PVC
06/11/13	SRA 11 + SRA 12	Hagerman Drive MH SRA 11 is a 90 degree bend	Lat L – 11' Lat L – 13' Lat R – 28' Lat R – 30' Lat L – 40' Lat L – 42' Lat R – 79' Lat R – 81' Lat L – 85' Lat L – 127' Lat L – 129' Total – 134'	8" PVC

2013 CHAPTER 94 REPORT
Lincolnway Sewer System

Daily TV Report

DATE	MANHOLE	STREET OR LOCATION	FEET/DEBRIS	PIPE
06/11/13	SRA 11 – SRA 10	Hagerman Drive	Lat R – 27' Lat R – 29' Lat R – 101' Lat R – 103' Lat R – 147' Lat R – 149' Total 171'	8" PVC
06/11/13	SRA 8A + SRA 10	Hagerman Drive	Lat L – 59' Lat L – 61' Lat R – 76' Lat R – 78' Lat L – 109' Lat L – 111' Lat R – 124' Lat R – 126' Lat L – 156' Lat L – 158' Lat R – 173' Lat R – 175' Total – 189'	8" PVC
06/11/13	SRA 8A – SRA 8	Hagerman Drive	Total – 60'	6" PVC
06/11/13	SRA 8 + SRA 9	Hagerman Drive	Lat L – 53' Lat R – 54' Lat L – 55' Lat R – 57' Lat R – 101' Lat L – 102' Lat R – 103' Lat L – 104' Lat R – 149' Lat L – 152' Lat R – 153' Lat L – 154' Total – 175'	6" PVC

2013 CHAPTER 94 REPORT
Lincolnway Sewer System

Daily TV Report

DATE	MANHOLE	STREET OR LOCATION	FEET/DEBRIS	PIPE
06/18/13	SRA 3 + SRA 4	Hagerman Drive MH SRA 3 is a 90 degree turn	Total – 134'	8" PVC
06/18/13	SRA 3 – 322	Hagerman Drive MH 322 is a 90 degree turn	Total – 327'	8" PVC
06/18/13	SRA 5 + SRA 4	Hagerman Drive W	Lat R – 16' Lat L – 18' Lat R – 20' Lat L – 22' Lat L – 63' Lat R – 65' Lat L – 67' Lat R – 68' Lat R – 111' Lat L – 113' Lat R – 114' Lat L – 115' Total – 172'	8" PVC

2013 CHAPTER 94 REPORT
Lincolnway Sewer System

Daily TV Report

DATE	MANHOLE	STREET OR LOCATION	FEET/DEBRIS	PIPE
07/02/13	MH 8A + MH 8B	Ollies Bargain Outlet Parking Lot	W – Lat L – 53' Sag – 83-89' Survey Abandoned/Can't go – 89' Offset Joint – 92' Lat L – 129' Lat R – 132' Crack – 258' Lat Top Break In – 263' Multiple Cracks – 268-272' Multiple Cracks – 272' Crack – 277' Crack with soil showing – 282-292' Multiple Cracks – 199-302' Sag – 312-334' Sag – 348-362' Total – 400'	8" Clay
10/02/13	MH 119 + MH 120	Filbert Street	Roots @ Joint – 3' Lat L – Roots -8' Offset Joint – 9' Roots @ Joint – 38' Roots @ Joint – 45' PVC Pipe – 46-48' Lat L – 47' Offset Joint – 48' Roots @ Joint – 52' Roots @ Joint – 57' Lat R – Roots – 60' Roots @ Joint – 60' Crack – 62-64' Crack – 65-68' Roots @ Joint – 75' Roots @ Joint – 80' PVC Pipe – 90-93' Lat L – 92' Lat L – Roots – 115' Total – 115'	8" Clay

2013 CHAPTER 94 REPORT

Lincolnway Sewer System

Daily TV Report

DATE	MANHOLE	STREET OR LOCATION	FEET/DEBRIS	PIPE
10/02/13	MH 119 + MH 120	Filbert Street continued	Offset Joint – 116' Crack – 126' Lat R – W – 148' Crack – 164-168" Crack – 177' Lat L – Offset Joint – 181' Crack – 192-194' Crack – 205' Lat L – Offset Joint – 209' Offset Joint – 210' Lat R – 212' Crack – 21 3-214' Crack – 239-243' Crack – 262' Crack – 273-280' Broken with Void Space - 287' Brick MH Total – 301'	8" Clay

2013 CHAPTER 94 REPORT

Lincolnway Sewer System

Clean Outs Repaired

ADDRESS	REPAIR
275 Canary Circle	4" Cleanout PVC
98 N. Forrest Street	3.5" Brass Plug
2694 Bannister Street	Plastic Hub and 4" cap
80 Finch Drive	4" Cleanout plug and cleanout

EXHIBIT WMT-4

West Manchester Township
Discontinuing on-lot management systems and connecting to the Lincolnway sewer as of December 2013

MUNICIPAL PERMIT NO.	APPLICANT NAME	PROPERTY LOCATION (STREET ADDRESS & SUBDIVISION)	NO. OF UNITS	ASSIGNED FLOW (GPD)
1325717	Ronald & Tracey Jones	620 Greenwood Road	1	350

EXHIBIT WMT-5

West Manchester Township
Projected Connections to City of York
Wastewater Treatment Facility

EXHIBIT NO. WMT-6
December 31, 2013

Map ID	West King Street Pump Station No. 1	Total	2014	2015	2016	2017	2018	Future		Flow Meter	York City MH No.
9	Tuscany Tract	4,500	0	0	1,500	1,500	1,500	0		WM01	B40A
37	Federal Paper, Neiman	0	0	0	0	0	0	0		WY01	81
38	Orion West	1,750	0	350	700	350	350	0		WY01	81
	Misc. Development 2 EDU's per year 350 GPD	3,500	700	700	700	700	700	0		WY01	81
	620 Greenwood	350	350	0	0	0	0	0			
	Subtotal	**10,100**	**1,050**	**1,050**	**2,900**	**2,550**	**2,550**	0	**10,100**		
	South Adams Street Pump Station No. 2	**Total**	**2014**	**2015**	**2016**	**2017**	**2018**	**Future**			
	Misc. Development	1,750	350	350	350	350	350	0		N/A	76
								0			
	Subtotal	**1,750**	**350**	**350**	**350**	**350**	**350**	**0**	**1,750**		
	West Market Street Pump Station No. 3	**Total**	**2014**	**2015**	**2016**	**2017**	**2018**	**Future**			
8	Kinard Trucking	1,000	0	0	0	0	0	1,000		WM01	B40A
10	Penn's Preserve (Helm Coal)	8,050	0	2,100	2,100	2,100	1,750	0		WM01	B40A
12	Voith Hydro Ind. Expansion West Manchester Way	0	0	0	0	0	0	0		WM01	B40A
13	Voith Hydro Testing Lab	500	0	0	0	0	0	500		WM01	B40A
14	Pfaltzgraff West	15,500	500	500	5,000	5,000	4,500	0		WM01	B40A
15	West York Industrial Park Expansion	3,500	700	700	700	700	700	0		WM01	B40A
16	Baker Ind. Emigs Mill Road	10,000	1,000	1,000	1,000	1,000	1,000	5,000		WM01	B40A
20	Myers Farm	9,000	0	0	3,000	3,000	3,000	0			
21	J.E. Baker, Rt. 30 West	9,000	0	0	1,500	1,500	1,500	4,500		WM01	B40A
28	Berlin Court	3,500	0	3,500	0	0	0	0		WM01	B40A
29	Greenwood Road/Firestone	350	0	350	0	0	0	0		WM01	B40A
31	Voith Transmission	0	0	0	0	0	0	0		WM01	B40A
	Subtotal	**60,400**	**2,200**	**8,150**	**13,300**	**13,300**	**12,450**	**11,000**	**60,400**		
	Emig Mill Pump Station No. 7	**Total**	**2014**	**2015**	**2016**	**2017**	**2018**	**Future**			
16	Baker Ind. Emigs Mill Road	10,000	1,000	1,000	1,000	1,000	1,000	5,000			
	Myers Farm	9,000	0	0	3,000	3,000	3,000	0			
21	J.E. Baker, Rt. 30 West	9,000	0	0	1,500	1,500	1,500	4,500			
								0			
	Subtotal	**28,000**	**1,000**	**1,000**	**5,500**	**5,500**	**5,500**	**9,500**	**28,000**		
	Bull Road Pump Station No. 6	**Total**	**2014**	**2015**	**2016**	**2017**	**2018**	**Future**			
6	UM Care/Normandie Ridge	17,250	0	7,500	5,250	2,250	2,250	0		WM01	B40A
								0			

West Manchester Township
Projected Connections to City of York
Wastewater Treatment Facility

EXHIBIT NO. WMT-6
December 31, 2013

Map ID	West King Street Pump Station No. 1	Total	2014	2015	2016	2017	2018	Future		Flow Meter	York City MH No.
	Subtotal	**17,250**	**0**	**7,500**	**5,250**	**2,250**	**2,250**	**0**	**17,250**		
	Gravity	**Total**	**2014**	**2015**	**2016**	**2017**	**2018**	**Future**			
1	West Manchester Mall Expansion	6,000	0	1,000	1,000	2,000	2,000	0		WM01	B40A
2	Winters Performance Engines	1,000	0	0	0	0	0	1,000			
3	Greens/Kemp Foods/Columbia Gas	1,170	1,170	0	0	0	0	0		WM01	B40A
4	Loucks Associates	1,000	0	0	0	0	0	1,000			
5	The Greens @ Westgate - Phase II	18,000	0	0	3,600	3,600	3,600	7,200		WM01	B40A
7	York Newspaper Company	1,000	0	0	0	0	0	1,000			
11	Carlisle Commerce Center Expansion (Behind Hoss' - White Street)	1,000	0	500	500	0	0	0		WM01	B40A
17	Delco Plaza Redevelopment	1,500	0	500	500	500	0	0		WM01	B40A
18	Cecil Grace, Marion Extended	700	0	0	0	0	0	700		WM01	B40A
19	W. Sprenkle, Carlisle Road	2,800	0	0	0	0	0	2,800		WM01	B40A
22	York Crossings Expansion	2,000	0	0	1,000	1,000	0	0		WM01	B40A
23	Leiphart	1,050	0	350	700	0	0	0		WM01	B40A
24	Memorial Hospital	95,000	0	0	0	40,000	0	55,000		WM01	B40A
25	Haviland Road South	2,800	350	0	0	0	0	2,450		WM01	B40A
26	Haviland Road North	1,400	0	0	0	0	0	1,400		WM01	B40A
27	Spring Street	700	0	0	0	350	350	0		WM01	B40A
30	Smyser Tract - Prof/Office	700	0	0	0	0	0	700		WM01	B40A
	West Manchester Twp. Misc. 5 EDU's per year 350 GPD	8,750	350	1,750	1,750	1,750	1,750	1,400		WM01	B40A
33	Stewart Tract/Weis Markets	6,000	0	1,500	1,500	1,500	1,500	0			
	West Manchester Twp. Misc. 1 EDU per year 350 GPD	1,750	350	350	350	350	350	0		N/A	B38
	West Manchester Township Misc. 1 EDU per year 350 GPD	1,750	350	350	350	350	350	0		WM02	71A
								0			
	Subtotal	**156,070**	**2,570**	**6,300**	**11,250**	**51,400**	**9,900**	**74,650**	**156,070**		
	Grand Total	**273,570**	**7,170**	**24,350**	**38,550**	**75,350**	**33,000**	**95,150**	**273,570**		
	Net Total	**245,570**	**6,170**	**23,350**	**33,050**	**69,850**	**27,500**	**85,650**	**245,570**		

EXHIBIT NO. WMT-7
December 31, 2013

TABULATION OF AVAILABLE
SEWER RESERVE CAPACITY

DEVELOPER PROJECTIONS

COLLECTION AND TRANSPORTATION SYSTEM
From: West Manchester Township

WASTEWATER TREATMENT FACILITY
To: City of York

SOURCES FOR PROJECTION	2013	2014	2015	2016	2017	2018	Future Years
Existing Flow From Current Users (1)	2,200,754	2,201,017	2,207,187	2,230,537	2,263,587	2,333,437	2,360,937
Projected Flows From Current Users (2)	263	0	0	0	0	0	0
Projected Flow Increase From New Customers (3)	0	6,170	23,350	33,050	69,850	27,500	86,650
Total Estimated Wastewater Flows	2,201,017	2,207,187	2,230,537	2,263,587	2,333,437	2,360,937	2,447,587
Percent Usage	64.85%	65.03%	65.72%	66.69%	68.75%	69.56%	72.11%
Total Permitted Capacity/Agreement (4)	3,394,200	3,394,200	3,394,200	3,394,200	3,394,200	3,394,200	3,394,200
Total Amount of Available Capacity	1,193,183	1,187,013	1,163,663	1,130,613	1,060,763	1,033,263	946,613

NOTES AND ASSUMPTIONS:

(1) Calculated Flow at City Flow Meter WY-01 based on EDUs plus non-metered points of connection plus City Flow Meter WM-01.

(2) Assumes 75% of 2013 connections (1 EDUs x 350 gpd = 263) not reflected in (1) above (Exhibit No. WMT-5)

(3) See attached list of projected connections (Exhibit No. WMT-6)

(4) Current permitted capacity is 3,394,200 gpd per intermunicipal agreement.

EXHIBIT WMT-8
DECEMBER 31, 2013

TABULATION OF WEST MANCHESTER FLOWS

	WY01 (MG)	WM01 (MG)	RI01 (MG)	Unmetered (MG)	Total Monthly (MG)	Total Daily (MG)
January	38.849	50.456	5.112	0.541	75.534	2.437
February	35.464	45.582	4.726	0.541	68.581	2.449
March	42.275	53.506	5.255	0.541	80.440	2.595
April	31.632	47.205	4.470	0.541	68.032	2.268
May	32.429	39.329	3.342	0.541	59.427	1.917
June	32.250	38.360	3.347	0.541	58.373	1.946
July	31.660	37.556	3.013	0.541	56.940	1.837
August	37.710	41.491	3.141	0.541	64.028	2.065
September	28.195	31.738	3.372	0.541	49.749	1.658
October	53.918	51.806	7.212	0.541	86.518	2.791
November	29.424	36.413	5.750	0.541	57.416	1.914
December	45.038	51.546	3.905	0.541	78.511	2.533

Average Daily Flow (gallons)	**2,200,754**

* Data From York City Flow Meter Data Provided 2/11/14

West Manchester Township
Lincolnway Sanitary Sewer Reservations as of December 31, 2013

Name of Developer or Landowner	Location of Property	No. of EDU's Reserved
Glenlyn Enterprises	Manchester Court	6
West Manchester Mall, LLC	Loucks Road	160
Susquehanna Real Estate	West York Industrial Park Area	16.29
Westgate Plaza	Kenneth Road	1
Delco Centre	Carlisle Road	9

EXHIBIT WMT-9

West Manchester Township
Discontinuing on-lot management systems and connecting to the Lincolnway sewer as of December 2013

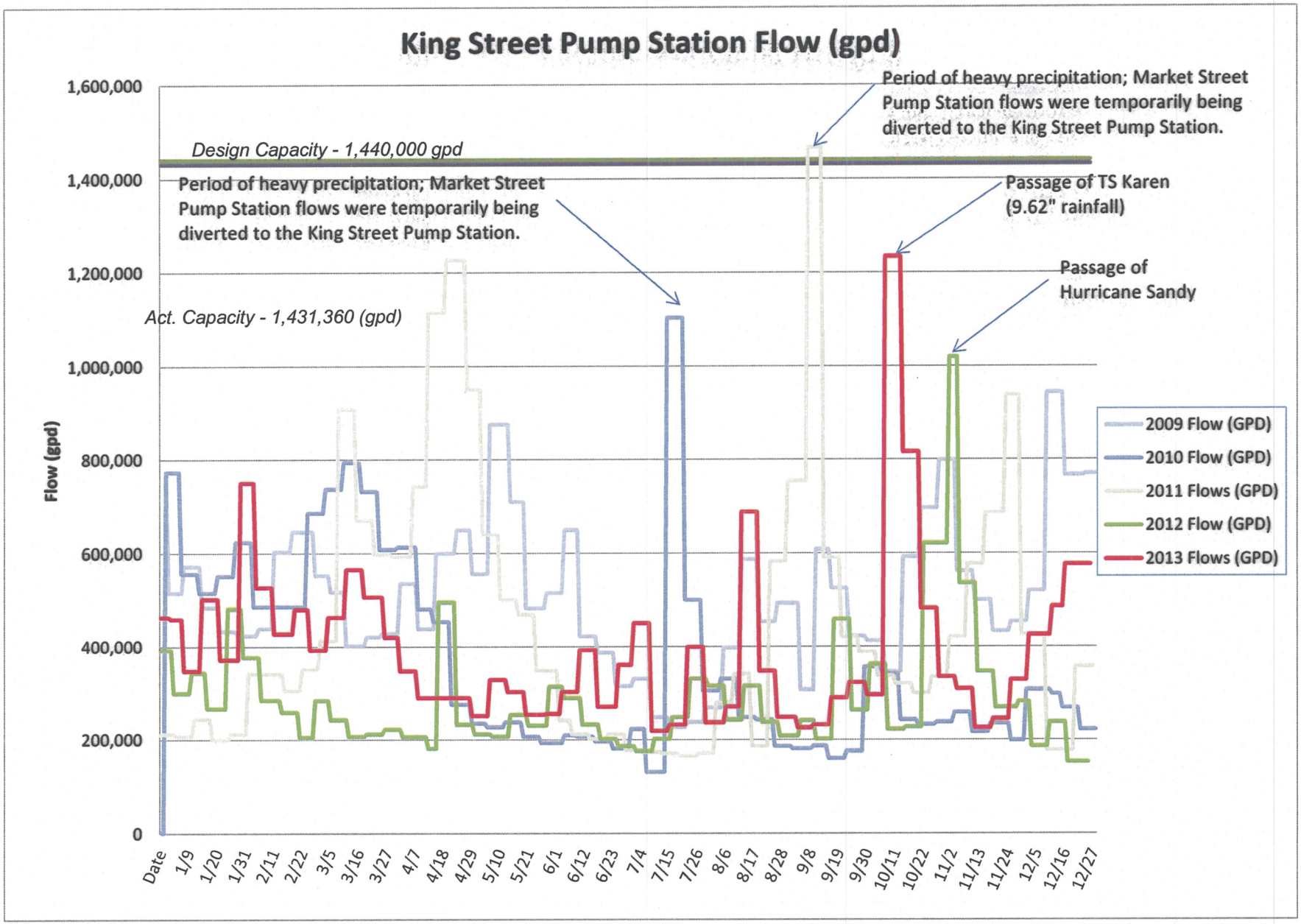
MUNICIPAL PERMIT NO.	APPLICANT NAME	PROPERTY LOCATION (STREET ADDRESS & SUBDIVISION)	NO. OF UNITS	ASSIGNED FLOW (GPD)
1325717	Ronald & Tracey Jones	620 Greenwood Road	1	350

EXHIBIT WMT-10

West Manchester Township
On-Site Septic System Repair - 2013

MUNICIPAL PERMIT NO.	ISSUE DATE	APPLICANT'S NAME	PROPERTY ADDRESS	STATUS OF REPAIRS
Z125218	2/12/13	Briarwood Golf Club, Inc.	4775 W. Market Street	Completed
Z125220	2/15/13	William R. Mosebrook	740 Bairs Road	Completed
Z032951	3/15/13	J. Kevin Drawbaugh	2096 Roosevelt Avenue	Not Completed
O33491	3/18/13	Jack C. Shearer	2201 & 2203 Taxville Road	Completed
Z125239	4/25/13	Darrell Ginter	1980 Roosevelt Avenue	Completed
Z125250	5/14/13	Shoemaker & Besser Assoc.	4396 W. Market Street	Completed
T000248	5/29/13	William S. Boyer	871 Stoverstown Road	Completed
R75832	7/20/13	Frank Quintin	65 S. Alwine Street	Not Completed
P21102	7/21/13	Henry J. Rausch Jr.	1050 Stoverstown Road	Completed
Z125284	7/22/13	Richard Summers	1945 Woodberry Road	Completed
T103482	9/20/13	Sue Ann Gelzenlichter	10 N. Emig Mill Road	Completed
Z109274	9/22/13	Larry Sheridan	869 Smith Drive	Completed
Z125605	9/23/13	Richard S. Martin Estate	185 Rhonda Drive	Completed

EXHIBIT WMT-11



V:\2009Jobs\409001-01\MU\Chapter 94\2013\York\40900101 Pump Station Data 2014-03-05

EXHIBIT NO. WMT-12
DECEMBER 31, 2012

Appendix F
West York Borough Chapter 94 Municipal Wasteload Management

C.S.Davidson, Inc.
Excellence in Civil Engineering

January 15, 2014

CITY OF YORK – CHAPTER 94
WASTELOAD MANAGEMENT REPORT-2013

WEST YORK BOROUGH

A. System Monitoring Maintenance and Routine Repairs

The Borough does not have personnel and equipment for routine sanitary sewer maintenance and relies on contracted services or on neighboring municipalities. Structural repairs, if necessary, are performed by a local contractor. The 2012-2015 Sanitary Sewer Maintenance Program Contract was awarded to Pipe Services Corporation. Cleaning and flushing of 20,721 L.F. of lines and 85 manholes started on 5/15/13 and was completed on 06/14/13 (see Exhibit No. WYB-1). The contractor also televised 5,453 L.F. of lines last year and the results are summarized on Exhibit WYB-2.

During 2014, the Borough expects to perform the routine pipeline maintenance, as shown on the attached map, involving 13,759 L.F. of mainline flushing and cleaning 46 manholes.

Description	Quantity	Unit
8" diameter pipes to be cleaned	10,635	L.F.
12" diameter pipes to be cleaned	1,289	L.F.
15" diameter pipes to be cleaned	1,835	L.F.

B. Collection System Condition

1. Description of System

The system tributary to the City of York includes 10.37 miles of vitrified clay sewers with mostly brick manholes and no pump stations. A small area in the Borough is served by West Manchester Township's West King Street Pump Station. Annual operation and maintenance costs are shared by the two municipalities. Wastewater from both municipalities is monitored by the City of York on West Poplar Street (City Flow Meter No. WY-01). The Borough's interceptor also transports flows from the Lincolnway Area of West Manchester Township. Most of the sanitary sewers are in fair to good operating condition.

2. Conveyance Capacity

No portion of the Borough collection system is expected to by hydraulically overloaded during the next five-year period.

3. Major Rehabilitation

West York Borough Council has not decided what repairs or rehabilitation work, if any, will be performed in 2014. With the completion of WWTP Improvements, the York City Sewer Authority would like to focus on removing infiltration/inflow (I/I) sources to reduce peak flows to the plant. YCSA has requested outlying user municipalities voluntarily increase their I/I removal efforts.

C. Sanitary Sewer Extensions

1. Carriage Works Apartments (1320 W. Market) Final Subdivision and Land Development Plan

   a. This project contains 4.9 acres and is located south of West Market Street and east of South Highland Avenue. The developer, MBI Development Company, Inc., plans to subdivide the project site into three lots. Four of the ten vacant industrial buildings formerly known as the Keystone Weaving Mill will be renovated into 80 apartment dwelling units, office space and two restaurants.

   b. The office units and restaurant space have not been occupied.

   c. Sanitary sewer work was completed. No as-built plans have been submitted to date.

   d. The project received planning module exemption approval (DEP Code No. A3-67806-009-3E) on February 25, 2011 from PA DEP.

D. Waste Flow Date

1. No connection permits were issued for connection during 2013.
2. The estimated flows for the current year and projected next five years are shown on the attached charts labeled Exhibit Nos. WYB-3 and WYB-4.
3. The number of sewer connections for each year of the past five years were as follows:

2009	2010	2011	2012	2013
0	2	1	0	0
		(15 EDUs)	(80 EDUs)	

E. Nutrient Trading Program 2003-2013

No properties with on-site subsurface disposal systems were eliminated between 2003 and 2012 (zero credits).

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C.S.Davidson, Inc.
Excellence in Civil Engineering

EXHIBIT NO. WYB-1
ORIGINAL

APPLICATION FOR PAYMENT

No. 2 (2013 Contract Final)
Date: 7/1/2013

OWNER: West York Borough Council
ADDRESS: 1700 West Philadelphia Street
York, PA 17404

Engineer Project No.: 0287.6.04.31
Contract: 2012-2015 Sanitary Sewer Maintenance Program

CONTRACTOR: Pipe Services Corporation
ADDRESS: 665 Tower Lane
West Chester, PA 19380

Application Covers Period Ending:
6/14/2013

The undersigned certifies that all work performed and materials accepted, but not incorporated, for which Application for Payment is hereby made, has been completed in accordance with the Contract Documents, and that the measured quantities of work shown on the attached Payment Schedule are correct. Subject to final verification of quantities by the Engineer upon completion of all work and final inspection. The undersigned further certifies that any and all claims for payment as of the date of this pay period are hereby made, and that no additional claims of any nature will hereafter be made for work completed as of the end of this pay period, excepting only for claims arising from corrections of quantity measurements.

The undersigned certifies that the TOTAL VALUE OF ALL WORK AND MATERIAL TO DATE (5) shown below, less the total amounts previously paid, constitutes the full claim, including retainage, of the Contractor against the Owner as of the date of this pay period.

CONTRACTOR: Pipe Services Corporation

Date: 8/20/13

By: Megan Brindle, President

Total Value of Contract Items to Date (Itemized on Payment Schedule)		$30,213.30	(1)
Extra Work Approved on Previous Applications			(2)
Extra Work This Application (Attach Detailed Records)		$0.00	(3)
Materials Accepted, not Incorporated in completed work (See Inventory)			(4)
TOTAL VALUE OF ALL WORK & MATERIAL TO DATE		$30,213.30	(5)
Less Amounts Previously Paid		$9,100.90	(6)
Total Claim of Contractor (Includes Retainage)		$21,112.40	(7)

**********(ENGINEER APPROVAL)**********

Recommend Retainage of	0%	of (1) above.	$0.00 (8)
NET AMOUNT APPROVED FOR PAYMENT			$21,112.40 (9)

Date: 7/01/13 Signed: Benedict J. Cheglia for C.S. DAVIDSON, INC., ENGINEER

CONTRACT BUDGET CONTROL

AUTHORIZATION	DATE	CONTRACT AMOUNT (BASED ON ESTIMATED QUANTITIES)	
		Change Order	Current Contract Amount
Proposal Quantities			$66,160.10
Change Order No. 1			$66,160.10
Change Order No. 2			
Change Order No. 3			
Change Order No. 4			
Change Order No. 5			
Change Order No. 6			
Change Order No. 7			
Change Order No. 8			
Change Order No. 9			
Change Order No. 10			
Change Order No. 11			
Change Order No. 12			
Change Order No. 13			
Change Order No. 14			
Change Order No. 15			
Change Order No. 16			
Change Order No. 17			
Change Order No. 18			
Change Order No. 19			
Change Order No. 20			

C.S.Davidson, Inc.
Excellence in Civil Engineering

PAYMENT SCHEDULE OF CONTRACT ITEMS

FROM:
CONTRACTOR: Pipe Services Corporation
ADDRESS: 665 Tower Lane
West Chester, PA 19380

APPLICATION NUMBER: 1 (2013 Contract Final)
SHEET 1 of 3

PAY PERIOD ENDING: 6/14/2013

CONTRACT DESCRIPTION:
2012-2015 Sanitary Sewer Maintenance Program

TO:
OWNER: West York Borough Council
ADDRESS: 1700 West Philadelphia Street
York, PA 17404

TOTAL AMOUNT OF CONTRACT BASED ON ESTIMATED QUANTITIES: $66,160.10

Bid Item No.	Description	Proposal Quantity	Unit	Unit Quantity To Date	Contract Unit Price	Total Value To Date
2012 SANITARY SEWER MAINTENANCE PROGRAM						$0.00
2012.01	8" diameter Pipes (to be cleaned)	8,951	L.F.	8,845	$0.60	$5,307.00
2012.02	12" diameter Pipes (to be cleaned)	1,199	L.F.	1,192	$0.60	$715.20
2012.03	18" diameter Pipes (to be cleaned)	1,210	L.F.	1,203	$0.90	$1,082.70
2012.04	20" diameter Pipes (to be cleaned)	1,011	L.F.	956	$1.00	$956.00
2012.05	Manholes (to be cleaned)	55	Ea.	52	$20.00	$1,040.00
2012.06	8" diameter Pipes (to be televised)	1,690	L.F.	0	$0.00	$0.00
2012.07	Grout Failing Joints	30	Gals	0	$0.00	$0.00
2012.08	Manhole Patching	30	Lbs.	0	$0.00	$0.00
2012.09	Root Inhibitor	10	Lbs.	0	$0.00	$0.00
2012.10	Air Test Joints	20	Ea.	0	$0.00	$0.00
	SUBTOTAL BID AMOUNT FOR YEAR 2012					$9,100.90
2013 SANITARY SEWER MAINTENANCE PROGRAM						
2013.01	8" diameter Pipes (to be cleaned)	19,800	L.F.	19980	$0.70	$13,986.00
2013.02	15" diameter Pipes (to be cleaned)	748	L.F.	741	$0.70	$518.70
2013.03	Manholes to be cleaned	86	Ea.	85	$20.00	$1,700.00
2013.04	Pipes to be televised (all sizes) - 2015 (Blue)	300	L.F.	5453	$0.90	$4,907.70
2013.05	Grout Failing Joints	30	Gals.	0	$0.00	$0.00
2013.06	Manhole Patching	30	Lbs.	0	0	$0.00
2013.07	Root Inhibitor	10	Lbs.	0	0	$0.00
2013.08	Air Test Joints	20	Ea.	0	0	$0.00
	SUBTOTAL BID AMOUNT FOR YEAR 2013					$21,112.40

SUBTOTAL OR TOTAL OF CONTRACT ITEMS TO DATE: $30,213.30

C.S.Davidson, Inc.
Excellence in Civil Engineering

PAYMENT SCHEDULE OF CONTRACT ITEMS

FROM:
CONTRACTOR: Pipe Services Corporation
ADDRESS: 665 Tower Lane
West Chester, PA 19380

APPLICATION NUMBER: 1 (2012 Contract Final)
SHEET 2 of 3

PAY PERIOD ENDING: 12/31/2012

CONTRACT DESCRIPTION:
2012-2015 Sanitary Sewer Maintenance Program

TO:
OWNER: West York Borough Council
ADDRESS: 1700 West Philadelphia Street
York, PA 17404

TOTAL AMOUNT OF CONTRACT BASED ON ESTIMATED QUANTITIES: $66,160.10

Bid Item No.	Description	Proposal Quantity	Unit	Unit Quantity To Date	Contract Unit Price	Total Value To Date
2014 SANITARY SEWER MAINTENANCE PROGRAM						
2014.01	8" diameter Pipes (to be cleaned)	10,635	L.F.			$0.00
2014.02	12" diameter Pipes (to be cleaned)	1,835	L.F.			$0.00
2014.03	15" diameter Pipes (to be cleaned)	1,289	L.F.			$0.00
2014.04	Manholes (to be cleaned)	46	Ea.			$0.00
2014.05	Pipes to be televised (all sizes)	300	L.F.			$0.00
2014.06	Grout Failing Joints	30	Gals.			$0.00
2014.07	Manhole Patching	30	Lbs.			$0.00
2014.08	Root Inhibitor	10	Lbs.			$0.00
2014.09	Air Test Joints	20	Ea.			$0.00
	SUBTOTAL BID AMOUNT FOR YEAR 2014					$0.00
2015 SANITARY SEWER MAINTENANCE PROGRAM						
2015.01	8" diameter Pipes (to be cleaned)	14,789	L.F.			$0.00
2015.02	12" diameter Pipes (to be cleaned)	409	L.F.			$0.00
2015.03	15" diameter Pipes (to be cleaned)	428	Ea.			$0.00
2015.04	Manholes (to be cleaned)	70	L.F.			$0.00
2015.05	Pipes to be televised (all sizes)	300	L.F.			$0.00
2015.06	Grout Failing Joints	30	Gals.			$0.00
2015.07	Manhole Patching	30	Lbs.			$0.00
2015.08	Root Inhibitor	10	Lbs.			$0.00
2015.09	Air Test Joints	20	Ea.			$0.00
	SUBTOTAL BID AMOUNT FOR YEAR 2015					$0.00
SUBTOTAL OR TOTAL OF CONTRACT ITEMS TO DATE:						**$0.00**

C.S.Davidson, Inc.
Excellence in Civil Engineering

PAYMENT SCHEDULE OF CONTRACT ITEMS

FROM:
CONTRACTOR: Pipe Services Corporation
ADDRESS: 665 Tower Lane
West Chester, PA 19380

APPLICATION NUMBER: 1 (2012 Contract Final)
SHEET 3 of 3

PAY PERIOD ENDING: 12/31/2012

CONTRACT DESCRIPTION:
2012-2015 Sanitary Sewer Maintenance Program

TO:
OWNER: West York Borough Council
ADDRESS: 1700 West Philadelphia Street
York, PA 17404

TOTAL AMOUNT OF CONTRACT BASED ON ESTIMATED QUANTITIES: $66,160.10

Bid Item No.	Description	Proposal Quantity	Unit	Unit Quantity To Date	Contract Unit Price	Total Value To Date

RECAP:

SUBTOTAL 2012:	$9,100.90
SUBTOTAL 2013:	$21,112.40
SUBTOTAL 2014:	$0.00
SUBTOTAL 2015:	$0.00

B.J. Treglia, P.E.
8/19/2013
0287.6.04.32

2013 Sanitary Sewer Maintenance Program
Video Observation Review

Orange Street

MH 196 to MH 197 – Roots (light) in three joints. One joint has enough roots that a root cutter may be effective. The other two joints, the roots are too light to cut.

MH 195 to MH 196 – Service connection at 9 o'clock, 91.83' downstream of MH 196 has significant debris at second to last joint. Service connection at 9 o'clock, 140.87' downstream of MH 196 – soil and rocks are evident, or possibly capped.
Moderate sag begin at 133' downstream of MH 196, end at 146' downstream.

Princess Street

MH 7 to MH 8 – Service connection at 3 o'clock, 45.7' downstream of MH 8 and service connection at 3 o'clock, 84.4' downstream of MH 8 both have clear flows, likely infiltration. The first one (at 45.7') has significant flow ≈ 2 gal/min.

MH 6 to MH 7 – Service connection at 10 o'clock, 192.2' downstream of MH 7 is an intruding break in connection with approximately 1/8 gal/min infiltration runner.

MH 5 to MH 6 – Service connection at 3 o'clock, 55.1' downstream of MH 6 has approximately 1/8 gal/min infiltration. Service connection at 3 o'clock, 152.6' downstream of MH 6 has medium roots in first two joints and approximately 1/8 gal/min infiltration. Service connection at 3 o'clock, 196.8' downstream of MH 6 has approximately 1/8 gal/min infiltration. Light root intrusion in joints at 136.95', 143.28', 151.42', 155.34' and 174.33' downstream of MH 6.

Monroe Street

MH 94 to MH 95 – Multiple cracks (light) at joint at 122.8' downstream of MH 95. Service connection at 9 o'clock, 127' downstream of MH 95 has 1/2 gal/min infiltration. Service connection at 3 o'clock, 199.75' downstream of MH 95 has broken wye at lateral joint and joint is moderately offset. Moderate fracture from 9 o'clock to 12 o'clock in joint at 200.8' downstream of MH 95. Service connection at 9 o'clock, 205' downstream of MH 95 has broken wye at lateral joint, moderately offset and minor fracture in clay lateral pipe close to lateral. Moderate fracture from 2 to 7 o'clock in joint at 231.1' downstream of MH 95. Severe fracture from 2 to 6 o'clock in joint at 239.1' downstream of MH 95. Severe fracture from 6 to 10 o'clock in joint at 244.3' downstream of MH 95. Moderate longitudinal cracks from 12 to 12 o'clock in pipe from 262.6' downstream to joint at 265' downstream of MH 95.

MH 93 to MH 94 – Service connections at 9 o'clock, 140.7' downstream of MH 94 and at 3 o'clock, 142.9' downstream of MH 94 have light roots at first joint. Light roots in joints at 71.4' and 94.4' downstream of MH 94.

MH 95 to MH 108 – Moderate fractures from 12 to 12 o'clock from 91' to 96' upstream of MH 108. Service connection at 3 o'clock, 155.2' upstream of MH 108 with light roots in the first joint. Severe fractures from 157' to 163' upstream of MH 108 from 12 to 12 o'clock service connection at 159.6'.

Monroe Street – cont.

MH 114 to MH 115 – Minor longitudinal crack in joint at 110.7' downstream of MH 115. Multiple moderate circumference cracks in joint at 143.7' downstream of MH 115. Minor circumference crack in joint 6 to 9 o'clock at 209.8' downstream of MH 115. Multiple moderate circumference cracks in joint 6 to 10 o'clock at 214.9' downstream of MH 115. Service connection at 9 o'clock, 225.5' downstream of MH 115 broken wye at lateral joint.

MH 107 to MH 114 – Multiple moderate circumference cracks in joint at 9.8' downstream of MH 114, lateral connection in close proximity to cracks at 3 o'clock.

MH 117 to MH 120 – Possible infiltration of approximate ¼ gal/min at both lateral connections 107.3', 9 o'clock, and 118.7', 3 o'clock, upstream of MH 117. Intruding break-in connection 10 o'clock at 214.9' upstream of MH 117. Pile of asphalt or similar material in flow line of pipe (approximately 2" high) at 219.4' upstream of MH 117. Camera could not get through attempted from upstream MH 120 also. Pile of asphalt is 5.9' downstream of MH 120.

MH 116 to MH 117 – Minor root ball in joint at 15.1' downstream of MH 116. Moderate circumference fractures from 12 to 12 o'clock at joint at 77.3' downstream and surrounding lateral connection at 78.5' downstream of MH 116. Minor cracks at joint 3 to 9 o'clock at 91.5' downstream of MH 116. Moderate circumference factures from 2 to 6 o'clock at joint at 134.2' downstream of MH 116. Minor circumference crack from 6 to 10 o'clock in joint at 139.5' downstream of MH 116.

Seward Street

MH 109 to MH 110 – Moderate multiple fractures from 12 to 12 o'clock from 2.9' to 4.0' upstream of MH 109. Minor pipe sag from 205' to 218' upstream of MH 109.

MH 107 to MH 109 – Moderate "V" shaped fracture from 12 to 3 o'clock at joint 82.4' downstream of MH 109. Moderate fracture from 2 to 6 o'clock at joint, 113.6' downstream of MH 109. Moderate multiple fractures from 3 to 9 o'clock at joint, 130.6' downstream of MH 109. Minor multiple longitudinal fractures from 3 to 9 o'clock from 144' to 146' (at joint) downstream of MH 109.

MH 109 to MH 110 – Moderate multiple fractures from 12 to 12 o'clock from 2.9' to 4.0' upstream of MH 109. Minor pipe sag from 205' to 218' upstream of MH 109.

MH 107 to MH 109 – Moderate "V" shaped fracture from 12 to 3 o'clock at joint, 82.4' downstream of MH 109. Moderate fracture from 2 to 6 o'clock at joint, 113.6' downstream of MH 109. Moderate multiple fractures from 3 to 9 o'clock at joint, 130.6' downstream of MH 109. Minor multiple longitudinal factures from 3 to 9 o'clock from 144' to 146' (at joint) downstream of MH 109.

Clinton Street

MH 118 to MH 119 – Intruding break-in connection 11 o'clock at 61.9' downstream of MH 119 with approximately 1/8 gal/min. infiltration runner. Intruding break-in connection 3 o'clock at 67.6' downstream of MH 119.

MH 117 to MH 121 – Minor circumference crack at joint at 208.8' downstream of MH 117. Service connection at 3 o'clock, 212.7' downstream of MH 117 with moderate root ball. Minor circumference crack at joint at 217.0' downstream of MH 117, 6 to 9 o'clock. Capped lateral connection at 9 o'clock, 217.7' downstream of MH 117 with moderate root intrusion.

Clinton Street – cont.

MH 121 to MH 129 – Spot repair location at 9.8' downstream of MH 121. Top of pipe was broken and repaired w clay arch. From 165' to 181' downstream of MH 121 minor sag. Intruding break-in connection 3 o'clock at 197.1' downstream of MH 121.

PIPE SERVICES CORP
665 TOWER LANE
WEST CHESTER PA 19380
Tel: 610-692-9160, Fax: 610-692-9169

INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
05/15/2013	7265	cloudy	C.H.	21	
PRESENT:	VEHICLE:	CAMERA:	PRESET:	CLEANED:	RATE:
	T-8	PAN&TILT		Yes	410

STREET:	MONROE	MAP #1:		MH:	117
CITY:	WEST YORK	MAP #2:		MH:	120
LOCALE:	street area	TAPE #:	2	TV'D LGTH:	219.44 ft

INSPECT REASON:	gen. condition control	PIPE SIZE:	8"
SECTION TYPE:	waste	MATERIAL:	ceramics JT LGTH:
AREA:		LINING:	
		RSRVD:	

REMARK:

214.92 FT // 00:10:25

1:550 POSITION	CODE	OBSERVATION	RATE
0.00	0	inspection begins at downstream manhole	0
67.22	0	service connection, at 09 o'clock	0
107.31	0	service connection, at 09 o'clock	0
118.66	0	service connection, at 03 o'clock	0
142.58	0	service connection capped, at 09 o'clock	0
144.79	0	service connection, at 03 o'clock	0
149.91	0	service connection, at 09 o'clock	0
180.25	0	service connection, at 03 o'clock	0
191.61	0	service connection, at 09 o'clock	0
210.09	160	break-in-connection, at 03 o'clock	1
214.92	250	intruding break-in-connection, at 09 o'clock	2
219.44	0	camera blocked, inspection abandoned DEBRIS... PAPER TOWELS	0

PIPE SERVICES CORP
665 TOWER LANE
WEST CHESTER PA 19380
Tel: 610-692-9160, Fax: 610-692-9169

INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
05/16/2013	7255	cloudy	C.H.	22	
PRESENT:	VEHICLE:	CAMERA:	PRESET:	CLEANED:	RATE:
	T-8	PAN&TILT		Yes	0

STREET:	MONROE	MAP #1:		MH:	120
CITY:	WEST YORK	MAP #2:		MH:	117
LOCALE:	street area	TAPE #:	2	TV'D LGTH:	5.93 ft

INSPECT REASON:	gen. condition control	PIPE SIZE:	8"
SECTION TYPE:	waste	MATERIAL:	ceramics JT LGTH:
AREA:		LINING:	
		RSRVD:	

REMARK: TO COMPLETE RUN FROM PREVIOUS SECTION

1:25	POSITION	CODE	OBSERVATION	RATE
				5.93 FT // 00:02:35 5.93 FT // 00:02:35
120	0.00	0	inspection begins at upstream manhole	0
	5.93	0	inspection abandoned RUN COMPLETE APPEARS TO BE ASPHALT CURED TO BOTTOM OF PIPE	0

PIPE SERVICES CORP
665 TOWER LANE
WEST CHESTER PA 19380
Tel: 610-692-9160, Fax: 610-692-9169

INSPECTION REPORT

DATE: 05/16/2013	WORK #: 735	WEATHER: cloudy	OPERATOR: C.H.	SECTION NR: 23	SECTION NAME:
PRESENT:	VEHICLE: T-8	CAMERA: PAN&TILT	PRESET:	CLEANED: Yes	RATE: 730

STREET: MONROE	MAP #1:	MH:	116
CITY: WEST YORK	MAP #2:	MH:	117
LOCHE:	TAPE #: 2	TV'D LGTH:	209.39 ft

INSPECT REASON:	gen. condition control	PIPE SIZE:	8"
SECTION TYPE:	waste	MATERIAL:	ceramics JT LGTH:
AREA:		LINING:	
		RSRVD:	

REMARK:

77.27 FT // 00:05:34
134.24 FT // 00:08:21
139.46 FT // 00:09:24

1:525 POSITION	CODE	OBSERVATION	RATE
116 0.00	0	inspection begins at upstream manhole	0
1.91	0	service connection, at 09 o'clock	0
15.07	130	roots light	1
16.88	0	service connection, at 03 o'clock	0
34.56	0	service connection, at 09 o'clock	0
52.35	0	service connection, at 03 o'clock	0
76.36	0	service connection, at 09 o'clock	0
77.27	0	Multiple Cracks, from 12 to 12 o'clock	2
78.47	0	service connection, at 03 o'clock	0
118.46	0	service connection capped, at 03 o'clock	0
126.90	0	service connection, at 09 o'clock	0
134.24	300	Circumferential Crack at joint, from 02 to 06 o'clock	3
135.44	0	service connection, at 03 o'clock	0
139.46	300	Circumferential Crack at joint, from 06 to 10 o'clock	3
117 209.39	0	inspection ends at drop connection manhole	0

PIPE SERVICES CORP
665 TOWER LANE
WEST CHESTER PA 19380
Tel: 610-692-9160, Fax: 610-692-9169

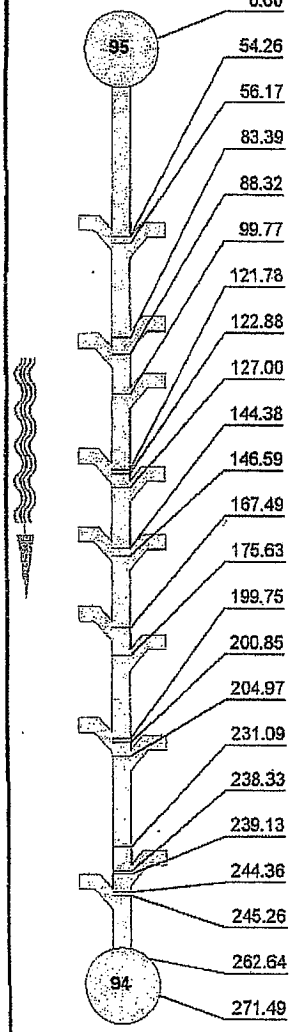
INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
05/15/2013	7265	cloudy	C.H.	6	
PRESENT:	VEHICLE:	CAMERA:	PRESET:	CLEANED:	RATE:
	T-S	PAN&TILT		Yes	720

STREET:	MONROE	MAP #1:		MH:	95
CITY:	WEST YORK	MAP #2:		MH:	94
LOCALE:	street area	TAPE #:	1	TVD LGTH:	271.49 ft

INSPECT REASON:	gen. condition control	PIPE SIZE:	8"
SECTION TYPE:	waste	MATERIAL:	ceramics JT LGTH:
AREA:		LINING:	
		RSRVD:	

REMARK:



1:675 POSITION	CODE	OBSERVATION	RATE	
				122.88 FT // 00:08:17
0.00	0	inspection begins at upstream manhole	0	122.88 FT // 00:08:17
54.26	0	service connection, at 03 o'clock	0	199.75 FT // 00:14:08
56.17	0	service connection, at 09 o'clock	0	200.85 FT // 00:14:53
83.39	0	service connection, at 09 o'clock	0	204.97 FT // 00:15:48
88.32	0	service connection, at 03 o'clock	0	
99.77	0	service connection, at 09 o'clock	0	
121.78	0	service connection, at 03 o'clock	0	
122.88	400	Multiple Cracks at joint, from 02 to 10 o'clock	3	
127.00	0	service connection, at 09 o'clock	0	
144.38	0	service connection capped, at 03 o'clock	0	
146.59	0	service connection, at 09 o'clock	0	
167.49	0	service connection, at 03 o'clock	0	
175.63	0	service connection, at 09 o'clock	0	
199.75	160	service connection defective, at 03 o'clock FRACTURED PIPE	1	
200.85	0	Circumferential Fracture, from 09 to 12 o'clock	3	
204.97	160	service connection defective, at 09 o'clock FRACTURED PIPE	1	
231.09	0	Circumferential Fracture, from 02 to 07 o'clock	3	
238.33	0	service connection, at 09 o'clock	0	
239.13	0	Circumferential Fracture, from 02 to 06 o'clock	3	
244.36	0	Circumferential Fracture, from 06 to 10 o'clock	3	
245.26	0	service connection, at 03 o'clock	0	
262.64	0	Multiple Cracks, from 12 to 12 o'clock	2	
271.49	0	inspection ends at downstream manhole	0	

PIPE SERVICES CORP
665 TOWER LANE
WEST CHESTER PA 19380
Tel: 610-692-9160, Fax: 610-692-9169

INSPECTION REPORT

DATE: 8/15/2013	WORK #: 7255	WEATHER: cloudy	OPERATOR: C.H.	SECTION NR: 7	SECTION NAME:
DIRECT:	VEHICLE: T-8	CAMERA: PAN&TILT	PRESET:	CLEANED: Yes	RATE: 420

STREET: MONROE	MAP #1:	MH:	94
CITY: WEST YORK	MAP #2:	MH:	93
LOCALE: street area	TAPE #: 1	TV'D LGTH:	257.82 ft

INSPECT REASON:	gen. condition control	PIPE SIZE:	8"
SECTION TYPE:	waste	MATERIAL:	ceramics JT LGTH:
AREA:		LINING:	
		RSRVD:	

REMARK:

1:650

POSITION	CODE	OBSERVATION	RATE
			71.44 FT // 00:04:36 94.35 FT // 00:06:49 140.67 FT // 00:09:14
94			
0.00	0	inspection begins at upstream manhole	0
7.33	0	service connection, at 09 o'clock	0
9.44	0	service connection capped, at 03 o'clock	0
27.13	0	service connection, at 03 o'clock	0
47.83	0	service connection, at 09 o'clock	0
60.69	0	service connection, at 03 o'clock	0
71.44	130	roots light	1
84.60	0	service connection, at 09 o'clock	0
92.94	0	service connection, at 09 o'clock	0
94.35	130	roots light	1
101.18	0	service connection, at 03 o'clock	0
140.67	160	service connection with roots light, at 09 o'clock	1
142.88	0	service connection, at 03 o'clock	0
176.13	0	service connection, at 09 o'clock	0
213.61	0	service connection, at 09 o'clock	0
240.64	0	service connection, at 03 o'clock	0
245.86	0	service connection, at 09 o'clock	0
93			
257.82	0	inspection ends at downstream manhole	0

PIPE SERVICES CORP
665 TOWER LANE
WEST CHESTER PA 19380
Tél: 610-692-9160, Fax: 610-692-9169

INSPECTION REPORT

DATE: 6/25/2013	WORK #: 225	WEATHER: cloudy	OPERATOR: C.H.	SECTION NR: 8	SECTION NAME:
CREW:	VEHICLE: T-3	CAMERA: PAN&TILT	PRESET:	CLEANED: Yes	RATE: 160

STREET: MARIE	MAP #1:		MH:	108
CITY: WEST YORK	MAP #2:		MH:	95
LOCALE: street area	TAPE #:	1	TV'D LGTH:	266.06 ft

INSPECT REASON:	gen. condition control	PIPE SIZE:	8"
SECTION TYPE:	waste	MATERIAL:	ceramics JT LGTH:
AREA:		LINING:	
		RSRVD:	

REMARK:

1:650	POSITION	CODE	OBSERVATION	RATE
				93.14 FT // 00:05:10 157.45 FT // 00:08:51
108	0.00	0	inspection begins at downstream manhole	0
	29.54	0	service connection, at 03 o'clock	0
	41.09	0	service connection, at 09 o'clock	0
	71.84	0	service connection, at 03 o'clock	0
	92.74	0	service connection, at 09 o'clock	0
	93.14	0	Multiple Cracks, from 12 to 12 o'clock	2
	104.49	0	service connection, at 03 o'clock	0
	121.37	0	service connection, at 03 o'clock	0
	135.94	0	service connection, at 09 o'clock	0
	155.24	160	service connection with roots light, at 03 o'clock	1
	157.45	0	Multiple Cracks, from 12 to 12 o'clock	2
	159.56	0	service connection, at 09 o'clock	0
	174.33	0	service connection, at 03 o'clock	0
	189.20	0	service connection, at 09 o'clock	0
	206.98	0	service connection, at 03 o'clock	0
	227.88	0	service connection, at 09 o'clock	0
	239.53	0	service connection, at 03 o'clock	0
95	266.06	0	inspection ends at upstream manhole	0

PIPE SERVICES CORP
665 TOWER LANE
WEST CHESTER PA 19380
Tel: 610-692-9160, Fax: 610-692-9169

INSPECTION REPORT

DATE: 6/7/2013	WORK #: 7265	WEATHER: cloudy	OPERATOR: C.H.	SECTION NR: 9	SECTION NAME:
PRESENT:	VEHICLE: T-8	CAMERA: PAN&TILT	PRESET:	CLEANED: Yes	RATE: 160

STREET: MONROE	MAP #1:		MH:	108
CITY: WEST YORK	MAP #2:		MH:	107
LOCALE: street area	TAPE #:	1	TV'D LGTH:	292.99 ft

INSPECT REASON:	gen. condition control	PIPE SIZE:	8"
SECTION TYPE:	waste	MATERIAL:	ceramics JT LGTH:
AREA:		LINING:	
		RSRVD:	

REMARK:

1:725	POSITION	CODE	OBSERVATION	RATE
108	0.00	0	inspection begins at upstream manhole	0
	9.85	0	service connection, at 09 o'clock	0
	40.49	0	service connection, at 03 o'clock	0
	55.16	0	service connection, at 09 o'clock	0
	66.82	0	service connection, at 03 o'clock	0
	100.17	0	service connection, at 09 o'clock	0
	105.70	0	service connection, at 03 o'clock	0
	142.58	0	service connection, at 09 o'clock	0
	154.03	0	service connection, at 03 o'clock	0
	184.77	0	service connection, at 09 o'clock	0
	186.88	0	service connection, at 03 o'clock	0
	209.39	160	break-in-connection, at 03 o'clock	1
	227.18	0	service connection, at 09 o'clock	0
	260.63	0	service connection, at 03 o'clock	0
	263.15	0	service connection, at 09 o'clock	0
107	292.99	0	inspection ends at drop connection manhole	0

PIPE SERVICES CORP
665 TOWER LANE
WEST CHESTER PA 19380
Tel: 610-692-9160, Fax: 610-692-9169

INSPECTION REPORT

DATE: 6/18/2013	WORK#: 7265	WEATHER: cloudy	OPERATOR: C.H.	SECTION NR: 14	SECTION NAME:
TREPAN:	VEHICLE: T-2	CAMERA: PAN&TILT	PRESET:	CLEANED: Yes	RATE: 0

STREET: MAPLE	MAP #1:	MH:	116
CITY: WEST YORK	MAP #2:	MH:	115
ZONE: Street Line	TAPE #: 1	TV'D LGTH:	364.33 ft

INSPECT REASON:	gen. condition control	PIPE SIZE:	8"
SECTION TYPE:	waste	MATERIAL:	ceramics JT LGTH:
AREA:		LINING:	
		RSRVD:	

REMARK:

1:900	POSITION	CODE	OBSERVATION	RATE
116	0.00	0	inspection begins at upstream manhole	0
	25.22	0	service connection capped, at 03 o'clock	0
	42.90	0	service connection, at 03 o'clock	0
	45.21	0	service connection, at 09 o'clock	0
	72.34	0	service connection, at 09 o'clock	0
	87.11	0	service connection, at 03 o'clock	0
	108.71	0	service connection, at 03 o'clock	0
	113.84	0	service connection, at 09 o'clock	0
	153.63	0	service connection, at 09 o'clock	0
	155.74	0	service connection, at 03 o'clock	0
	192.51	0	service connection, at 03 o'clock	0
	194.72	0	service connection, at 09 o'clock	0
	231.40	0	service connection, at 03 o'clock	0
	236.72	0	service connection, at 09 o'clock	0
	251.19	0	service connection, at 03 o'clock	0
	256.51	0	service connection, at 09 o'clock	0
	289.87	0	service connection, at 03 o'clock	0
	298.31	0	service connection, at 09 o'clock	0
	326.75	0	service connection, at 03 o'clock	0
	328.96	0	service connection, at 09 o'clock	0
115	364.33	0	inspection ends at downstream manhole	0

PIPE SERVICES CORP
665 TOWER LANE
WEST CHESTER PA 19380
Tel: 610-692-9160, Fax: 610-692-9169

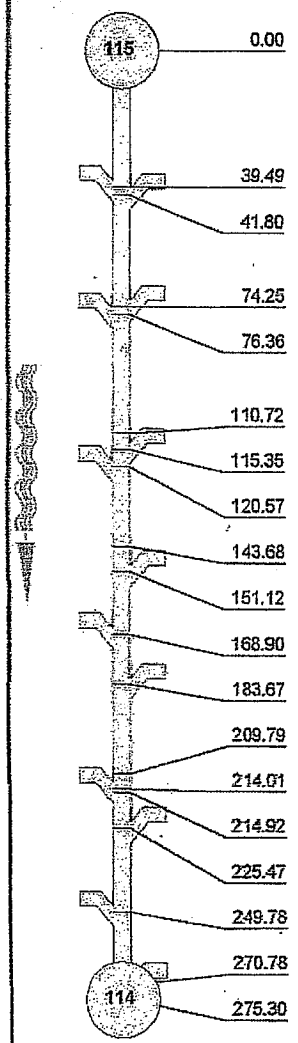
INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
05/16/2013	7265	cloudy	C.H.	15	
PRESENT:	VEHICLE: T-3	CAMERA: PAN&TILT	PRESET:	CLEANED: Yes	RATE: 300

STREET:	MONROE	MP #1:		MH:	115
CITY:	WEST YORK	MP #2:		MH:	114
LOCALE:	street area	TAPE #:	1	TVD LGTH:	275.3 ft

INSPECT REASON:	geo. condition control	PIPE SIZE:	8"
SECTION TYPE:	waste	MATERIAL:	ceramics JT LGTH:
AREA:		LINING:	
		RSRVD:	

REMARK:



TSTS	POSITION	CODE	OBSERVATION	RATE	
					143.68 FT // 00:09:03 143.68 FT // 00:09:03 209.79 FT // 00:13:01 214.92 FT // 00:14:13 214.92 FT // 00:14:13
115	0.00	0	inspection begins at upstream manhole	0	
	39.49	0	service connection, at 03 o'clock	0	
	41.80	0	service connection, at 09 o'clock	0	
	74.25	0	service connection, at 09 o'clock	0	
	76.36	0	service connection, at 03 o'clock	0	
	110.72	0	Longitudinal Crack, at 09 o'clock	2	
	115.35	0	service connection, at 09 o'clock	0	
	120.57	0	service connection, at 03 o'clock	0	
	143.68	0	Circumferential Crack, from 03 to 09 o'clock	2	
	151.12	0	service connection, at 09 o'clock	0	
	168.90	0	service connection, at 03 o'clock	0	
	183.67	0	service connection, at 09 o'clock	0	
	209.79	300	Circumferential Crack at joint, from 06 to 09 o'clock	3	
	214.01	0	service connection, at 03 o'clock	0	
	214.92	0	Circumferential Fracture, from 06 to 10 o'clock	3	
	225.47	0	service connection, at 09 o'clock W/ BROKEN PIPE	0	
	249.78	0	service connection, at 03 o'clock	0	
	270.78	0	service connection, at 09 o'clock	0	
114	275.30	0	inspection ends at downstream manhole	0	

PIPE SERVICES CORP
665 TOWER LANE
WEST CHESTER PA 19380
Tel: 610-692-9160, Fax: 610-692-9169

INSPECTION REPORT

DATE: 6/16/2013	WORK #: 7265	WEATHER: cloudy	OPERATOR: C.H.	SECTION NR: 16	SECTION NAME:
PRESENT:	VEHICLE: T-8	CAMERA: PAN&TILT	PRESET:	CLEANED: Yes	RATE: 0

STREET:	MONROE	MAP #1:		MH:	114
CITY:	WEST YORK	MAP #2:		MH:	107
USE:	street area	TAPE #:	1	TV'D LGTH:	247.97 ft

INSPECT REASON:	gen. condition control	PIPE SIZE:	8"
SECTION TYPE:	waste	MATERIAL:	ceramics JT LGTH:
AREA:		LINING:	
		RSRVD:	

REMARK:

1:625	POSITION	CODE	OBSERVATION	RATE
114	0.00	0	inspection begins at upstream manhole	0
	10.75	0	service connection, at 03 o´clock	0
	44.81	0	service connection, at 09 o´clock	0
	55.86	0	service connection, at 03 o´clock	0
	95.65	0	service connection, at 09 o´clock	0
	100.98	0	service connection, at 03 o´clock	0
	150.01	0	service connection, at 03 o´clock	0
	158.25	0	service connection, at 09 o´clock	0
	185.78	0	service connection capped, at 09 o´clock	0
	200.25	0	service connection, at 03 o´clock	0
	221.25	0	service connection capped, at 09 o´clock	0
	226.57	0	service connection, at 03 o´clock	0
107	247.97	0	inspection ends at drop connection manhole	0

C.S. DAVIDSON, INC.

January 15, 2014
EXHIBIT NO. WYB-3

WEST YORK BOROUGH
PROJECTED CONNECTIONS TO CITY OF YORK
WASTEWATER TREATMENT PLANT

	Name & Description	Proposed Total Gallons	Map/ Parcel	All Projected Connections in Gallons per Day (GPD) 2014	2015	2016	2017	2018	14 - '18 Subtotal	2017 2023	2024 2028	2029 2033	2034 Ultimate	Total Gallons	Flow Meter	York City MH No.
1	Ingerman Group 1320 West Market Street 80 Apts, Restaurant, Retail & Office Space	8,147	9/001	8,147	0	0	0	0	8,147	0	0	0	0	8,147	WY01	81
2	Kinsley Equities West King Street Industrial Site (10 EDUs @ 350 GPD)	3,500	7/028	3,500	0	0	0	0	3,500	0	0	0	0	3,500	WY01	81
3	Crystal Ball Brewery & Restaurant 1608 West King Street (10 EDUs @ 350 GPD)	3,500	7/0007	3,500	0	0	0	0	3,500	0	0	0	0	3,500	WY01	81
4	Unconnected Existing Properties (10 homes @ 350 GPD)	3,500	varies	700	700	700	700	700	3,500	0	0	0	0	3,500	WY01	81
5	Apartment Conversions (2 Units/Year @ 350 GPD)	17,500	varies	700	700	700	700	700	3,500	3,500	3,500	3,500	3,500	17,500	WY01	81
6	Miscellaneous New Development (2 EDUs/year @ 350 GPD)	19,600	varies	700	700	700	700	700	3,500	3,500	3,500	3,500	5,600	19,600	WY01	81
	TOTALS:	55,747		17,247	2,100	2,100	2,100	2,100	25,647	7,000	7,000	7,000	9,100	55,747		

C.S. DAVIDSON, INC.

EXHIBIT NO. WYB-4
January 15, 2014

TABULATION OF AVAILABLE
SEWER RESERVE CAPACITY

COLLECTION AND TRANSPORTATION SYSTEM
From: West York Borough

WASTEWATER TREATMENT FACILITY
To: City of York

	2013	2014	2015	2016	2017	2018	Future Years
Existing Flow From Current Users	665,922	665,922	683,169	685,269	687,369	689,469	691,569
Projected Flows From Current Users	0	0	0	0	0	0	0
Projected Flow Increase From New Customers	0	17,247	2,100	2,100	2,100	2,100	30,100
Total Estimated Wastewater Flows	665,922	683,169	685,269	687,369	689,469	691,569	721,669
Percent Usage	55.47%	56.91%	57.08%	57.26%	57.43%	57.61%	60.11%
Total Permitted Capacity/Agreement	1,200,500	1,200,500	1,200,500	1,200,500	1,200,500	1,200,500	1,200,500
Total Amount of Available Capacity	534,578	517,331	515,231	513,131	511,031	508,931	478,831

NOTES AND ASSUMPTIONS:

(1) Percentage of City Flow Meter WY-01 based on EDUs.

(2) Assumes 75% of 2013 connections (0 EDUs @ 350 gpd) not reflected in (1) above.

(3) See attached list of projected connections (Exhibit No. WYB-3).

Appendix G
City of York Chapter 94 Municipal Wasteload Management

CITY OF YORK - CHAPTER 94
WASTELOAD MANAGEMENT REPORT - 2013

CITY OF YORK

A. System Monitoring, Maintenance and Repairs

The Sanitary Sewer Maintenance Department is responsible for routine cleaning and maintenance as well as on-going evaluation and corrective measures. Descriptions of the Department's personnel, equipment and routine or special projects are included in the Sanitary Sewer Maintenance Annual Report for 2013, which is attached. The department is headed by the Sewer Maintenance Supervisor, and has six fill-time employees. Sewer maintenance activities are attached. The department performs preventative maintenance activities by drainage basin. Sanitary sewer sub-basins that have suspected or historical problems are targeted, cleaned and televised. In 2013 the Department cleaned 353,329 linear feet of sewer line, which represents 68% of the sewer system

The City of York and the York City Sewer Authority developed a conveyance and collection system computer model, which is spatially referenced to the City of York's geographic information system (GIS). A total of fifteen flow meters monitor the sanitary sewer system. Four long-term flow meters are located on the Willis Run interceptor, the Codorus Creek trunkline, the Poor House Run interceptor, and the Arch Street interceptor. Twelve meters monitor intermunicipal flows. Two permanent rain gages are located in the system, one in the northwest and another in the southeast section of the City of York, to help identify inflow and infiltration.

Flow meters are frequently checked to ensure data are obtained and recorded properly. Flow meter data, from meters located where outlying municipal flows enter the York City system, are relayed to the sewer maintenance building where the data are utilized to bill the municipalities for conveyance and treatment. The flow meters are maintained by CSL, Inc. under contract.

B. Collection System Condition

1. System Description: Currently, the City of York sanitary sewer system is comprised of 98.5 miles (520,238 linear feet) of sewer line with pipe diameters ranging from 8 inches to 72 inches. Older portions of the sewer system, dating to the early 1900's are comprised of vitrified clay pipe. Other sewer system materials are ductile iron pipe, reinforced concrete pipe, PVC pipe and brick (some larger diameter pipe). Manholes are either brick or pre-cast concrete with cast iron or ductile iron frames and covers. The larger diameter interceptors are: Codorus Creek, Poor House Run, Upper Codorus Creek, Willis Run, Pennsylvania Avenue, Tyler Run and Arch Street. Interceptors are mostly constructed of reinforced concrete pipe with some segments constructed with vitrified clay pipe, cast iron or ductile iron. The sanitary system is almost entirely a gravity system with one small pumping station serving nine structures on eight parcels in the York City Business and Industrial Park. Generally, the condition of the system is good.

2. Conveyance Capacity: Capacity within the system is adequate at this time.

The 1999 York City Act 537 Plan called for the installation of surcharge indicators in the Tyler Run and Codorus Trunkline interceptors due to projected capacity restrictions. Monitoring of the flow meters and eight surcharge indicators continued in 2013. Surcharge indicators registered the

storm event of October 10-12, 2013 when a total of 9.15 inches of precipitation occurred. All wastewater was contained in the sewer collection and conveyance system (no overflows) with the exception of some sewage back-ups into basements reported in some areas of the city.

3. Major Rehabilitation: There were no major replacement or rehabilitation projects in 2013.

C. Pumping Station Condition

1. York City Business and Industrial Park: The City of York has one sanitary sewer pump station that serves the northeast portion of the York City Business and Industrial Park (permit number 6778417). The pump station was installed in 1979, commenced operation in 1980, and is maintained by the City of York Sanitary Sewer Maintenance Department. The pump station is a Smith & Loveless wet well/dry well duplex pump configuration with two 310-gpm Smith & Loveless pumps. The pumps discharge to a 6-inch diameter, 1,653 linear feet force main. There is no structure or means to divert flow from the pump station to the surrounding environment. The pump station is currently programmed to run a generator/switch gear exercise once per week. The dry well pump is visited approximately once per month and checked for abnormal conditions. The propane fuel source for the emergency generator was filled in 2009: this quantity will last many years under the normal weekly generator exercise schedule.

An alarm auto-dialer was installed in 1997. The pump station is equipped with a Sensaphone 2000 alarm system that has five alarm criteria: low water alarm, high water alarm, power failure, emergency generator operating, and pump failure. Pump station data can be remotely read. All five criteria are monitored by an autodialer system that notifies sewer maintenance personnel when in alarm status. The Sensaphone 2000 system is currently set to monitor and record the status of each of the five alarm criteria every 20 minutes.

Capacity problems are not anticipated in this service area as all the parcels served by the pump station are developed and occupied. The pump station operates within design parameters and does not need to be upgraded to accommodate future flows. The pump station serves nine structures on eight parcels. Three of the nine structures have multiple, smaller incubator/start-up spaces of mixed or variable use. The occupants of the facilities have varied in business application, water use, and wastewater discharge over the years. The City of York, mainly the Sewer Maintenance Supervisor and the Municipal Industrial Pretreatment Program staff, is familiar with the tenants, their business type, and any changes that would affect water usage and, therefore, flows to the pump station. According to the last five years of data reported in past Chapter 94 documents, the average run times for the two pumps is a combined 120.6 hours per year, which represents an average run time of twelve (12) minutes per day per pump based on a six-day production week.

In 2013, the pumping station engaged a total of 121.5 hours and pumped 2,259,900 gallons of sewage, an average of 7,243 gpd. The 2013 pump station meter readings are summarized as follows:

Pennsylvania Avenue Pump Station

Pump	2013 Meter Elapse Time	Gallons Pumped*
Pump 1	60.7 hours	1,129,020
Pump 2	60.8 hours	1,130,880
Total	**121.5 hours**	**2,259,900**

*-calculated volume based on pump design of 310 gpm.

D. Sewer Extensions

1. Extensions: There were no sewer extensions in 2013.

2. Proposed Projects: Generally, undeveloped areas within the City of York can be served by the existing system and require only tap-ins.

E. Waste Flow Data

1. Current Flows and Projected Increases: The estimated flow for the City of York was determined by subtracting combined estimated flows for the outlying municipalities from the total influent flow at the City of York Wastewater Treatment Plant. The estimated 2013 flow was 2,855,683 gpd. Anticipated flow increases for the next five years are located in Exhibit YC-1.

2. Connections: The number of sewer connections in the City of York for each of the past five years is as follows:

2009	2010	2011	2012	2013
na	4	na	na	5

na-data not available.

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2013 Sanitary Sewer Maintenance Annual Report
City of York, PA

Major Accomplishments for 2013

The division recorded 161 sewer-related actions or complaints. Sluggish or blocked mains generated 11 complaints. There were 89 complaints related to actual lateral blockages. Twelve (12) of these were when a plumber was unable to restore service or reported a defect. The department restored service by using sewer-cleaning rods or a Harben. Plumbers addressed the other 77 lateral complaints. Sixteen (16) laterals were inspected with the CCTV equipment. The other complaints resulted in a general investigation or were unrelated to lateral or main malfunctions. A total of 148 trouble reports occurred while on-duty and 13 were call-outs. The call-outs are as follows: 2 due to main blockages and 11 due to reports of lateral blockages.

The division repaired five laterals during 2013. (2012: 3 repairs; 2011, 2 repairs; 2010: 5 repairs, 2009: 9 repairs, 2008: 4 repairs, 2007: 6 repairs, 2006: 4 repairs, 2005: 3 repairs, 2004: 6 repairs).

The division did not conduct any main repairs during 2013.

The department cleaned 353,329 lineal feet of sanitary sewer during 2013 (2012, 445,934; 2011, 257,091; 2010: 182,500; 2009: 245,200; 2008: 163,058; 2007: 135,567). This increase resulted from having a full staff, less manhole replacement work, and suitable weather for cleaning during January, February, and March. These months are typically too cold to permit all but emergency jetting/cleaning.

No major replacements or rehabilitation took place in 2013. Main sewer pipe replacement/rehabilitation: 2013: 0 lf; 2012: 0 lf; 2011: 3001 lf; 2010: 2707 lf; 2009: 1322 lf; 2008: 817 lf.

The crew televised 0’ lineal feet of sanitary sewer mains in 2013 (2012, 0’; 2011, 1500’; 2010: 6,490’; 2009: 1,278’: 2008: 7817’; 2007: 5,024’).

In 2013, 3,570 manholes were inspected during cleaning and maintenance activities.

A total of 14 sanitary sewer manhole frames and covers were replaced and adjusted to grade. The department assisted Highway in locating 2 and replacing 5 storm sewer manholes. No manhole cushions were installed (2012: 1 SS, 30 SWS (replaced 3); 2011: 17 SS 19 SS due to sewer construction, 3 SWS manholes; 2010: 63 SS manholes, 10 SWS manholes, 2009: 35 SS manholes, 10 SWS manholes).

The chemical root control program for laterals continued in 2013. Root control was applied to 13 service laterals where homeowners indicated or the division found root problems (2012: 22; 2011: 21 laterals; 2010: 50 laterals; 2009: 29 laterals). Root control was applied to 0’ of sewer mains in problem areas (2012: 2643’; 2011: 391’).

The department advertised and awarded a 5-year contract to CSL. This firm collected data and prepared reports from 15 intermunicipal flow meters and two rain gauges. The information was used for sewer billing and collection system capacity evaluation. The current contract was at a

lower cost than the previous and includes web data access.

The division responded to 1,524 requests for PA-One Call utility markings. This is a slight increase from previous year (2012: 1884; 2011: 1888; 2010: 1709: 2009: 1826: 2008: 2115; 2007: 2113; 2006: 2,066; 2005: 1,727).

Five (5) flood pump stations were inspected and maintained. All five stations were operational and ready for a flood emergency.

A significant rain event occurred in early October and was nearly the magnitude of the Tropical Storm Lee event of 2011. This storm event reminds us that these events can occur with varying magnitude and frequency.

The department continues to use a database management system for tracking activities within the department.

The Sewer Emergency Response Team continued to operate for serious sewer related backups.

The department continued to update the comprehensive sewer maps and lateral detail sheets.

The Superintendent continued to work on the mapping and attribute components of the GIS system for the sanitary sewers and the storm sewer system. Inventorying and inclusion of the storm water outfalls to the Codorus Creek and tributaries continued as part of the City's ongoing MS4 program.

The department assisted the Highway, Parks, and WWTP as needed. The Highway Bureau assisted Sewer Maintenance on several patching and manhole projects.

The department became fully staffed in 2013.

2013 Manholes Adjusted
City of York, PA

MANHOLES RAISED 2013

Date	Location	MH ID	Replaced	Adjusted
5/15/13	Belvidere @ Pennsylvania	F18-10	uncovered	paved over
8/14/13	E King btw Sherman and Tremont	L7-1	raised replaced	paving
8/14/13	E King btw Sherman and Tremont	L7-2	raised replaced	paving
8/14/13	E King btw Sherman and Tremont	L7-3	raised replaced	paving
9/4/13	Pennsylvania btw Wood and Rooseve	B29A	raised replaced	paving
9/4/13	Pennsylvania btw Wood and Rooseve	B29B	raised replaced	paving
9/4/13	Pennsylvania btw Wood and Rooseve	B29C	raised replaced	paving
9/4/13	Pennsylvania btw Wood and Rooseve	B29D	raised replaced	paving
9/4/13	Pennsylvania btw Wood and Rooseve	B35-5F	raised replaced	paving
9/4/13	Belvidiere at Lincoln	F15-7-1	raised replaced	paving
9/5/13	West at Fern	F21-A	raised replaced	was paved over
9/10/13	Belvidiere near Market	F15-7-4D	raised replaced	post-paving
9/10/13	Belvidiere at Clarke	F15-7-4C	raised replaced	post-paving
9/10/13	Belvidiere at Gas	F15-7-3	raised replaced	post-paving
10/24/13	E Market - East of RR tracks	C17-1	raised replaced	paved over

STORM MANHOLES 2013

Date	Location	Type	Activity	Notes
1/30/13	intersection of Boundary and Edgar	storm	uncovered	
1/30/13	intersection Linden and Belvidere	storm	uncovered	
5/8/13	E Jackson @ Moore (near Arlington)	storm	uncovered	
8/14/13	E King btw Sherman and Tremont	storm	raised replaced	paving
8/14/13	E King btw Sherman and Tremont	storm	raised replaced	paving
9/4/13	Belvidiere at Manchester	storm	raised replaced	paving
9/5/13	Lehman @ Wellington	storm	raised replaced	Highway completed
9/10/13	Belvidiere at Lincoln	storm	raised replaced	Highway completed

Point Repair and Replacement
City of York, PA

POINT REPAIR LISTING 2013

LATERALS

Date	Location		Action
1/16/2013	NW	BOUNDARY AV & EDGAR ST	EXCAVATE AND REPAIR FAILED TCP LATERAL PASSING THROUGH STORM SEWER PIPE. REPAIRED WITH CI PIPE
2/28/2013	145 S	BEAVER ST	EXCAVATE AND REPAIR FAILED TCP LATERAL. REPLACED WITH 7' OF SDR35.
3/20/2013	57 N	PERSHING AV	EXCAVATE AND REPAIR FAILED TCP LATERAL. REPLACED WITH 9' OF SDR35. FROM CI SERVICE TO MAIN.
4/25/2013	500 S	GEORGE ST	EXCAVATE AND REPAIR FAILED TCP LATERAL. REPLACED WITH 4' OF SDR35.
7/17/2013	634	CLEVELAND AV	EXCAVATE AND REPAIR FAILED TCP LATERAL. REPLACED WITH 4' OF SDR35.

SEWER MAIN INSTALLATION/REPLACEMENT

Date	Location		Action
3/1/2013	200 BLK	E YORK ST	Replacement of 133' of 8"TCP with 8"PVC, 1 manhole and 1 service connection. Fitz and Smith contractor.

Date	MHFROM	MHTO	Footage
1/7/2013	D25-26	D25-25	288.1
1/7/2013	D25-25	D25-2	393.3
1/7/2013	D25-2	D25-1	276.4
1/7/2013	D25-1	D25	283.0
1/7/2013	D25-33	D25-32	287.6
1/7/2013	D25-32	D25-31	329.7
1/7/2013	D25-31A	D25-31	276.0
1/7/2013	D25-31A	D25-30	306.8
1/7/2013	D25-30	D25-29C	270.0
1/7/2013	D25-29C	D25-29	20.0
1/7/2013	D25-29	D25-28	287.0
1/7/2013	D25-28A	D25-28	244.7
1/7/2013	D25-28	D25-27	269.1
1/8/2013	D25-15E	D25-15D	278.6
1/8/2013	D25-15E	D25-15B	305.0
1/8/2013	D25-15B	D25-15A	273.6
1/8/2013	D25-15A	D25-15	264.0
1/9/2013	76-3F	76-3G	261.0
1/1/2013	K2-9-4B	K2-9-4A	181.4
1/1/2013	K2-9-4A	K2-9-4	216.2
1/1/2013	K2-9-3B	K2-9-3A	188.0
1/1/2013	K2-9-3A	K2-9-3	201.9
1/1/2013	K2-5-8D	K2-5-8C	38.7
1/1/2013	K2-5-8C	K2-5-8A	114.3
1/1/2013	K2-5-8A	K2-5-8	233.2
1/1/2013	K2-5-7A	K2-5-7	216.7
1/21/2013	D25-11	D25-10	291.0
1/31/2013	K2-5-5	K2-5-4H	156.5
3/13/2013	D25-21	D25-20	284.6
3/13/2013	D25-20	D25-19	289.6
3/13/2013	D25-19	D25-18	264.4
3/13/2013	D25-18	D25-17	282.7
3/13/2013	D25-21H	D25-21D	259.3
3/13/2013	K2-5-11	K2-5-10	256.5
3/13/2013	K2-5-10	K2-5-9	258.0
3/13/2013	K2-5-9	K2-5-8	298.3
3/13/2013	D25-15E	D25-15D	278.6
3/13/2013	D25-15D	D25-15B	305.0
3/13/2013	D25-15B	D25-15A	273.6
3/13/2013	D25-15A	D25-15	264.0
3/13/2013	D25-11	D25-10	291.0
3/13/2013	D25-10	D25-9	291.1
3/13/2013	D25-9	D25-8	279.4
3/13/2013	D25-8	D25-7	266.3
3/14/2013	D25-17	D25-16	260.8
3/14/2013	D25-16	D25-15-1	264.6
3/14/2013	D25-15-1	D25-15	32.9
3/14/2013	D25-15	D25-14	257.9
3/14/2013	D25-14	D25-7	282.4
3/14/2013	K2-9-11	K2-9-10	166.5
3/14/2013	K2-9-10	K2-9-9	165.5
3/14/2013	K2-9-9	K2-9-8	173.7
3/14/2013	K2-9-8	K2-9-7	85.4
3/14/2013	K2-9-7	K2-9-6	36.7
3/14/2013	K2-9-6	K2-9-5	365.6
3/14/2013	K2-9-5	K2-9-4-1	250.6
3/14/2013	K12-14G	K12-14F	212.5
3/14/2013	K12-14F	K12-14E	254.9
3/14/2013	K12-14E	K12-14D	336.7
3/15/2013	K12-14D	K12-14C	273.4
3/15/2013	K12-14C	K12-14B	269.5
3/14/2013	D25-23	D25-22	314.3
3/19/2013	D21-2A	D21-2	401.6
3/21/2013	59-4	59-3	313.8
3/26/2013	61-8	61-7-1	126.6
3/26/2013	61-7-1	61-7	105.3
3/26/2013	61-7	61-6	14.9
3/26/2013	61-6	61-5	164.1
3/26/2013	61-5	61-4	148.0
3/26/2013	61-7B	61-7A	270.1
3/26/2013	61-7A	61-7	175.2
3/27/2013	F15-5D	F15-5C	215.1
3/27/2013	F15-5C	F15-5A	246.2
3/27/2013	F15-5B	F15-5A	240.0
3/27/2013	F15-5A	F15-5	342.3
3/27/2013	K12-19	K12-18	93.9
3/27/2013	K12-18	K12-17	383.0
3/27/2013	K12-17	K12-16	353.0
3/27/2013	K12-16	K12-15	274.4
3/27/2013	K12-15	K12-14	263.0
3/27/2013	D25-33	D25-32	287.6
3/27/2013	D25-32	D25-31	329.7
3/27/2013	D25-31	D25-30	306.8
3/27/2013	D25-30	D25-29C	270.0
3/27/2013	B10-31	B10-30	30.9
3/27/2013	H17-1V	H17-1	103.7
3/27/2013	61-4	61-3	271.4
3/27/2013	61-3	61-2	249.4
3/27/2013	H17-2A	17-2	75.5
3/27/2013	H17-2	H17-1	25.6
3/27/2013	D25	D24	269.1
3/27/2013	D24	D23	260.6
3/27/2013	D23	D22	27.9
3/27/2013	D22	D21	259.6
3/27/2013	D21-1	D20	160.0
3/27/2013	D20	D19	99.9
3/27/2013	D21	D21-1	?
3/28/2013	B36-B	B36-A	60.8
3/28/2013	B36A	B36	171.3
3/28/2013	B35B	B35A	67.3
3/28/2013	B35A	B35	179.0
3/28/2013	H13-18H	H13-18G	69.3
3/28/2013	H13-18G	H13-18F	249.7
3/28/2013	H13-18F	H13-18	250.0
3/28/2013	H13-18	H13-17	249.5
3/28/2013	B38-2	B38-1	77.3
3/28/2013	B38-1	B38	185.4
3/28/2013	C8-D5-1	C8-5D	237.4
3/28/2013	H13-18C-1	H13-18C	165.3
3/28/2013	H13-18D	H13-18C	54.5

Date	MHFROM	MHTO	Footage
3/28/2013	H13-18A	H13-18	251.2
4/1/2013	C27-10A	C27-10-O	192.4
4/1/2013	C27-10-O	C27-10	213.4
4/1/2013	C27-7B	C27-7A	189.2
4/1/2013	C27-7A	C27-7	221.1
4/1/2013	C27-4A	C27-4	389.3
4/1/2013	D19	D18	275.2
4/1/2013	D18	D17	281.8
4/1/2013	D17	D16	249.3
4/1/2013	D16	D15	289.3
4/2/2013	61-8B	61-8A	298.5
4/2/2013	61-8A	61-8	301.1
4/2/2013	61-9	61-8	288.2
4/2/2013	61-8D	61-8C	202.1
4/2/2013	61-8C	61-8	200.8
4/2/2013	45-7H	45-7G	234.8
4/2/2013	D31	D30	277.2
4/2/2013	D30A	D30	279.8
4/2/2013	D30	D29	270.2
4/2/2013	D29	D28	192.5
4/2/2013	D28	D27	105.8
4/2/2013	D27I	D27G	260.9
4/2/2013	D27G	D27A	243.9
4/2/2013	D27A	D27	36.6
4/2/2013	H28G	H28F	275.7
4/2/2013	H28F	H28E	60.1
4/2/2013	H28E	H28D	207.2
4/2/2013	H28D	H28C	216.5
4/2/2013	H28C	H28B	299.0
4/3/2013	H27C	C27B	273.7
4/3/2013	H28B	H28A	109.6
4/4/2013	H13-18	H13-17	249.5
4/4/2013	H13-17	H13-16	90.6
4/4/2013	H13-16	H13-14	249.6
4/4/2013	H13-14	H13-13	235.5
4/4/2013	H13-13	H13-12	274.8
4/4/2013	H13-12	H13-4	275.2
4/4/2013	H13-4	H13-3	210.2
4/4/2013	H13-3A	H13-3	262.6
4/4/2013	H13-3	H13-2	185.8
4/4/2013	H13-2	H13-1	209.3
4/4/2013	H13-1	H13	190.7
4/4/2013	H27B	H27A	188.5
4/4/2013	H27A	H27	200.4
4/4/2013	H26	H25	141.2
4/3/2013	B33A-1	B33A	210.9
4/3/2013	H13-17C	H13-17B	125.2
4/3/2013	H13-17D	H13-17B	159.6
4/3/2013	H13-17B	H13-17A	260.8
4/3/2013	H13-17A	H13-17	159.2
4/3/2013	H13-5E	H13-5D	162.8
4/3/2013	H13-5D	H13-5C	208.5
4/3/2013	H13-5C	H13-5B	250.2
4/3/2013	H13-5B	H13-5A	163.5
4/3/2013	H13-5A	H13-5	290.9
4/3/2013	H13-11	H13-10	249.3
4/3/2013	H13-10	H13-9	208.7
4/3/2013	H13-3-9A	H13-9	146.5
4/3/2013	H13-9	H13-8	175.9
4/3/2013	H13-8	H13-7	159.8
4/3/2013	H13-7	H13-6A	162.5
4/3/2013	H13-6C	H13-6B	165.3
4/3/2013	H13-6B	H13-6A	165.5
4/3/2013	D8-2	D8-1	153.0
4/5/2013	H13-6A	H13-5	206.0
4/5/2013	H13-5	H13-4	223.4
4/5/2013	46-1	46-6	372.0
4/8/2013	C27-34C	C27-34	185.7
4/8/2013	H13	H12	194.8
4/8/2013	H12	H11	73.5
4/8/2013	H11	H10	248.6
4/8/2013	H10	H9	265.8
4/8/2013	H9B	H9A	203.6
4/8/2013	H9A	H9	202.1
4/8/2013	H9	H8	243.4
4/8/2013	H8C	H8	387.0
4/8/2013	H8B	H8A	118.8
4/8/2013	H8A	H8	191.9
4/8/2013	H7A-1	H7A	75.5
4/8/2013	H7B	H7A	230.4
4/8/2013	H13-4A	H13-4	245.0
4/8/2013	H13-A	H13-3	262.0
4/8/2013	H13-2B	H13-2A	240.6
4/8/2013	H13-2A	H13-2	209.5
4/8/2013	H13-1N	H13-1M	187.0
4/8/2013	H13-1M	H13-1L	204.7
4/8/2013	H13-1O	H13-1L	278.7
4/8/2013	H13-3A	H13-1L	188.6
4/8/2013	H13-1I	H13-1G	275.0
4/8/2013	H13-1H	H13-1G	92.0
4/8/2013	H13-1G	H13-1F	185.0
4/8/2013	H13-1F	H13-1D	121.0
4/8/2013	H13-1E	H13-1D	172.3
4/8/2013	H13-1D	H13-1C	235.1
4/8/2013	H13-1C	H13-1B	177.2
4/9/2013	H8	H7	250.0
4/9/2013	H7A	H7	250.5
4/9/2013	H7D	H7C	262.5
4/9/2013	H7C	H7	16.2
4/9/2013	H7	H6	118.8
4/9/2013	H6	H5	161.6
4/9/2013	H5B	H5A	129.7
4/9/2013	H5A	H5	23.3
4/9/2013	H25	H24	206.7
4/9/2013	H24	H23	222.6
4/9/2013	H23	H22	220.6
4/9/2013	H22	H21	209.3
4/9/2013	H21	H20	209.2
4/9/2013	H13-1L	H13-1K	143.2
4/9/2013	H13-1K	H13-1J	26.6

Date	MHFROM	MHTO	Footage
4/9/2013	H13-1J	H13-1B	130.6
4/9/2013	H13-1B	H13-1A	136.3
4/9/2013	H13-1A	H13-1	281.2
4/10/2013	B10-27	B10-26	239.2
4/10/2013	B10-26	B10-25	168.8
4/10/2013	B10-25	B10-24	124.3
4/10/2013	B10-24	B10-23	406.3
4/10/2013	H20	H19	216.0
4/11/2013	H13-9A	H13-9	146.5
4/11/2013	H17E	H17D	170.2
4/11/2013	H17D	H17C	199.3
4/11/2013	H17C	H17B	195.8
4/11/2013	H17B	H17A	250.1
4/11/2013	H17F	H17A	?
4/11/2013	H27O	H27B	273.7
4/11/2013	H20-3B	H20-3A	248.6
4/11/2013	H20-3A	H20-3	151.2
4/11/2013	H20-4	H20-3	109.0
4/11/2013	H20-3	H20-2	22.4
4/11/2013	H20-2	H20-1	118.1
4/11/2013	H20-1	H20	120.1
4/11/2013	H20-6	H20-5	200.2
4/11/2013	H20-5	H20-4	229.5
4/11/2013	H20-4	H17-5	105.7
4/11/2013	H17-5	H17-4	223.7
4/11/2013	H17-4	H17-3	203.6
4/11/2013	H17-3	H17-2	253.0
4/11/2013	H17-1B	H17-1A	128.0
4/11/2013	H17-A	H17	251.2
4/11/2013	B10-23	B10-22	138.6
4/11/2013	B10-22	B10-21	192.7
4/11/2013	H19	H18	203.0
4/11/2013	H18	H17	253.0
4/11/2013	H17A	H17	247.1
4/11/2013	H17-1	H17	234.6
4/11/2013	B10-21	B10-20	183.7
4/11/2013	B10-20	B10-19	273.1
4/11/2013	H17	H16	276.5
4/11/2013	H16A	H16	194.8
4/11/2013	30-3	30-2	250.0
4/11/2013	30-2B	30-2A	23.4
4/11/2013	30-2A	30-2	170.7
4/11/2013	30-21	30-2	80.0
4/11/2013	30-2	30-1	304.2
4/11/2013	30-1	30-1A	70.7
4/11/2013	30-1A	A-23	155.6
4/15/2013	H2-5A	H2-5	168.3
4/15/2013	H2-5B	H2-5	92.3
4/15/2013	H2-5	H2-4	253.8
4/15/2013	H2-4	H2-3	246.9
4/15/2013	H2-3	H2-2	249.6
4/15/2013	H2-2	H2-1	250.1
4/15/2013	H2-1A	H2-1	84.6
4/15/2013	H2B	H2A	257.7
4/15/2013	H2A	H2	251.1

Date	MHFROM	MHTO	Footage
4/15/2013	H3	H2	200.2
4/15/2013	H2-1	H2	297.2
4/15/2013	H1H	H1G	97.6
4/15/2013	H1G	H1F	143.0
4/15/2013	H1F	H1E	137.7
4/15/2013	H1D	H1C	110.8
4/15/2013	H1C	H1B	174.0
4/15/2013	H1B	H1A	278.5
4/15/2013	H5	H4B	119.7
4/15/2013	H4B	H4	123.4
4/15/2013	H4A	H4	196.8
4/15/2013	H2A	H2	251.1
4/15/2013	H4	H3	176.5
4/15/2013	H3	H2	200.2
4/15/2013	H1A	H1	248.2
4/15/2013	H2	H1	261.2
4/15/2013	H1E	H1	203.1
4/16/2013	B38-6B	B38-6A	49.0
4/16/2013	B38-6A	B36L	179.4
4/16/2013	B36L	B36K	174.5
4/16/2013	B36K	B36	181.1
4/16/2013	B36I	B36H	201.1
4/16/2013	H2D	H2C	192.8
4/16/2013	H2C	H2B	237.5
4/16/2013	H2E	H2B	202.2
4/16/2013	H1C	H1B	174.0
4/16/2013	H1B	H1A	278.5
4/16/2013	B36H	B38C	266.0
4/16/2013	B36H	B36G	91.0
4/16/2013	B36G	B36F	183.0
4/16/2013	B36F	B36E	167.9
4/16/2013	B36E	B36D	178.3
4/16/2013	B36D	B36C	177.7
4/16/2013	B35F	B35E	140.8
4/16/2013	B35E	B35D	349.5
4/16/2013	B35D	B35C	348.4
4/16/2013	B35C	B35B	202.8
4/16/2013	B36C	B36B	207.6
4/16/2013	K2-5-7A	K2-5-7	216.7
4/16/2013	K2-5-9	K2-5-8	298.3
4/16/2013	K2-5-8	K2-5-7	41.8
4/16/2013	K2-5-7	K2-5-6	233.1
4/16/2013	K2-5-6	K2-5-5	201.1
4/17/2013	H15C	H15B	196.5
4/17/2013	H15F	H15E	120.1
4/17/2013	H15E	H15A	162.9
4/17/2013	H15B	H15A	236.8
4/17/2013	H15A	H15	174.7
4/17/2013	H15	H14	246.9
4/17/2013	H14	H13	247.1
4/17/2013	K2-5-4C	K2-5-4B	267.7
4/17/2013	K2-5-4B	K2-5-4A	83.5
4/17/2013	K2-5-4I	K2-5-4H	46.5
4/17/2013	K2-5-4H	K2-5-4A	53.4
4/17/2013	K2-5-4A	K2-5-4	157.6

Date	MHFROM	MHTO	Footage
4/17/2013	K2-5-5	K2-5-4	156.5
4/17/2013	K2-5-4	K2-5-3	161.5
4/17/2013	B38-16	B38-15	250.6
4/17/2013	B38-15B	B38-15A	210.5
4/17/2013	B38-15A	B38-15	212.8
4/17/2013	B38-14B	B38-14A	178.7
4/17/2013	B38-14A	B38-14	173.7
4/17/2013	B38-15	B38-14	246.9
4/18/2013	B38-17B	B38-17A	292.3
4/18/2013	B38-17A	B38-17	300.3
4/18/2013	B38-16B	B38-16A	232.7
4/18/2013	B38-16A	B38-16	230.0
4/18/2013	B38-18	B38-17	290.6
4/18/2013	B38-17	B38-16	235.7
4/18/2013	B38-14B	H38-18I	237.2
4/18/2013	H38-18I	H38-18G	250.0
4/18/2013	B38-15B	H13-18K	269.2
4/18/2013	H13-18K	H13-18F	249.9
4/22/2013	B30-5	B30-4	139.8
4/22/2013	B30-4A	B30-4	134.0
4/22/2013	B30-4	B30-3	22.7
4/22/2013	B30-3A	B30-3	142.3
4/22/2013	B30-3	B30-2	253.9
4/22/2013	B30-2C	B30-2B	129.3
4/22/2013	B30-2B	B30-2	162.5
4/22/2013	B30-2A	B30-2	154.4
4/22/2013	B35-14	B35-13	103.6
4/22/2013	B35-13	B35-12	96.7
4/22/2013	B35-12	B35-11	59.5
4/22/2013	B35-11	B35-10	210.8
4/22/2013	B35-10	B35-9	273.6
4/22/2013	B35-9	B35-8	179.2
4/22/2013	B35-8	B35-7	188.7
4/19/2013	B37B	B37A	270.4
4/19/2013	B37A	B37	269.2
4/19/2013	B37E	B37	91.3
4/19/2013	B37D	B37	200.8
4/19/2013	B36P	B36A	308.3
4/19/2013	B36N	B36M	309.0
4/19/2013	B35-4	B35-3	232.2
4/19/2013	B35-3	B35-2	277.6
4/19/2013	B35-2	B35-1	287.8
4/19/2013	B35-1	B35-1A	305.0
4/23/2013	B35-7	B35-6	285.3
4/23/2013	B35-6C	B35-6B	290.0
4/23/2013	B35-6B	B35-6A	200.7
4/23/2013	B35-6A	B35-6	168.3
4/23/2013	B35-6D	B35-6	290.3
4/22/2013	B29D	B29C	235.9
4/22/2013	B29C	B29B	147.5
4/22/2013	B30-2	B30-1	251.2
4/22/2013	B30-1C	B30-1	246.9
4/22/2013	B30-1B	B30-1A	68.5
4/22/2013	B30-1A	B30-1	149.3
4/22/2013	B29B	B29A	105.4
4/22/2013	B29A	B29	257.3
4/22/2013	B30B	B29	84.4
4/22/2013	B30C	B30B	233.0
4/22/2013	B35-4F	B35-4E	204.5
4/22/2013	B35-4G	B35-4E	70.9
4/22/2013	B35-4E	B35-4D	321.2
4/23/2013	B35-4A	B35-4	340.6
4/23/2013	B35-D	B35-4C	60.1
4/23/2013	B35-4C	B35-4B	334.0
4/23/2013	B35-4B	B35-4A	340.8
4/23/2013	B35-6	B35-5	315.8
5/2/2013	F15-11	F15-10	419.3
5/2/2013	F15-10	F15-9	71.8
5/2/2013	F15-9	F15-8	189.8
5/2/2013	F15-8	F15-7	249.1
5/2/2013	F15-7	F15-6	303.0
5/2/2013	F15-6	F15-5	303.5
5/2/2013	F15-5	F15-4	237.2
5/2/2013	F15-4	F15-3	299.8
5/2/2013	F15-3	F15-2	300.3
5/3/2013	F35D	F35C	275.1
5/3/2013	F35C	F35B	146.5
5/3/2013	F35B	F35A	303.7
5/3/2013	F35F	F35E	205.7
5/3/2013	F35E	F35A	212.7
5/3/2013	F35A	F33	175.3
5/3/2013	F34	F33	215.9
5/3/2013	F33	F32	211.0
5/3/2013	F32	F31	199.9
5/3/2013	F15-9B	F15-9A	351.3
5/3/2013	F15-9C	F15-9A	82.1
5/3/2013	F15-9A	F15-9	205.1
5/3/2013	F15	F24	550.4
5/3/2013	F24A	F24	192.2
5/3/2013	F24A	F23	436.1
5/3/2013	F23A	F23	227.7
5/3/2013	F23	F22	309.8
5/6/2013	F21-2	F21-1	185.9
5/6/2013	F21-1	F21	232.0
5/6/2013	F22	F21	300.6
5/6/2013	F21A	F21	197.6
5/6/2013	F21	F20	258.2
5/6/2013	F20	F19	275.1
5/6/2013	F19	F18A	300.1
5/6/2013	F17-1A	F17-1	225.7
5/6/2013	F18-1	F18-A1	226.6
5/6/2013	F18-A1	F18	204.9
5/6/2013	F18A	F18	16.7
5/7/2013	B38-2	B38-1	77.3
5/7/2013	B36B	B36A	60.8
5/7/2013	B35B	B35A	67.3
5/7/2013	F31-2	F31-1	274.6
5/7/2013	F33	F32	211.0
5/7/2013	F32	F31	199.9
5/7/2013	D25-21	D25-19	284.6

Date	MHFROM	MHTO	Footage
5/7/2013	D25-20	D25-19	289.6
5/7/2013	D25-19	D25-18	264.4
5/7/2013	D25-18	D25-17	282.7
5/7/2013	55-5	55-4	219.1
5/7/2013	55-4	55-3	128.8
5/7/2013	55-3	55-2	123.0
5/7/2013	55-2	55-1	42.4
5/8/2013	L15B	L15A	342.7
5/8/2013	L15A	L15	297.9
5/8/2013	L16	L15	266.2
5/9/2013	F15-7-10	F15-7-9	288.7
5/9/2013	F15-7-9	F15-7-8	275.0
5/9/2013	F15-7-8C	F15-7-8B	160.4
5/9/2013	F15-7-8B	F15-7-8A	24.9
5/9/2013	F15-7-8A	F15-7-8	58.1
5/9/2013	F15-7-8	F15-7-7	201.4
5/9/2013	F15-7-7	F15-7-6	258.7
5/9/2013	F15-7-6	F15-7-5	251.1
5/9/2013	F15-7-4F	F15-7-4E	107.8
5/9/2013	F15-7-4E	F15-7-4C	199.6
5/9/2013	F15-7-4D	F15-7-4C	191.5
5/9/2013	43-10C	F15-7-4C	298.9
5/9/2013	F15-7-4C	F15-7-4	299.0
5/9/2013	F15-7-5	F15-7-4	274.7
5/9/2013	F15-7-4B	F15-7-4A	222.4
5/9/2013	F15-7-4A	F15-7-4	348.6
5/9/2013	F1-7	F1-6	253.7
5/9/2013	F1-6A	F1-6	340.9
5/9/2013	F1-6	F1-5	256.1
5/9/2013	F1-5	F1-4	251.5
5/9/2013	F1-4	F1-3	250.4
5/9/2013	F1-2E	F1-2A	81.3
5/9/2013	F1-2D	F1-2C	191.3
5/9/2013	F1-2C	F1-2B	274.2
5/9/2013	F1-2B	F1-2A	351.6
5/10/2013	30-10	30-9	372.8
5/10/2013	30-9	30-8	166.7
5/10/2013	30-8	30-7	194.3
5/10/2013	30-7C	30-7B	126.2
5/10/2013	30-7B	30-7A	217.0
5/10/2013	30-7D	30-71	136.9
5/10/2013	30-7A	30-7	344.3
5/10/2013	30-8	30-7	184.3
5/10/2013	30-7	30-6	136.7
5/10/2013	30-6	30-5	223.4
5/10/2013	30-5A	30-5	299.7
5/13/2013	30-5	30-4	266.2
5/13/2013	F18-12B	F18-12A	269.4
5/13/2013	F18-12A	F18-12	263.6
5/13/2013	F18-12	F18-11	223.3
5/13/2013	F18-11	F18-10	237.3
5/13/2013	B30D	B30C	328.6
5/13/2013	B30-1	B30C	279.3
5/13/2013	B30C	B30B	233.0
5/13/2013	F18-10	F18-9	232.4
5/13/2013	F18-9	F18-8	227.1
5/13/2013	F18-8	F18-7	169.1
5/13/2013	F18-7	F18-6	10.0
5/13/2013	F18-6	F18-5	233.5
5/13/2013	F18-5	F18-4	139.1
5/13/2013	F18-4A	F18-4	134.7
5/13/2013	F18-3B-3	F18-3B	79.7
5/13/2013	F18-3B	F18-3A	174.3
5/13/2013	F18-3A	F18-3	191.1
5/14/2013	F12-1-6	F12-1-5	109.9
5/14/2013	F12-1-5-	F12-1-3	151.9
5/14/2013	F12-1-4	F12-1-3	224.7
5/14/2013	F12-1-3	F12-1-2	252.5
5/14/2013	F12-7C	F12-7A	90.7
5/14/2013	F12-7A	F12-7	165.5
5/14/2013	F12-8	F12-7	266.4
5/14/2013	F12-6A	F12-6	252.9
5/14/2013	F12-6	F12-5	146.2
5/14/2013	F12-5	F12-4	64.0
5/14/2013	F21-9	F21-8	272.3
5/14/2013	F21-8	F21-7	204.1
5/14/2013	F21-7	F21-6	205.6
5/14/2013	F21-6	F21-5	205.1
5/14/2013	F21-5	F21-4	53.0
5/14/2013	F21-4	F21-3	288.5
5/14/2013	F21-3	F21-2	303.2
5/14/2013	F12C	F12B	203.7
5/14/2013	F12E	F12D	170.0
5/14/2013	F12D	F12B	223.1
5/15/2013	F33D	F33C	275.1
5/15/2013	F33C	F33B	146.5
5/15/2013	F33B	F33A	303.7
5/15/2013	F33F	F33E	205.7
5/15/2013	F33E	F33A	212.7
5/15/2013	F33A	F33	175.3
5/15/2013	F31-8	F31-7	200.6
5/15/2013	F31-7	F31-6	200.4
5/15/2013	F31-6	F31-5	199.1
5/15/2013	F31-3E	F31-3D	174.1
5/15/2013	F31-3D	F31-3B	117.6
5/15/2013	F31-3C-1	F31-3C	248.3
5/15/2013	F31-3	F31-3B	200.2
5/15/2013	F31-3B	F31-3A	232.0
5/15/2013	F31-3A	F31-3	225.2
5/15/2013	F31-3	F31-2	249.8
5/15/2013	F31-4	F31-3	195.6
5/15/2013	F1-7	F1-6	253.1
5/15/2013	F31-5	F31-4	204.8
5/15/2013	F31-5A	F31-5	177.3
5/15/2013	F31-6	F31-5	199.1
5/15/2013	F31-5B	F31-5	201.8
5/15/2013	F31-5D	F31-5C	139.0
5/15/2013	F31-5C	F31-5B	205.4
5/15/2013	F18-18	F18-17	283.6
5/15/2013	F18-17	F18-16	296.9

Date	MHFROM	MHTO	Footage
5/15/2013	F18-16	F18-15	234.2
5/15/2013	F18-15	F18-14	227.1
5/15/2013	F18-14A	F18-14	195.3
5/15/2013	F18-14	F18-13	201.3
5/15/2013	F18-13	F18-12	182.2
5/15/2013	F29C	F29B	217.5
5/15/2013	F29B	F29A	221.2
5/15/2013	F29C	F29B	217.5
5/15/2013	F29B	F29A	221.2
5/15/2013	F1-3	F1-2	221.4
5/15/2013	F1-2A	F1-2	261.8
5/15/2013	F12-3	F12-2	164.6
5/15/2013	F12-2	F12-1	267.3
5/15/2013	F12-1-2	F12-1-1	202.0
5/15/2013	F12-1-1	F12-1	201.1
5/15/2013	F14C	F14B	183.4
5/15/2013	F14D	F14B	228.2
5/15/2013	F14B	F14A	194.5
5/15/2013	F14A	F14	275.4
5/15/2013	F12E	F12D	170.0
5/15/2013	F12D	F12B	223.1
5/15/2013	F12C	F12B	203.7
5/15/2013	F12B	F12A	166.7
5/15/2013	F12A	F12	300.1
5/15/2013	F10D	F10C	59.7
5/15/2013	F10C	F10B	258.7
5/15/2013	F10F	F10A	132.6
5/15/2013	F10E	F10B	109.4
5/15/2013	F10B	F10A	107.1
5/15/2013	F10A	F10	192.7
5/16/2013	45-17	45-16	244.9
5/16/2013	45-16	45-15	234.7
5/16/2013	45-15A	45-15	113.8
5/16/2013	45-14	45-13	142.4
5/16/2013	45-13	45-12	279.0
5/16/2013	45-12	45-11	269.3
5/16/2013	76-4H	76-4F	149.1
5/16/2013	76-4G-1	76-4G	65.0
5/16/2013	76-4G	76-4F	188.5
5/16/2013	76-4I	76-4E	337.1
5/16/2013	F15-7-11	F15-7-10	210.2
5/16/2013	76-4F	76-4E	261.8
5/16/2013	76-4K	76-4J	257.7
5/16/2013	76-4J	76-4E	103.9
5/16/2013	76-4E	76-4D	95.0
5/16/2013	76-4D	76-4C	188.9
5/16/2013	76-4C	76-4B	200.4
5/16/2013	76-4B	76-4A	248.8
5/17/2013	76-3I	76-3H	202.9
5/17/2013	76-3J	76-3H	147.0
5/17/2013	76-3H	76-3G	245.3
5/17/2013	76-3G	76-3F	261.0
5/20/2013	76-3F	76-3E	191.1
5/20/2013	76-3E	76-3D	200.0
5/20/2013	76-3D	76-3D1	81.0
5/20/2013	76-3D	76-3C	250.3
5/21/2013	45-5A	45-5	146.2
5/21/2013	45-6	45-5	313.6
5/21/2013	45-5	45-4	220.6
5/21/2013	45-4	45-3	213.5
5/21/2013	45-7D	45-7C	104.4
5/21/2013	45-7E	45-7C	269.3
5/21/2013	45-7C	45-7B	246.8
5/21/2013	45-7B	45-7A	218.7
5/21/2013	45-11	45-10	247.8
5/21/2013	45-10	45-9	179.6
5/22/2013	45-9	45-8	176.7
5/22/2013	45-8	45-7	140.4
5/22/2013	45-7A	45-7	16.2
5/22/2013	45-7	45-6	170.0
5/22/2013	45-6	45-5	313.6
5/22/2013	45-5A	45-5	146.2
5/29/2013	76F	76E	225.1
5/29/2013	76E	76D	225.1
5/29/2013	76D	76C	81.5
5/29/2013	76C	76B	306.8
5/29/2013	76B	76A	250.6
5/29/2013	76A	A76	250.1
5/29/2013	65-6	65-5	470.4
5/29/2013	65-5A	65-5	128.8
5/29/2013	65-5	65-4	116.0
5/29/2013	65-4	65-3	166.6
5/29/2013	65-3	65-2	152.7
5/29/2013	65-2	65-1	147.0
5/29/2013	61-4B	61-4A	333.1
5/29/2013	61-4A	61-4	300.9
5/29/2013	45-3	45-2	165.9
5/29/2013	45-2	45-1	88.6
5/29/2013	59-2F	59-2B	174.8
5/29/2013	59-2B	59-2	307.5
5/29/2013	55-6B	55-6A	301.2
5/29/2013	55-6C	55-6A	120.3
5/29/2013	55-6A	55-6	231.6
5/29/2013	55-7	55-6	181.7
5/29/2013	55-6	55-5	306.4
5/29/2013	48-6	48-5	290.2
5/29/2013	48-5	48-4	324.8
5/29/2013	48-4	48-3	301.8
5/29/2013	48-3B	48-3A	225.8
5/29/2013	48-3A	48-3	276.9
5/29/2013	48-3	48-2	220.2
5/29/2013	48-2	48-1	249.6
5/29/2013	48-1	48	251.0
5/30/2013	61-6C	61-6B	314.0
5/30/2013	61-6B	61-6A	133.5
5/30/2013	61-6E	61-6D	309.5
5/30/2013	61-6D	61-6A	30.5
5/30/2013	61-6A	61-6	165.8
5/30/2013	K40-6	K40-5	175.0
5/30/2013	K40-5	K40-4	134.2

Date	MHFROM	MHTO	Footage
5/30/2013	K40-5	K40-4	134.2
5/30/2013	76-2D	76-2C	188.4
5/30/2013	76-2C	76-2B	201.1
5/30/2013	76-2B	76-2A	250.9
5/30/2013	K40-1B	K40-1A	250.7
5/30/2013	K40-1A	K40-1	249.8
5/30/2013	K40-2	K40-1	359.8
5/30/2013	K40-1	K40	360.5
5/30/2013	K40-2B	K40-2A	233.3
5/30/2013	K40-2A	K40-2	245.6
5/30/2013	K40-3	K40-2	184.5
5/31/2013	K40-3B	K40-3A	215.4
5/31/2013	K40-3A	K40-3	250.3
5/31/2013	K40-4	K40-3	248.5
5/31/2013	K40-2D	K40-2C	288.4
6/3/2013	K36G	K36F	240.3
6/3/2013	K36F	K36E	195.6
6/3/2013	K36E	K36D	195.5
6/3/2013	K36D	K36C	219.2
6/3/2013	K36C	K36	215.9
6/3/2013	K36B	K36A	231.5
6/3/2013	K36A	K36	230.3
6/3/2013	K40	K39	76.1
6/3/2013	K37	K38	92.3
6/3/2013	K38	K37	181.7
6/3/2013	K37	K36	185.3
6/3/2013	K36	K35	184.2
6/3/2013	K35	K34	179.6
6/3/2013	K34B	K34A	269.8
6/3/2013	K34A	K34	270.8
6/3/2013	K34D	K34C	190.8
6/3/2013	K34C	K34	188.8
6/3/2013	K40-2C	K40-2	302.2
6/3/2013	C40-17	C40-16	135.6
6/3/2013	C40-16	C40-15	148.8
6/3/2013	C40-15	C40-14	200.5
6/3/2013	C40-14A	C40-14	120.0
6/3/2013	C40-14	C40-13	193.7
6/3/2013	C40-13	C4012	279.7
6/3/2013	C40-12	C40-11	329.8
6/3/2013	C40-12B	C40-12A	113.0
6/3/2013	C40-12A	C4-12	176.0
6/5/2013	C51	C50	309.3
6/5/2013	C50A	C50	341.0
6/5/2013	C50	C49	179.4
6/5/2013	C49	C48	156.4
6/5/2013	C48	C47	144.7
6/5/2013	C55	C54	214.6
6/5/2013	C54	C53	214.7
6/5/2013	C53	C51B	223.2
6/5/2013	C51B	C51	88.4
6/5/2013	C51A	C51	284.5
6/14/2013	C27-10K	C27-10I	170.1
6/14/2013	C27-10J	C27-10I	169.2
6/14/2013	C27-10L	C27-10H	123.6
6/14/2013	C27-10I	C27-10H	295.2
6/14/2013	C27-10H	C27-10G	476.4
6/14/2013	C27-10D	C27-10G	319.7
6/14/2013	C27-10M	C27-10G	350.1
6/18/2013	C40-11	C40-10	237.9
6/18/2013	C40-10	C40-9	237.3
6/18/2013	C40-9	C40-8	299.5
6/18/2013	C40-8	C40-7	297.2
6/18/2013	C40-7	C40-6	266.8
6/18/2013	C40-6	C40-5	260.5
6/18/2013	C40-5A	C40-5	235.8
6/18/2013	C40-5	C40-4	282.4
6/18/2013	C40-4	C40-3	230.3
6/18/2013	C40-3	C40-2	32.2
6/18/2013	C40-2A	C40-2	244.0
6/18/2013	C27-10F	C27-10E	207.4
6/18/2013	C27-10E	C27-10D	192.0
6/18/2013	C27-10N	C27-10D	260.5
6/18/2013	C27-10D	C27-10C	158.6
6/18/2013	C27-10A	C27-10-0	246.2
6/19/2013	C27-25	C27-24	252.2
6/19/2013	C27-24	C27-23	255.6
6/19/2013	C27-23	C27-22	245.2
6/19/2013	C27-22	C27-21	250.4
6/19/2013	C27-21	C27-20	4.0
6/19/2013	C27-21	C27-19	365.1
6/19/2013	C27-19	C27-18	212.9
6/19/2013	C27-18	C27-17	207.6
6/19/2013	C27-17	C27-16	214.0
6/19/2013	C27-16	C27-15	218.3
6/24/2013	L9-4G	L9-4F	201.6
6/24/2013	L9-4F	L9-4E	208.0
6/24/2013	L9-4E	L9-4D	193.3
6/24/2013	L7-11D	L7-11G	165.5
6/24/2013	L7-11G	L7-4D	178.9
6/24/2013	L9-4D	L9-4C	251.5
6/24/2013	L9-4C	L9-4B	255.4
6/24/2013	L9-4K	L9-4B	294.4
6/24/2013	L9-5F	L9-5E	231.5
6/24/2013	L9-5E	L9-5D	227.8
6/20/2013	C38-4A	C38-4	165.0
6/20/2013	C38-6	C38-5	108.7
6/20/2013	C38-5	C38-4	179.7
6/20/2013	C38-4	C38-3	111.5
6/20/2013	C38-3A	C38-3	233.7
6/20/2013	C38-3	C38-2	278.5
6/20/2013	C38-2C	C38-2A	94.2
6/20/2013	C38-2B	C38-2A	84.3
6/20/2013	C38-2A	C38-2	184.3
6/20/2013	C38-2	C38-1	251.2
6/20/2013	C38-1	C38	279.2
6/20/2013	C41	C40	317.3
6/20/2013	C40-2	C40-1	271.4
6/20/2013	C40-1	C40	266.2
6/20/2013	C40	C39	209.3

Date	MHFROM	MHTO	Footage
6/20/2013	C39	C38	173.1
6/20/2013	C38-7	C38-6	222.0
6/20/2013	C38-3B	C38-3A	238.0
6/25/2013	L9-5D	L9-5C	242.6
6/25/2013	L9-5C	L9-5B	259.7
6/25/2013	L9-5B	L9-5A	240.7
6/25/2013	L9-5A	L9-5	400.1
6/25/2013	L9-6	L9-5	282.0
6/25/2013	L12-12	L12-11	274.4
6/25/2013	L12-11	L12-10	259.8
6/25/2013	L12-10	L12-9	250.0
6/25/2013	C42D	C42C	79.9
6/25/2013	C42C	C42B	230.8
6/25/2013	C42B	C42A	157.2
6/25/2013	C42E	C42A	211.6
6/25/2013	C42.A	C42	262.2
6/25/2013	C44	C43	230.7
6/25/2013	C43	C42	159.4
6/25/2013	L7-14D	L7-14C	259.4
6/25/2013	L7-14C	L7-14B	275.1
6/25/2013	L7-14B	L7-14A	204.6
6/25/2013	L7-14A	L7-14	136.9
6/25/2013	L7-16A	L7-16	234.2
6/25/2013	L7-17	L7-16	282.6
6/25/2013	L7-16	L7-15	359.7
6/25/2013	L7-15	L7-14	44.3
6/28/2013	L7-14	L7-13	242.2
6/28/2013	L7-13	L7-12	250.7
6/28/2013	C13-33	C13-32	151.9
6/28/2013	C13-32	C13-31	179.4
6/28/2013	C13-31	C13-30	180.7
6/28/2013	C13-30	C13-29	204.3
6/28/2013	C13-29	C13-28	200.5
6/28/2013	C13-27C	C13-27B	161.3
6/28/2013	C13-28B	C13-28A	289.4
6/28/2013	C13-28A	C13-28	?
6/28/2013	C13-28E	C13-28D	138.9
6/28/2013	C13-28F	C13-28D	216.4
6/28/2013	C13-28D	C13-28C	99.5
6/28/2013	C13-28C	C13-28	300.0
6/28/2013	L9-5	L9-4	255.6
6/28/2013	L9-4B	L9-4A	391.3
6/28/2013	L9-4A	L9-4	252.8
6/28/2013	L9-4I	L9-4H	142.8
6/28/2013	L9-4H	L9-4	79.6
6/28/2013	L9-4I	L9-4H	142.8
6/28/2013	L9-4H	L9-4	79.6
6/28/2013	L9-4J	L9-4H	248.6
7/1/2013	L7-11H	L7-11A	146.0
7/1/2013	L7-11B	L7-11A	118.2
7/1/2013	L7-11A	L7-11	263.9
7/1/2013	L7-11D	L7-11C	136.4
7/1/2013	L7-11C	L7-11	165.5
7/1/2013	L7-12	L7-11	410.0
7/1/2013	L7-11	L7-10	273.9
7/1/2013	L7-10	L7-9	208.1
7/2/2013	C27-13F	C27-13E	182.6
7/2/2013	C27-13E	C27-13D	150.2
7/2/2013	C27-13D	C27-13C	191.6
7/2/2013	C27-13C	C27-13B	16.8
7/2/2013	C27-13B	C27-13A	199.0
7/2/2013	C27-13A	C27-13	198.5
7/2/2013	C27-10S	C27-10R	227.1
7/2/2013	C27-7D*	C27-7D	227.1
7/2/2013	C27-7F	C27-7E	168.5
7/2/2013	C27-7E	C27-7D	150.7
7/2/2013	C27-7D	C27-7C	390.9
7/2/2013	C27-7B*	C27-7B	267.7
7/2/2013	C13-28	C13-27	260.1
7/2/2013	C13-27B	C13-27A	186.0
7/2/2013	C13-27A	C13-27	199.1
7/2/2013	C13-27	C13-26	29.9
7/2/2013	C27-4C	C27-4B	182.6
7/2/2013	C27-4B	C27-4A	430.6
7/2/2013	C37D	C37C	202.6
7/2/2013	C37C	C37B	200.6
7/2/2013	C37E	C37B	204.4
7/3/2013	C13-26	C13-25	395.5
7/3/2013	C13-25	C13-24	382.4
7/3/2013	C13-24A	C13-24	200.0
7/3/2013	C13-24	C13-23	222.6
7/3/2013	C13-23	C13-22	125.2
7/3/2013	C13-22C	C13-22	356.6
7/3/2013	C13-22B	C13-22A	166.7
7/3/2013	C13-22A	C13-22	173.0
7/8/2013	L12-9	L12-8	259.3
7/8/2013	L12-8	L12-7	267.8
7/8/2013	L12-7	L12-6	270.1
7/8/2013	L12-6	L12-5	393.4
7/8/2013	L12-5	L12-4	352.7
7/9/2013	C13-22	C13-21	373.4
7/9/2013	C13-21	C13-20	369.3
7/9/2013	C13-20A	C13-20	298.6
7/9/2013	C13-20C	C13-20B	171.2
7/9/2013	C13-20B	C13-20	313.7
7/9/2013	L10D	L10C	297.8
7/9/2013	L10C	L10B	283.6
7/9/2013	L10B	L10A	325.9
7/9/2013	L10A	L10	273.0
7/9/2013	L10E	L10B	129.7
7/10/2013	L9-4	L9-3	382.6
7/10/2013	L9-3	L9-2	374.5
7/10/2013	L9-2	L9-1	303.4
7/10/2013	L9-1	L9	300.4
7/10/2013	L8-8	L8-7	332.7
7/10/2013	L8-7	L8-6	111.0
7/10/2013	C13-20	C13-19	301.4
7/11/2013	L9-7D	L9-7C	189.8
7/11/2013	L9-7C	L9-7B	253.7
7/11/2013	L9-7B	L9-7C	299.8

Date	MHFROM	MHTO	Footage	Date	MHFROM	MHTO	Footage
7/11/2013	L22	L21	294.7	7/22/2013	C17-3E1	C17-3E	259.7
7/11/2013	L21	L20	139.8	7/22/2013	C17-3R	C17-3Q	101.7
7/11/2013	L20	L19	214.6	7/22/2013	C17-3Q	C17-3D	278.8
7/11/2013	L16C	L16B	267.3	7/22/2013	C17-3E1	C17-3D	182.4
7/11/2013	L16B	L16A	299.5	7/22/2013	C37B	C37A	245.5
7/11/2013	L19	L18	214.9	7/22/2013	C37A	C37	249.9
7/11/2013	L13B	L13A	279.2	7/22/2013	C37-1	C37	79.8
7/15/2013	C13-16E	C13-16D	292.3	7/22/2013	L7D	L7A	179.9
7/15/2013	C13-16F	C13-16D	125.2	7/22/2013	L7B	L7A	24.3
7/15/2013	C13-16D	C13-16C	81.8	7/22/2013	L7C-1	L7C	171.8
7/15/2013	C15-9D	C15-9C	288.9	7/22/2013	L7C	L7B	300.7
7/15/2013	C15-9C	C15-9B	362.7	7/22/2013	C17-2T	L7A	279.7
7/15/2013	C15-9E	C15-9B	139.9	7/22/2013	L7-1E	L7-1C	207.0
7/15/2013	C13-4F	C13-4E	361.9	7/22/2013	L7-1D	L7-1C	152.9
7/15/2013	C13-4E	C13-4D	336.0	7/23/2013	L7-4	L7-3	220.0
7/15/2013	C13-4H	C13-4G	331.3	7/23/2013	L7-3	L7-2	293.9
7/15/2013	C13-15	C13-14	355.2	7/23/2013	L7-2	L7-1	208.2
7/15/2013	C13-14	C13-13	359.6	7/23/2013	L7-1C	L7-1B	112.6
7/15/2013	C13-13	C13-12	364.7	7/23/2013	L7-1F	L7-1B	178.9
7/15/2013	C13-12	C13-11	348.2	7/23/2013	L7-1G	L7-1A	65.6
7/15/2013	C13-11	C13-10	382.3	7/23/2013	L7-1B	L7-1A	157.3
7/15/2013	C13-9D	C13-9C	317.4	7/23/2013	L7-1A	L7-1	36.8
7/15/2013	C13-9C	C13-9B	344.6	7/23/2013	L7-1	L7	117.7
7/15/2013	C13-9B	C13-9A	388.0	7/23/2013	L7A	L7	238.4
7/19/2013	C13-4D	C13-4C	339.5	7/23/2013	L9	L8	248.5
7/19/2013	C13-4C	C13-4B	290.9	7/23/2013	L8	L7	147.7
7/19/2013	C13-4G	C13-4B	342.7	7/23/2013	L10	L9	131.6
7/19/2013	C17-3N	C17-13M	228.9	7/23/2013	L7-9E	L7-9D	201.0
7/19/2013	C17-3M	C17-3L	131.5	7/23/2013	L7-9D	L7-9C	212.3
7/19/2013	C17-3P	C17-3O	112.9	7/23/2013	L7-9C	L7-9	290.0
7/19/2013	C17-3O	C17-3L	80.1	7/23/2013	L7-9	L7-9A	247.1
7/19/2013	C17-3L	C17-3F	246.8	7/23/2013	L7-9B	L7-9A	281.0
7/19/2013	C17-3K	C17-3J	117.4	7/23/2013	L7-6E	L7-6D	335.4
7/19/2013	C17-3J	C17-3I	207.5	7/23/2013	L7-6D	L7-6A	223.2
7/19/2013	C17-3I	C17-3H	6.0	7/23/2013	L7-6C	L7-6B	112.7
7/19/2013	C17-3H	C17-3G	9.0	7/23/2013	L7-6B	L7-6A	75.5
7/19/2013	C17-3G	C17-3F	50.0	7/23/2013	L7-6A	L7-6	253.8
7/19/2013	L7-4B	L7-4A	47.7	7/23/2013	L7-8F	L7-6	298.3
7/19/2013	L7-4A	L7-4	130.4	7/24/2013	L7	L6	166.5
7/22/2013	C27-11E	C27-11D	119.5	7/24/2013	L6	L5	99.7
7/22/2013	C27-11D	C27-11C	198.8	7/24/2013	L5	L4	270.3
7/22/2013	C27-11C	C27-11B	197.4	7/24/2013	L4-1	L4	140.0
7/22/2013	C27-11B	C27-11A	199.8	7/24/2013	L4-1	L3	289.9
7/22/2013	C27-11A	C27-11	202.8	7/24/2013	L3-1	L3	140.0
7/22/2013	C15-11F	C15-11E	301.1	7/24/2013	L15	L14	103.4
7/22/2013	C15-11G	C15-11E	125.6	7/24/2013	L14	L13	141.4
7/22/2013	C15-11E	C15-11D	235.0	7/24/2013	L13A	L13	261.2
7/22/2013	C15-11D	C15-11C	247.2	7/24/2013	L12-4	L12-3	172.0
7/22/2013	C15-11C	C15-11B	139.3	7/24/2013	L12-3	L12-2	301.8
7/22/2013	C15-11B	C15-11A	525.3	7/24/2013	L12-2	L12-1	288.6
7/22/2013	C15-11K	C15-11J	146.1	7/25/2013	L12-1	L12	299.6
7/22/2013	C15-11J	C15-11I	201.4	7/25/2013	L13	L12	235.1
7/22/2013	C15-16C	C15-16B	101.1	7/25/2013	L12	L11	226.5
7/22/2013	C15-16B	C15-16A	234.6	7/25/2013	L11C	L11B	246.0
7/22/2013	C17-3F	C17-3E	257.3	7/25/2013	L11B	L11A	232.9

Date	MHFROM	MHTO	Footage	Date	MHFROM	MHTO	Footage
7/25/2013	L11A	L11	240.7	7/29/2013	C13E	C13B	218.5
7/25/2013	C21-7B	C21-7A	382.3	7/29/2013	C13F	C13B	257.9
7/25/2013	C21-6D	C21-6C	295.9	7/29/2013	C13I	C13H	199.8
7/25/2013	C21-6C	C21-6B	333.8	7/29/2013	C13H	C13G	280.4
7/25/2013	C21-2I	C21-2H	147.2	7/29/2013	C13J	C13G	213.6
7/25/2013	C21-2H	C21-2G	153.1	7/26/2013	L9-14	L9-13	51.9
7/25/2013	C21-2G	C21-2C	192.5	7/26/2013	L9-13	L9-12A	333.0
7/25/2013	C21-2F	C21-2E	241.2	7/26/2013	L9-12A	L9-12	10.0
7/25/2013	C21-2E	C21-2D	12.0	7/26/2013	L9-12	L9-11	301.1
7/25/2013	C21-2D	C21-2C	85.8	7/26/2013	L9-11	L9-10	315.6
7/25/2013	C21-2K	C21-2J	165.8	7/26/2013	L9-10	L9-9	309.4
7/25/2013	C21-2J	C21-2B	158.3	7/26/2013	L9-9	L9-8	202.2
7/25/2013	C21-2C	C21-2B	102.2	7/26/2013	L9-11	L9-10	315.6
7/25/2013	C21-2B	C21-2A	363.3	7/26/2013	L9-9	L9-8	202.0
7/25/2013	C21-2A	C21-2	401.6	7/26/2013	L9-8	L9-7	22.3
7/25/2013	C21-K	C21-1B	280.6	7/26/2013	L9-7B	L9-7A	299.0
7/25/2013	C21-1E	C21-1B	66.3	7/26/2013	L9-7A	L9-7	9.7
7/25/2013	C21-1B	C21-1A	253.1	7/30/2013	C13G	C13A	232.7
7/25/2013	C21-1A	C21-1	249.2	7/30/2013	C13B	C13A	88.7
7/25/2013	L7-9	L7-8	64.9	7/30/2013	C9-5G	C8-5F	98.3
7/25/2013	L7-8	L7-7	292.0	7/30/2013	C8-5F	C8-5E	58.2
7/25/2013	L7-7	L7-6	300.0	7/30/2013	C8-5E	C8-5D	303.0
7/25/2013	L7-6	L7-5	365.0	7/30/2013	C8-D5-1	C8-5D	237.4
7/25/2013	L7-5	L7-4	154.0	7/30/2013	C8-5D	C8-5C	192.1
7/25/2013	C21-1-8	C21-7	247.4	7/30/2013	C8-5K	C8-5C	147.5
7/25/2013	C21-7A	C21-7	385.2	7/30/2013	C13-4I	C13-4A	313.6
7/25/2013	C21-7	C21-6	289.4	7/30/2013	C13-4B	13-4A	138.8
7/25/2013	C21-6A	C21-6	250.0	7/30/2013	C13-4A	C13-4	441.7
7/25/2013	C21-6	C21-5	321.5	7/30/2013	C13-4	C13-3	334.0
7/25/2013	C21-5A	C21-5	267.7	7/30/2013	C13-3	C13-2	334.8
7/25/2013	C20-6G	C20-6F	164.2	7/30/2013	C13-1F	C13-1E	33.4
7/25/2013	C20-6F	C20-6D	300.6	7/30/2013	C13-1E	C13-1D	91.8
7/25/2013	C20-6E	C20-6D	198.2	7/30/2013	C13-1D	C13	70.0
7/25/2013	C20-6D	C20-6C	126.9	7/30/2013	C13-1D	C13-1C	70.0
7/25/2013	C20-6C	C20-6B	268.8	7/30/2013	C13-1C	C13-1B	359.3
7/25/2013	C20-6B	C20-6A	176.9	7/30/2013	C8-6E	C8-6D	174.0
7/25/2013	C21-6B	C21-6A	200.1	7/30/2013	C8-6D	C8-6C	269.0
7/25/2013	C20-3F	C20-3E	283.8	7/30/2013	C8-6F	C8-6C	126.7
7/25/2013	C20-3E	C20-3B	267.1	7/30/2013	C8-6G	C8-6B	344.0
7/25/2013	C20-3D	C20-3C	325.8	7/30/2013	C8-6C	C8-6B	284.3
7/25/2013	C20-3C	C20-3B	299.9	7/30/2013	C8-6B	C8-6A	108.5
7/29/2013	C20-6A	C20-6	219.4	7/31/2013	C8-5C	C8-5A	296.4
7/29/2013	C20-7B	C20-7A	135.9	7/31/2013	C8-5B	C8-5A	287.8
7/29/2013	C20-7A	C20-7	139.6	7/31/2013	C27-38	C27-37	229.9
7/29/2013	C20-7-2	C20-7-1	20.0	7/31/2013	D25-21B	D25-37	245.1
7/29/2013	C20-7-1	C20-7	219.9	7/31/2013	C27-37	C27-36	251.1
7/29/2013	C20-7	C20-6	207.9	7/31/2013	C27-36B	C27-36	266.2
7/29/2013	C20-6	C20-5	116.5	7/31/2013	C27-36A	C27-36	173.9
7/29/2013	C20-5A	C20-5	120.4	7/31/2013	C27-36	C27-35	294.1
7/29/2013	C20-5	C20-4	123.5	7/31/2013	C27-35A	C27-35	256.5
7/29/2013	C20-4	C20-3	224.4	7/31/2013	C27-31F	C27-31E	139.5
7/29/2013	C20-3B	C20-3A	172.4	7/31/2013	C27-31E	C27-31D	246.7
7/29/2013	C13D	C13C	137.7	7/31/2013	C27-31D	C27-31B	239.5
7/29/2013	C13C	C13B	31.8	7/31/2013	C27-31C	C27-31B	345.3
7/29/2013	C13E	C13B	218.5	7/31/2013	C27-31B	C27-31A	234.7

Date	MHFROM	MHTO	Footage	Date	MHFROM	MHTO	Footage
7/31/2013	C27-31I	C27-31H	291.2	8/12/2013	46-4E	46-4B	194.5
7/31/2013	C27-31H	C27-31G	259.0	8/12/2013	46-4B	46-4A	141.2
7/31/2013	C27-31G	C27-31A	261.7	8/12/2013	46-4F	46-4A	158.8
8/6/2013	C17C	C17B	285.6	8/12/2013	46-4A	46-4	411.9
8/6/2013	D25-12B	D25-12A	235.9	8/12/2013	46-5	46-4	318.9
8/6/2013	D25-12A	D25-12	98.1	8/12/2013	61-7F	61-7E	375.0
8/6/2013	D25-13	D25-12	199.7	8/12/2013	61-7D-1	67-7D	90.0
8/6/2013	D25-12	D25-31G	211.8	8/12/2013	61-7E	61-7D	258.0
8/6/2013	D25-231G	D25-31A	255.9	8/12/2013	61-7D	61-7C	240.7
8/6/2013	D25-31E	D25-31D	152.4	8/12/2013	61-7C	61-7B	149.1
8/6/2013	D25-31F	D25-31D	38.7	8/12/2013	59-5C	59-5B	97.1
8/6/2013	D25-31D	D25-31B	262.7	8/12/2013	59-5B	59-5A	263.1
8/6/2013	D25-31C	D25-31B	137.1	8/12/2013	59-5E	59-5D	130.7
8/6/2013	D25-31B	D25-31A	170.2	8/12/2013	59-5D	59-5A	200.0
8/8/2013	C47C	C47B	19.6	8/12/2013	59-9	59-8	103.5
8/8/2013	C47B	C47A	170.5	8/12/2013	59-8	59-7	300.1
8/8/2013	C47A	C47	189.6	8/12/2013	59-5A	59-5	82.1
8/8/2013	C47	C46-1	93.4	8/12/2013	59-7	59-6	253.7
8/8/2013	C46-1	C46	130.5	8/12/2013	59-6	59-5	274.6
8/8/2013	C46A	C46	223.2	8/19/2013	D25-19B	D25-19A	265.3
8/8/2013	C46	C45	336.9	8/19/2013	D25-19C	D25-19A	214.6
8/8/2013	C45	C45A	211.9	8/19/2013	D25-19A	D25-19	276.1
8/8/2013	C45B	C45A	240.3	8/19/2013	D25-20C	D25-20A	192.4
8/8/2013	C45A	C45	263.5	8/19/2013	D25-20B	D25-20A	222.5
8/8/2013	C47C	C47B	19.6	8/19/2013	D25-20A	D25-20	284.3
8/8/2013	C47B	C47A	170.5	8/19/2013	K2-9-10B	K2-9-10A	171.3
8/8/2013	C47A	C47	189.6	8/19/2013	K2-9-10A	K2-9-10	199.4
8/8/2013	C47	C46-1	93.4	8/19/2013	K2-9-B	K2-9-9A	162.4
8/8/2013	C46-1	C46	130.5	8/19/2013	K2-9-9A	K2-9-9	300.0
8/8/2013	C46A	C46	223.2	8/19/2013	K2-9-8B	K2-9-8A	203.0
8/8/2013	C46	C45	336.9	8/19/2013	K2-9-8A	K2-9-8	161.6
8/8/2013	C45C	C45A	211.9	8/19/2013	K2-9-6A	K2-9-6	445.2
8/8/2013	C45B	C45A	240.3	8/19/2013	K2-5D	K2-5C	121.3
8/8/2013	C45A	C45	263.5	8/19/2013	K2-5C	K2-5B	148.6
8/8/2013	K2-93	K2-91	229.7	8/19/2013	K2-5E	K2-5B	299.0
8/8/2013	K2-9-1	K2-9	176.2	8/19/2013	K2-5B	K2-5A	268.8
8/8/2013	K2-8A	K2-8	330.2	8/19/2013	K2-5H	K2-5G	194.9
8/8/2013	K2-11	K2-10	194.9	8/19/2013	K2-5G	K2-5A	205.0
8/8/2013	K2-10	K2-9	200.8	8/19/2013	K8-7	K8-6	177.2
8/8/2013	K2-8	K2-7	198.1	8/19/2013	K8-6	K8-5	228.0
8/8/2013	K12-14Y	K12-14X	360.6	8/19/2013	K2-5F	K2-5B	388.7
8/8/2013	K12-14X	K12-14W	380.7	9/3/2013	K12-2I	K12-2H	385.0
8/8/2013	K12-14W	K12-14V	353.0	9/3/2013	K2-2H	K12-2G	371.3
8/8/2013	K12-14V	K12-14U	274.7	9/3/2013	K12-2E	K12-2D	265.9
8/9/2013	K2-7	K2-6-1	319.6	9/3/2013	K12-2F	K12-2D	345.7
8/9/2013	K2-6-1	K2-6	79.6	9/3/2013	K12-2D	K12-2C	227.8
8/9/2013	K2-6C	K2-6B	232.2	9/11/2013	K12-2C	K12-2A	224.6
8/9/2013	K2-6B	K2-6A	218.6	9/11/2013	K12-2B	K12-2A	222.3
8/9/2013	K2-6A	K2-6	22.3	9/11/2013	K12-2A	K12-2	359.0
8/9/2013	K2-6	K2-5	251.7	9/11/2013	K8-5	K8-4	358.2
8/9/2013	K12-14U	K12-14T	273.0	9/11/2013	K12-2G1	K12-2	354.8
8/9/2013	K12-14T	K12-14S	321.7	9/11/2013	K2-2E	K2-2D	203.1
8/9/2013	K12-14S	K12-14R	298.7	9/11/2013	K2-2G	K2-F	129.3
8/12/2013	46-4D	46-4C	189.1	9/11/2013	K2-2F	K2-2D	143.2
8/12/2013	46-4C	46-4B	159.5	9/11/2013	K2-2I	K2-2H	275.2

Date	MHFROM	MHTO	Footage	Date	MHFROM	MHTO	Footage
9/13/2013	B38-2	B38-1	77.3	9/19/2013	K12-14K	K12-14J	270.4
9/13/2013	B36-B	B36-A	60.8	9/19/2013	K12-14J	K12-14I	248.3
9/13/2013	B35B	B35A	67.3	9/19/2013	K12-14-1	K12-14I	215.8
9/13/2013	B10-31	B10-30	30.9	9/19/2013	K2-9-15A	K2-9-15	54.0
9/17/2013	K12-9I	K12-9G	209.9	9/19/2013	K2-9-15A	K2-914	197.0
9/17/2013	K12-0H	K12-9G	406.9	9/19/2013	K12-14I	K12-14H	339.8
9/17/2013	K12-9G	K12-9F	104.0	9/19/2013	K12-14H	K12-14G	190.3
9/17/2013	K12-9F	K12-9C	21.0	9/20/2013	K12-16B	K12-16A	147.8
9/17/2013	K12-9D	K12-9C	20.5	9/20/2013	K12-16A	K12-16	300.6
9/17/2013	K2-13	K2-12	149.9	9/20/2013	K12-16D	K12-16C	233.9
9/17/2013	K2-12	K2-11	218.6	9/20/2013	K12-16C	K12-16	252.4
9/17/2013	K12-9E	K12-9D	511.4	9/20/2013	K12-5B	K12-5	175.5
9/17/2013	K12-9C	K12-9J	65.4	9/20/2013	K12-5	K12-4	349.7
9/17/2013	K12-9J	K12-9A	277.5	9/20/2013	K12-5A	K12-5	307.4
9/17/2013	K12-9B	K12-9A	253.4	9/20/2013	K12-9-14A	K12-9-14	60.1
9/18/2013	K2-2D	K2-2C	244.9	9/20/2013	K12-9-14	K12-9-13	195.6
9/18/2013	K2-2C	K2-2B	150.4	9/23/2013	K2-9-16	K2-9-15	99.9
9/18/2013	K2-2H	K2-2B	297.5	9/23/2013	K2-9-15A	K2-9-14	197.0
9/18/2013	K12-7I	K12-7H	289.3	9/23/2013	K2-9-14A	K2-9-14	60.1
9/18/2013	K12-7H	K12-7G	218.8	9/23/2013	K2-9-14A	K2-9-13	195.6
9/18/2013	K12-7G	K12-7F	227.6	9/23/2013	C38-2E	C38-2D	226.3
9/18/2013	K12-5F	K12-5E	374.9	9/23/2013	C38-2D	C38-2	440.9
9/18/2013	K2-2B	K2-2A	186.6	9/23/2013	K2-9-13	K2-9-12	206.6
9/18/2013	K2-2J	K2-2A	181.3	9/23/2013	K2-9-12	K2-9-11	198.5
9/18/2013	K12-5E	K12-5D	63.7	9/23/2013	D25-21G	D25-21F	230.3
9/18/2013	K12-5D	K12-5C	213.3	9/23/2013	D25-21F	D25-21E	248.7
9/18/2013	K12-5C	K12-5B	29.9	9/23/2013	K43A	K43	349.8
9/18/2013	K12-7F	K12-7E	204.4	9/23/2013	K42	K41	316.5
9/18/2013	K12-7E	K12-7D	109.1	9/23/2013	K40B	K40A	118.1
9/18/2013	K12-7K	K12-7J	183.5	9/23/2013	K40A	K40	146.2
9/18/2013	K12-7J	K12-7D	183.6	9/23/2013	K41	K40	270.9
9/18/2013	K12-18A	K12-18	390.1	9/23/2013	K40	K39	76.1
9/18/2013	K12-17D	K12-17C	275.9	9/23/2013	K39	K38	92.3
9/18/2013	K12-17C	K12-17	244.3	9/24/2013	K2-5-4G	K2-5-4E	213.3
9/18/2013	K12-15B	K12-15A	98.3	9/24/2013	K2-5-4F	K2-5-4E	81.1
9/18/2013	K12-15A	K12-15	308.2	9/24/2013	K2-5-4E	K2-5-4C	138.3
9/18/2013	K51	K50	79.6	9/24/2013	K2-5-4D	K2-5-4C	226.5
9/18/2013	K50	K49	227.0	9/24/2013	K2-5-8E	K2-5-8C	104.2
9/18/2013	K49	K48	224.4	9/24/2013	K2-5-8C	K2-5-8B	114.3
9/18/2013	K48	K47	168.2	9/24/2013	K2-5-8B	K2-5-8A	24.6
9/18/2013	K47C	K47B	152.7	9/24/2013	D25-17A	D25-17	262.3
9/18/2013	K47B	K47A	231.4	9/25/2013	D25-15	K25-14	257.9
9/18/2013	K47A	K47	292.4	9/25/2013	D25-14	KD25-7	282.4
9/18/2013	K47	K46	63.0	9/25/2013	D25-9	D25-8	279.4
9/18/2013	K45B	K45A	77.3	9/25/2013	D25-8	D25-7	266.3
9/18/2013	K45A	K45	222.1	9/25/2013	D25-7	D25-6	39.8
9/18/2013	K46	K45	351.2	9/25/2013	D25-6B	D25-5A	284.9
9/18/2013	K45	K44	246.3	9/25/2013	D25-6A	D25-6	270.9
9/18/2013	K44	K43	236.1	9/25/2013	D25-6	D25	289.7
9/19/2013	K12-14O	K12-14N	210.2	9/25/2013	D25-5	D25-4	314.5
9/19/2013	K12-14N	K12-14M	180.0	9/25/2013	D25-4	D25-3	269.3
9/19/2013	K12-14M	K12-14L	28.5	9/25/2013	D25-3	D25-2	270.6
9/19/2013	K12-14Q	K12-14P	57.7	8/23/2013	K2-9-3E	K2-9-3D	162.8
9/19/2013	K12-14P	K12-14K	405.8	8/23/2013	K2-9-3D	K2-9-3C	224.5
9/19/2013	K12-14L	K12-14K	250.1	8/23/2013	K2-9-3C	K2-9-3	107.1

Date	MHFROM	MHTO	Footage	Date	MHFROM	MHTO	Footage
8/23/2013	K12-13A	K12-13	296.8	10/4/2013	C15-19	C15-18	243.5
8/23/2013	K12-14B	K12-14A	204.9	10/4/2013	C15-18	C15-17	255.9
8/23/2013	K12-14A	K12-14	295.0	10/4/2013	C15-17	C15-16	255.4
8/23/2013	K12-14D	K12-14D4	130.3	10/4/2013	C15-16A	C15-16	224.9
8/23/2013	K12-14D4	K12-14D3	38.7	10/4/2013	C15-16	C15-15	37.5
8/23/2013	K12-14D3	K12-14D1	276.0	10/4/2013	C15-15	C15-14	380.8
8/23/2013	K12-14D2	K12-14D1	156.4	10/4/2013	C15-14B	C15-14A	87.8
8/23/2013	K12-14D1	K12-14D	186.8	10/4/2013	C15-14A	C15-14	163.7
9/27/2013	C20-7	C20-7A	139.0	10/7/2013	B20-9	B20-8	186.2
9/30/2013	D25-6G	D25-6F	252.7	10/7/2013	B20-8A	B20-8	134.7
9/30/2013	D25-6F	D25-6B	294.9	10/7/2013	B20-8	B20-7	259.9
9/30/2013	K2-5-1	K2-5	186.2	10/7/2013	B20-7A	B20-7	148.8
9/30/2013	L9-9	L9-8A	202.2	10/7/2013	B20-7	B20-6	150.3
9/30/2013	L9-8A	L9-8	223.0	10/7/2013	B20-6	B20-5	179.5
9/30/2013	D32	D33	256.0	10/7/2013	B20-5	B20-4	272.9
9/30/2013	D27K	D27J	234.2	10/8/2013	B14C	B14A	178.8
9/30/2013	D27J	D21I	297.5	10/8/2013	B14D	B14A	140.1
9/26/2013	D25-6E	D25-6D	245.7	10/8/2013	B14B	B14A	301.5
9/26/2013	D25-6D	D25-6C	276.5	10/8/2013	B14A	B14	255.2
9/26/2013	D25-6G	D25-6F	252.7	10/8/2013	B18D	B18C	192.3
9/26/2013	K2-5-3	K2-5-2	279.8	10/8/2013	B18C	B18B	183.6
9/26/2013	K2-5-2	K2-5-1	286.0	10/8/2013	B18B	B18A	179.3
9/26/2013	K2-5-1A	K2-5-1	247.2	10/8/2013	B18E	B18A	117.9
9/26/2013	D25-18C	D25-18A	206.9	10/8/2013	B18I	B18H	172.7
9/26/2013	D25-18B	D25-18A	185.6	10/8/2013	B18H	B18G	240.9
9/26/2013	D15-18A	D25-18	265.6	10/8/2013	B18G	B18F	256.5
9/30/2013	C21-8	C21-7	247.4	10/8/2013	B18F	B18-1A	250.3
9/30/2013	L11	L10	295.1	10/8/2013	B18-1A	B18A	160.0
9/30/2013	K43A	K42	240.9	10/8/2013	B20-3	B20	250.6
9/30/2013	K42A	K42	71.9	10/8/2013	B20I	B20	206.0
9/30/2013	K39	K38	92.3	10/8/2013	B20I	B20H	291.0
9/30/2013	C21-5	C21-4	234.5	10/8/2013	B20H	B20G	91.4
9/30/2013	C21-4	C21-3	197.9	10/8/2013	B20G	B20F	165.5
9/30/2013	C21-3B	C21-3A	93.9	10/8/2013	B20F	B20E	144.1
9/30/2013	C21-1C	C21-1B	280.6	10/8/2013	B20E	B20D	154.8
10/1/2013	C21-5	C21-4	234.5	10/8/2013	B20D	B20C	230.1
10/1/2013	C21-4	C21-3	197.9	10/8/2013	B20C	B20A	253.5
10/1/2013	C21-3B	C21-3A	104.8	10/8/2013	B20L	B21E	329.5
10/3/2013	L-9-6	L9-7	236.0	10/8/2013	B20M	B20E	310.7
10/3/2013	L16A	L16	300.6	10/9/2013	B10-3K	B10-3J	120.7
10/3/2013	L17	L16	235.7	10/9/2013	B10-3J	B10-3I	88.9
10/6/2013	C15-9G	C13-17C	199.8	10/9/2013	B10-3I	B10-3G	138.5
10/6/2013	C13-17D	C13-17C	100.6	10/9/2013	B10-3H	B10-3G	108.8
10/6/2013	C13-17C	C13-17B	233.4	10/9/2013	B10-3G	B10-3F	290.8
10/6/2013	C13-17A	C13-17	234.0	10/9/2013	B10-3F	B10-3B	293.0
10/6/2013	C13-17	C13-16	50.4	10/9/2013	B10-3B	B10-3A-1	118.0
10/6/2013	C13-19	C13-18	298.8	10/11/2013	61-6	61-5	164.1
10/6/2013	C13-18	C13-17	300.1	10/11/2013	61-5	61-4	148.0
10/6/2013	C13-16C	C13-16B	311.6	10/11/2013	61-4	61-3	271.4
10/6/2013	C13-16B	C13-16A	58.3	10/14/2013	D25-15	D25-14	257.9
10/6/2013	C13-16A	C13-16	244.3	10/14/2013	D25-14	D25-7	282.4
10/7/2013	B15D	B15B	225.7	10/14/2013	D25-8	D25-7	266.3
10/7/2013	B15C	B15B	142.3	10/14/2013	D25-6	D25-5	41.3
10/7/2013	B15B	B15A	227.4	10/11/2013	H2	H1	261.2
10/4/2013	C15-20	C15-19	256.1	10/11/2013	B38-5	B38-4	176.6

Date	MHFROM	MHTO	Footage	Date	MHFROM	MHTO	Footage
10/11/2013	K2-5-4A	K2-5-4	157.6	10/18/2013	76-7B	76-7A	299.3
10/14/2013	61-6	61-5	164.1	10/18/2013	76-8	76-7	222.0
10/14/2013	61-5	61-4	148.0	10/18/2013	76-7A	76-7	301.4
10/14/2013	61-4	61-3	271.4	10/18/2013	C17-2T	C17-2S	188.2
10/14/2013	61-3	61-2	249.4	10/18/2013	C17-2S	C17-2R	249.7
10/14/2013	61-2B	61-2A	159.7	10/18/2013	C17-2E	C17-2D	122.9
10/14/2013	61-2C	61-2A	95.0	10/18/2013	C17-2D	C17-2C	184.1
10/14/2013	61-2A	61-2	270.3	10/18/2013	C17-2C	C17-2B	289.0
10/14/2013	59-3A	59-3	265.9	10/18/2013	C17-2O	C17-2N	59.8
10/14/2013	59-4	59-3	313.8	10/18/2013	C17-2N	C17-2B	239.2
10/14/2013	59-3	59-2	323.5	10/18/2013	C17-2Q	C17-2P	169.8
10/14/2013	59-5	59-4	242.1	10/18/2013	C17-2P	C17-2N	262.4
10/14/2013	43-10C	43-10B	312.0	10/18/2013	C17-3E	C17-3D	182.4
10/14/2013	43-10D	43-10B	197.3	10/18/2013	C17-3D	C17-3C	362.3
10/14/2013	43-10B	43-10A	212.4	10/18/2013	C17-3C	C17-3B	336.2
10/14/2013	43-10A	43-10	40.0	10/18/2013	C17-5	C17-4	338.3
10/14/2013	43-6D	43-6C	341.0	10/18/2013	F15C	F15B	243.6
10/14/2013	43-6C	43-6B	277.0	10/18/2013	F15B	F15A	165.7
10/14/2013	43-6E	43-6A	171.0	10/18/2013	F15A	F15A1	76.0
10/14/2013	43-6A	43-6	267.4	10/18/2013	F17	F16	213.6
10/15/2013	59-2B	59-2A	307.5	10/18/2013	F16	F15	200.2
10/15/2013	59-2A	59-2	23.9	10/18/2013	F15-2	F15-1	159.6
10/15/2013	55-5B	55-5A	296.0	10/18/2013	F15-1	F15	175.7
10/15/2013	55-5	55-5A	311.5	10/18/2013	F15A1	F15	225.2
10/15/2013	61-14	61-13	221.1	10/21/2013	C15-14	C15-13	347.9
10/15/2013	61-13	51-12	254.4	10/21/2013	C15-13	C15-12	322.1
10/15/2013	61-12	61-11	317.4	10/21/2013	C15-12	C15-11	71.3
10/15/2013	61-11	61-10	312.1	10/21/2013	C15-11A	C15-11	265.5
10/15/2013	61-10	61-9	268.2	10/21/2013	C15-11	C15-10	256.4
10/15/2013	61-9B	61-9A	269.5	10/21/2013	C15-10	C15-9	325.1
10/15/2013	61-9A	61-9	275.5	10/21/2013	C15-9-1	C15-9	264.5
10/15/2013	61-9D	61-9C	63.9	10/21/2013	C15-9A	C15-9	275.0
10/15/2013	61-9C	61-9	255.0	10/21/2013	C15-9	C15-8	262.5
10/16/2013	F15-7-3B	F15-7-3	104.3	10/21/2013	C15-8	C15-7	225.5
10/16/2013	F15-7-4	F15-7-3	203.0	10/21/2013	C15-7B	C15-7A	141.8
10/16/2013	F15-7-3	F15-7-2	146.8	10/21/2013	C15-7A	C15-7	50.4
10/16/2013	F15-7-2A	F15-7-2	324.5	10/21/2013	C15-7	C15-6	252.1
10/16/2013	F15-7-2A	F15-7-1	123.8	10/21/2013	C15-6	C15-5	249.7
10/16/2013	F15-7-1	F14-7	322.0	10/21/2013	C15-5B	C15-5A	82.0
10/17/2013	F12-1E	F12-1A	317.1	10/21/2013	C15-5A	C15-5	185.7
10/17/2013	F12-1F	F12-1A	216.4	10/21/2013	C15-5	C15-4	362.0
10/17/2013	F12-1A	F12-1	326.5	10/22/2013	C8-6J	C8-6I	256.4
10/17/2013	F17F	F17E	179.4	10/22/2013	C8-6I	C8-6A	285.1
10/17/2013	F17E	F17D	111.3	10/22/2013	C8-6H	C8-6G	159.8
10/17/2013	F17D	F17C	254.5	10/22/2013	C8-6G1	C8-6G	100.2
10/17/2013	F17C	F17B	133.9	10/22/2013	C8-7B	C8-7A	142.0
10/17/2013	F17B	F17A	92.5	10/22/2013	C8-7A	C8-7	108.3
10/17/2013	F17A	F17	238.8	10/22/2013	C8-7	C8-6	215.8
10/17/2013	F18	F17	315.8	10/22/2013	C8-6A	C8-6	123.6
10/18/2013	76-12	76-11	220.8	10/22/2013	C8-6	C8-5	130.8
10/18/2013	76-11	76-10	100.9	10/22/2013	C8-5A	C8-5	130.8
10/18/2013	76-9A	76-9	374.3	10/22/2013	C8-5	C8-4	51.1
10/18/2013	76-10	76-9	334.8	10/22/2013	C8-4	C8-3	103.1
10/18/2013	76-9	76-8	263.0	10/21/2013	C17-3B	C17-3A	107.8
10/18/2013	76-7C	76-7B	341.3	10/21/2013	C17-3A	C17-3	182.1

Date	MHFROM	MHTO	Footage	Date	MHFROM	MHTO	Footage
10/21/2013	C17-4	C17-3	136.7	11/15/2013	C27-33	C27-32-1	252.2
10/22/2013	C13-1B	C13-1A	325.1	11/15/2013	C27-32-1	C27-32	8.3
10/22/2013	C13-1A	C13-1	327.5	11/15/2013	D25-28	D25-27	269.1
10/22/2013	C13-2	C13-1	227.0	11/18/2013	C27-31A	C27-31	164.8
10/22/2013	C13-1	C13-A	111.7	11/18/2013	C27-32	C27-31	157.2
10/22/2013	C15-4	C15-3	314.9	11/18/2013	C27-31	C27-30	106.5
10/22/2013	C15-3	C15-2	302.1	11/18/2013	C27-30	C27-29	223.0
10/22/2013	C15-2	C15-1	301.3	11/18/2013	C27-29	C27-28	214.5
10/23/2013	D25-33B	D25-33A	229.9	11/19/2013	F5-8	F5-7	279.1
10/23/2013	D25-33C	D25-33A	388.4	11/19/2013	F5-7	F5-6	199.9
10/23/2013	D25-33A	D25-33	257.3	11/19/2013	F5-6	F5-5	208.1
10/23/2013	D25-34	D25-33	274.1	11/19/2013	F5-4	F5-3	361.5
10/23/2013	D25-33	D25-32	287.6	11/19/2013	F5-3	F5-2	298.4
10/23/2013	D25-32	D25-31	329.7	11/19/2013	F5-2	F5-1	299.8
10/23/2013	D25-36	D25-35	293.1	11/19/2013	F5-1C	F5-1B	161.3
10/23/2013	D25-31-E	D25-35	268.4	11/19/2013	F5-1B	F5-1A	19.8
10/23/2013	D25-31C	D25-34	275.4	11/19/2013	F5-1A	F5-1	258.2
10/23/2013	D25-35	D25-34	265.6	11/19/2013	F5-1	F5	273.2
10/23/2013	D9-15	D9-14	222.2	11/20/2013	40E	40D	344.2
10/23/2013	D9-14	D9-13	267.3	11/20/2013	40D	40C	341.9
10/28/2013	H9	H8	243.4	11/20/2013	F1A	F1	238.2
10/28/2013	H8	H7	250.1	11/20/2013	F1-1B	F1-1A	256.0
10/28/2013	H7	H6	118.1	11/20/2013	F1-1A	F1-1	242.1
10/28/2013	H6	H5	161.6	11/20/2013	F1-2	F1-1	244.4
10/28/2013	H5	H4B	119.7	11/20/2013	40C	40B	259.3
10/28/2013	H4B	H4B	123.4	11/20/2013	40E	40D	344.2
10/28/2013	H4	H3	176.0	11/20/2013	40D	40C	341.9
10/28/2013	H3	H2	200.0	11/20/2013	F1A	F1	238.2
10/28/2013	H2	H1	261.0	11/21/2013	43-5B	43-5A	277.0
10/28/2013	H1	B30A	284.5	11/21/2013	43-8	43-7	20.8
10/29/2013	C27-34B	C27-34A	262.3	11/21/2013	43-7	43-6	435.7
10/29/2013	C27-34A	C27-34	277.7	11/21/2013	43-6	43-5	317.7
10/29/2013	C27-34C	C27-34	185.7	11/21/2013	43-5	43-4	322.9
10/29/2013	C27-32C	C27-32B	286.3	11/21/2013	43-4	43-3	320.0
10/29/2013	C27-32B	C27-32A	299.7	11/21/2013	42C	42B	340.3
10/29/2013	C27-32E	C27-32D	182.6	11/21/2013	43-3	43-2	350.1
10/29/2013	C27-32D	C27-32A	203.4	11/21/2013	43-2	43-1	353.6
10/29/2013	C27-32A	C27-32F	263.3	11/21/2013	43-1	43	36.3
10/29/2013	C27-35	C27-34	270.4	11/21/2013	42B	42A	199.9
10/30/2013	C20-3D	C20-3C	325.8	11/21/2013	42A	42	140.6
11/3/2013	C17M	C17L	390.7	11/27/2013	55-3	55-2	123.0
11/5/2013	55-2	55-1	42.4	11/27/2013	55-2	55-1	42.4
11/5/2013	55-3	55-2	123.0	12/2/2013	C8-4	C8-3	103.1
11/5/2013	55-4	55-3	128.8	12/2/2013	43-10	43-9	218.8
11/4/2013	K12-7I	K12-7H	289.3	12/2/2013	61-3	61-2	249.4
11/5/2013	K12-11G	K12-11F	200.7	12/2/2013	F12-1	F2	330.9
11/5/2013	K12-11F	K12-11E	117.2	12/5/2013	46-3A	46-3	220.7
11/5/2013	K12-11E	K12-11C	219.4	12/5/2013	46-3	46-2	362.4
11/5/2013	K12-11I	K12-11H	118.3	12/5/2013	46-2	46-1	324.3
11/5/2013	K12-11H	K12-11D	261.9	12/5/2013	46-1	46	33.8
11/5/2013	K12-11D	K12-11C	45.0	12/5/2013	46C	46B	131.5
11/12/2013	57-8	57-7	300.1	12/5/2013	46B	46	33.8
11/12/2013	F5-5	F5-4	199.4	12/5/2013	47B	47A	214.0
11/15/2013	C27-32A	C27-32	263.3	12/5/2013	47A	47	323.5
11/15/2013	C27-34	C27-33	247.6	12/10/2013	D25-35	D25-34	265.6

Date	MHFROM	MHTO	Footage
12/12/2013	F12-1-3	F12-1-2	252.5
12/17/2013	K40-2D	K40-2C	288.4
12/17/2013	K40-2C	K40-2	302.2

March 20, 2014

Mr. Jack Longstreet
York City Sanitary Sewer Maintenance Building
1625 Toronita Street
York, PA 17402

Reference: Collection System Review and Operations Consultation
BH No. 90015-R4

Dear Mr. Longstreet:

I. INSPECTION OVERVIEW

The 2013 annual sewer system review took place on February 25, 2014. Discussions of the system's operation were held with the Sewer Maintenance Supervisor.

II. PUMPING STATIONS

A. Industrial Park Pump Station
   1. The pump station has been operating without trouble.
   2. The generator is exercised on a weekly basis.

III. SIPHONS

A. Siphon Observations
   1. The twelve siphons located throughout the City were not observed in during the 2014 Collection System Review.

B. Siphon Identification
   1. Wogan Road & Fireside Road, Southern
   2. Wogan Road & Fireside Road, Northern
   3. West Street & Bruce Avenue
   4. Odean Field (Bantz Field)
   5. Fahs St. at Willis Run
   6. Atlantic Avenue at Willis Run
   7. Pacific Avenue at Willis Run
   8. Kings Mill Road at Tyler Run
   9. Tyler Run Interceptor at Codorus Creek
   10. Codorus Creek Interceptor at Willis Run
   11. Poorhouse Run Interceptor at Codorus Creek

12. Mill Creek Sewer at Codorus Creek

IV. FLOW MONITORING

A. Inter-Municipal Flow Meters
1. The twelve municipal flow meters are currently operating with minimal problems. The flow metering contract was renewed in 2013 and includes an internet interface which allows users to view the data in a more real-time format.

B. Main Interceptor Flow Meters
1. The four main interceptor flow meters are operating with minimal problems. The flow metering contract was renewed in 2013 and includes an internet interface which allows users to view the data in a more real-time format.

C. Portable Flow Meters
1. The portable flow meters are not currently being used.

D. Rain Gauges
1. The two rain gauges are operating with minimal problems.

V. INTERCEPTORS, COLLECTORS AND MANHOLES

A. The manholes with surcharge indicators were all reviewed by BH staff. These manholes were in good condition. The surcharge indicators were measured, cleaned, repaired as needed and reset for the next rain events

Table 1 identifies the 2013 max surcharge for each surcharge indicator. The surcharge indicators were read once during 2013. The surcharge indicators were read on 3/19/2013 as the year end reading done in conjunction with the collections system evaluation.

The surcharge indicators are now more than ten years old, and they are in poor condition. The surcharge indicators should be replaced.

Table 1
Surcharge Indicator Readings
Feet of Surcharge Above Pipe Crown

Manhole ID	Rim Elevation (ft)	Invert Elevation (ft)	Crown Elevation (ft)	1/31/2013 Reading * (ft)
A2	355.45	339.00	345.65	NA
A26	361.75	343.48	347.48	NA
A36	357.03	344.14	348.14	0
A37	356.11	344.56	348.56	0

Table 1
Surcharge Indicator Readings
Feet of Surcharge Above Pipe Crown

Manhole ID	Rim Elevation (ft)	Invert Elevation (ft)	Crown Elevation (ft)	1/31/2013 Reading * (ft)
A40	363.49	344.60	348.60	6.0
K2T	367.04	349.94	353.90	NA
T21	385.50	379.42	381.17	2.8
T26	396.10	388.50	390.20	2.8

* Readings are in feet about the sewer pipe crown

VI. FACILITIES

A. Sanitary Sewer Maintenance Building

1. The City of York Collection System Maintenance Department owns and operates the equipment necessary to clean and maintain the sewer collection system.

2. All maintenance equipment was in working order at the time of the collection system review.

3. The operations equipment and tools are suited to their tasks and are generally in good condition.

VII. OPERATION AND MAINTENANCE PROGRAMS

A. Sewer Cleaning

1. The City is continuing the sewer cleaning program and is methodically cleaning all the sewer lines within the City over a several year period. The City has problem areas scheduled for cleaning on a monthly or semiannual basis. The City cleaned more than 353,300 feet of sewer in 2013.

B. Trouble Spot Inspection

1. Trouble spots such as small diameter siphons and areas where roots and/or grease commonly clog the sewers are cleaned semiannually to insure regular service. The City responded to 161 sewer related actions or complaints

2. Trouble spots include the following areas:
   a. S. Penn St. and Stone Ave. - *Grease Problems*
   b. Springdale - *Root Problems*
   c. Fireside - *Root Problems*
   d. Parkway Homes - *Grease Problems*
   e. Downtown (South St., Maple St., Princess St., College Ave., and Boundary Ave. between George St. and Queen St.) - *Grease Problems*

3. Three other areas appear to be potential problem areas. The following areas are currently being cleaned on a monthly basis.
   a. 216 West King St
   b. 738 Edison St
   c. 105 East Jackson St.

C. Pump Station
1. The pump station is scheduled to be checked on a monthly basis. The run times on the pumps and the one generator are reviewed for uneven use problems. The generator is automatically exercised once a week. The pump station and generator are in good working order.

D. Flow Meters
1. The permanent and municipal flow meters are routinely monitored by the City of York and CSL Service, Inc, the flow metering service provider. Any problems with the flow meters are addressed immediately by CSL.

2. The City of York will re-bid the sanitary sewer flow metering services in 2013. CSL Services, Inc. was the low bid and continues to provide flow metering services to the City of York

E. MH & Sewer Repairs
1. Manhole frames and covers are raised or replaced on an as-needed basis. They are often raised in conjunction with street paving work within the City of York. 14 replacement or grade adjustment was made in 2013.

3. Considerable effort currently occurs in marking the underground sanitary and storm utilities per the PA One Call System. This effort has increased to include coordinating all City of York Departments that are required to mark underground utilities. The Department responded to 1,524 PA One Call requests in 2013.

4. The City has performed root removal on an as needed basis. The City is continuing to use Root X, a chemical designed to prohibit root growth in trouble areas, with good results. Root control was applied to 14 service laterals in 2013.

5. Each year the department repairs or replaces sewers mains due to damage by other utilities companies or from age and degradation. However, in 2013 the department did not perform any sewer replacements or rehabilitation.

6. CCTV inspection is regularly used by the department to identify pipe deficiencies for both the collection and conveyance system. In 2013 the

sewer crew was focused on cleaning and manhole inspections. No CCTV inspection were performed in 2013.

7. 3,570 Manhole inspections were performed in 2013. The inspections were used to determine overall condition of the sewer facilities and to identify potential sources of inflow and infiltration.

F. Infiltration/Inflow

1. The TV camera truck system and the line mate software package were not used in 2013. There were significant repair issues that were however addressed. used on an as needed basis.

2. The wastewater collection system has been experiencing excessive inflow during heavy rain events. Wastewater treatment plant flows greater than 70 mgd occurred during the October 10 and 11, 2013 rain event. Over 5 inches of rain fell on the greater York area.

3. A total of 8 surcharge indicators are being used to monitor areas predicted to have capacity restrictions. Each of these indicators was visited. The surcharge indicators are generally in good condition.

G. Staffing

1. The sewer collection system staff consists of one supervisor, Jack Longstreet, one shared secretary with the wastewater treatment plant and six operators. The operators are divided into two units. One unit consists of one person who exclusively marks utilities for the PA One Call System. The other unit consists of five persons who conduct sewer cleaning, repairs & maintenance.

2. Various staff members have participated in treatment plant operator training, confined space training, and hazardous waste operations and emergency response training.

VIII. SUMMARY OR RECOMMENDATION

A. Continue to inspect and clean siphons throughout collection system if possible.
B. Continue to monitor surcharge indicators and develop an inspection and maintenance plan for the surcharge indicators.
C. Continue to inspect and clean areas with known grease and root problems.
D. Continue to provide professional development training for the sewer collection system staff.
C. Develop and maintain annual CCTV inspections. The past two years no CCTV work has been performed by the City staff. All equipment should be repaired so that the staff can use it to assess city sewers.
E. The City of York needs to develop a sewer facilities renewal program. The past

two years no sewer mains have been replaced or repaired. Tropical Storm Lee identified several basins with rehabilitation needs.

F. The City of York needs to replace their surcharge indicators. An ultra sonic level detectors may be a good option for several locations.

G. The above discussion is intended to assist York City in identifying immediate problems, preventing reoccurrence of problems, improving reoccurring maintenance problems and increasing the efficiency of collection system operations.

We encourage an interactive review of this report by everyone involved in the operation of the system.

Very truly yours,

BUCHART HORN, INC.

David W. Shirk, P.E.
Project Engineer

cc: Stacey MacNeal, York City Sewer Authority
Andy Jantzer, WWTP General Manager
Veronica Whaley, Industrial Pretreatment Compliance and Enforcement Officer
Lawrence A. Lutter, P.E./File

Exhibit YC-1

York City Sewerage Needs Analysis: 5-Year Projection of Additional Flows (gpd)

Map No.	Development Name	2014	2015	2016	2017	2018	Total
1	Northwest Triangle development	0	2950	350	15750	15750	34800
2	Codorus Homes at Thackston Park	0	1050	0	0	0	1050
3	454 E Princess St (ACCO site)	0	0	0	1400	0	1400
4	200 N Broad Street (Graybill property)	0	0	0	1225	0	1225
5	44-50 W Market St (Woolworth building)	0	1800	0	0	0	1800
6	373-379 W King St	0	0	1200	0	0	1200
7	37 W Market St	2550	0	0	0	0	2550
8	141-147 W Market St	6650	0	0	0	0	6650
9	700 Linden Av	0	8000	850	0	0	8850
10	108 N George St	600	0	0	0	0	600
11	233-261 S George St, 13-25 E College Av	1000	0	0	0	0	1000
12	241 S Court St	2850	0	0	0	0	2850
13	43-45 W Market St	720	700	0	0	0	1420
14	303-335 W Maple St	0	2800	2800	0	0	5600
15	210 York St	700	1300	0	0	0	2000
16	564-568 Company St	700	0	0	0	0	700
17	600-630 S Pine St	0	350	350	700	0	1400
18	403 S Albemarle St	700	0	0	0	0	700
19	240 Stonewall Avenue	0	1750	1750	0	0	3500
20	miscellaneous infill residential development	1400	1400	1400	1400	1400	7000
	Total	**17870**	**22100**	**8700**	**20475**	**17150**	**86295**

Appendix H
York Township Chapter 94 Municipal Wasteload Management Report

York Township
York County, Pennsylvania

2013 Municipal Wasteload Management Report

York Township System Tributary to
the City of York Wastewater Treatment Plant

February 2014

Gannett Fleming

Excellence Delivered As Promised

Contents

Tables

Attachments

Attachment	Title
1	York Township Maintenance Report
2	York Township Projected Connections
3	York Township Projected Connections Map
4	York Township Reserve Capacity Calculation

1.0 DESCRIPTION OF WASTEWATER COLLECTION AND CONVEYANCE FACILITIES

The York Township (Township) wastewater collection and conveyance system (System) is owned by the York Township Water and Sewer Authority (Authority) and operated by the Township. The System consists of approximately 46.9 miles of interceptors and collector piping ranging in size from 4-inch diameter to 18-inch diameter and six (6) pumping stations with force mains. The Township System conveys wastewater to the City of York WWTP.

The Tyler Run Interceptor was placed into operation in 1969 and originally served four (4) sewer districts that have since been combined into one district. In addition to serving portions of York Township, the Interceptor serves several portions of Spring Garden Township. During 2013, the Tyler Run Interceptor transported an estimated 158,315 gallons per day (gpd) of wastewater from Spring Garden Township, based on a combination of metered and unmetered flow data from Spring Garden Township.

The pump stations tributary to the Tyler Run Interceptor include the Marlborough, the Leader Heights, the Joppa Road, the Spangler Meadows, the Imperial Drive, and the Lentzlyn Drive Pump Stations. Information on the operation and maintenance, condition, and capacity of the six (6) pumping stations is included in Section 4.0.

2.0 SYSTEM MONITORING, MAINTENANCE, AND REPAIR

York Township employs six (6) full-time employees to perform operation and maintenance activities of the sanitary sewer system. Major pumping station repairs and electrical problems are addressed through contracted services on an as-needed basis. Sections 3.0 and 4.0 include a summary of the condition and repairs completed on the collection system and conveyance components of the System in 2013. Attachment 1 provides greater detail regarding the Township's maintenance activities in 2013.

3.0 WASTEWATER COLLECTION SYSTEM CONDITION

The Township owns the equipment necessary to maintain the sewer system. As described in Attachment 1, the Township staff flushed and performed closed circuit television (CCTV) inspection of 21,000 linear feet of sewer within the Tyler Run drainage basin during 2013. Cured-in-place lining of a 300 feet section of the 18-inch diameter interceptor was also performed and 156 infiltration dishes were installed in manholes. The Township completed a flow metering program to generate information needed for an update to the hydraulic model of the Tyler Run Interceptor System. A total of 10 temporary flow meters were installed at key locations within the York City WWTP service area to establish base flow, average, and peak wastewater flow conditions. An update of the hydraulic model will be performed in 2014. The Township will continue its sewer system inspection and rehabilitation program in 2014 to identify and eliminate sources of excessive infiltration and inflow (I/I).

4.0 WASTEWATER CONVEYANCE SYSTEM CONDITION

The Township staff performs routine maintenance weekly on the pump stations. Each pump station is monitored by a dial-up paging system to ensure a timely response in the event of a mechanical failure. Following is a summary of each pumping station.

4.1 Marlborough Pump Station

The Marlborough Pump Station is located adjacent to Interstate 83 off Jonquil Road. The Township completed the replacement of the Marlborough Pump Station during 2013 and placed the new facilities in operation in May 2013. The project replaced equipment originally installed in the early 1970s that was at the end of its useful operating life. The original, fixed-speed pumps were replaced with new, variable speed, submersible pumps, each with a rated capacity of 375 gpm at a Total Dynamic Head of 124 feet. The replacement station was also equipped with a diesel powered backup pump with a rated capacity of 700 gpd at a Total Dynamic Head of 130 feet to provide pumping capacity in the event of an emergency, such as loss of station power. The new Water Quality Management Permit sets the rated capacity of the

facility at 540,000 gpd, which is equal to the rated capacity with one of the electric powered pumps in service.

The pumping capacity was previously determined by performing drawdown testing of the pumps. The most recent drawdown test results demonstrated that the pumping capacity was 449 gpm with one pump out of service and 501 gpm with both pumps running. The new pumps provided with the rehabilitated station have an actual capacity of 380 gpm each, as confirmed by pump performance testing and flow meter readings.

Data from elapsed time meters, which monitor pump motor operating time, are typically recorded on a weekly basis by the Township staff. Table 1 includes a summary of the weekly meter readings at the Marlborough Pump Station during 2013. Since the runtime records include the first five months of the year with the original pumps and the last seven months of the year with the new pumps, the average values given in Table 1 are based on a combination of the older pump operation and the new pump operation, with a weighted average given for the average daily flow for the year. Listed minimum and maximum values are the actual values recorded during the year. The upgraded station now is equipped with a magnetic flow meter to record the station's conveyed flow. Staff also records pump run time for diagnostic purposes.

Table 1: Marlborough Pump Station-2013 Operating Data

	Recorded Operating Time (hours per day) (1)	Gallons Pumped per Day (1)	Pumping Station Capacity (gallons per day) (2)	Peaking Factor (Max/Avg)
Minimum	3.8	86,640	540,000	1.67
Average	6.3	156,350		
Maximum	9.7	262,080		

Notes:

(1) Runtime and flow data provided by York Township Public Works Department.
(2) Permitted capacity of the new station with only one electric powered pump in service.

Table 2 presents a summary of the projected flows to the pump station for the next two (2) years based on anticipated growth within the Pump Station's service area, as detailed in Attachment 2. Based on the average daily operation time during 2013, the pump station is

operating below its permitted capacity. Accordingly, no overloads are expected at the Marlborough Pump Station over the next two (2) years.

Table 2: Marlborough Pump Station-Estimated 2-Year Flow Increase

	Year		
	2013	2014	2015
Avg. Daily Flow (gpd) [1]	156,350	163,750	173,950
Max. Day Flow (gpd)	262,080	274,484	291,582
% Loading (design) [2]	48.5%	50.8%	54.0%

Notes:

(1) Future year average flows based on projections of wastewater flows for planned developments tributary to the Marlborough Pump Station (see Attachment 2).

(2) Maximum Day Flow divided by station permitted capacity of 540,000 gpd

4.2 Leader Heights Road Pump Station

The Leader Heights Pump Station is located adjacent to Interstate 83 on Keyway Drive and serves a predominantly commercial area. The pump station has a design and permitted capacity of 80 gpm (115,200 gpd). The pumping capacity is determined by performing drawdown testing of the pumps. The most recent drawdown test results demonstrated that the pumping capacity was 53 gpm with one (1) pump out of service.

The Leader Heights Pumping Station was originally placed in service in 1975 and is at the end of its useful life. Accordingly, the Authority and Township authorized the design for the replacement of the station with a new submersible pumping station in late 2013. It is expected construction of the replacement station will be completed in late 2014. No change in the permitted capacity of the station is expected.

Data from the elapsed time meters, which monitor pump motor operating time, are typically recorded on a weekly basis by the Township staff. Table 3 includes a summary of the weekly meter readings at the Leader Heights Pump Station during 2013.

Table 3: Leader Heights Pump Station-2013 Operating Data

	Recorded Operating Time (hours per day) (1)	Gallons Pumped per Day (2)	Pumping Station Capacity (gallons per day) (3)	Peaking Factor (Max/Avg)
Minimum	0.29	922	76,320	1.53
Average	0.43	1,367		
Maximum	0.66	2,099		

Notes:

(1) Runtime data provided by York Township Public Works Department.
(2) Based on hours of operation multiplied by actual capacity of 53 gpm.
(3) Based on the actual capacity of 53 gpm and 24 hours of runtime.

Table 4 presents a summary of the projected flows to the pump station for the next two (2) years based on anticipated growth within the service area, as detailed in Attachment 2. Based on the average daily operation time during 2013, the pump station is operating at under three percent of its design capacity. Although there are significant increases of flow projected in the next two (2) years to the Leader Heights Pump Station, no overloads are expected.

Table 4: Leader Heights Pump Station-Estimated 2-Year Flow Increase

	Year		
	2013	2014	2015
Avg. Daily Flow (gpd) (1)	1,367	1,717	6,367
Max. Day Flow (gpd)	2,099	2,636	9,773
% Loading (design)	1.8%	2.3%	8.5%
% Loading (existing capacity)	2.8%	3.5%	12.8%

Notes:

(1) Future year average flows based on projections of wastewater flows for planned development tributary to the Leader Heights Pump Station (see Attachment 2)

4.3 Joppa Road Pump Station

The Joppa Road Pump Station is located adjacent to Interstate 83, south of Leader Heights Road. The pump station has a design capacity of 80 gpm (115,200 gpd). An emergency generator is onsite for standby power. The pumping capacity is determined by performing

drawdown testing of the pumps. The most recent drawdown test results demonstrated that the pumping capacity was 85 gpm with the largest pump out of service and 100 gpm with both pumps running. The elapsed time meters, which monitor pump motor operating time, are typically recorded on a weekly basis by the Township staff. Table 5 includes a summary of the weekly meter readings at the Joppa Road Pump Station during 2013.

Table 6 presents a summary of the projected flows to the pump station for the next two (2) years based on anticipated growth within the pump station's service area, as detailed in Attachment 2. Based on the average daily operation time during 2013, the pump station is operating at under 40 percent of its design capacity. No overloads are expected at the Joppa Road Pump Station over the next two (2) years.

Table 5: Joppa Road Pump Station-2013 Operating Data

	Recorded Operating Time (hours per day) (1)	Gallons Pumped per Day (2)	Pumping Station Capacity (gallons per day) (3)	Peaking Factor (Max/Avg)
Minimum	6.26	31,926	122,400	1.16
Average	7.77	39,627		
Maximum	9.00	45,900		

Notes:

(1) Runtime data provided by York Township Public Works Department.
(2) Based on hours of operation multiplied by actual capacity of 85 gpm.
(3) Based on the actual capacity of 85 gpm and 24 hours of runtime.

Table 6: Joppa Road Pump Station-Estimated 2-Year Flow Increase

	Year		
	2013	2014	2015
Avg. Daily Flow (gpd) (1)	39,627	42,027	42,027
Max. Day Flow (gpd)	45,900	48,680	48,680
% Loading (design)	39.8%	42.3%	42.3%
% Loading (existing capacity)	37.5%	39.8%	39.8%

Notes:

(1) Future year average flows based on projections of wastewater flows for planned development tributary to the Joppa Road Pump Station (see Attachment 2).

4.4 Spangler Meadows Pump Station

The Spangler Meadows Pump Station is located off Fairfield Court. The pump station has a design capacity of 80 gpm (115,200 gpd). An emergency generator is onsite for standby power. The pumping capacity is determined by performing drawdown testing of the pumps. The most recent drawdown test results demonstrated that the pumping capacity was 85 gpm with one pump out of service and 95 gpm with both pumps running.

The elapsed time meters, which monitor pump motor operating time, are typically recorded on a weekly basis by the Township staff. Table 7 includes an analysis of the weekly meter readings at the Spangler Meadows Pump Station during 2013.

Table 7: Spangler Meadows Pump Station-2013 Operating Data

	Recorded Operating Time (hours per day) (1)	Gallons Pumped per Day (2)	Pumping Station Capacity (gallons per day) (3)	Peaking Factor (Max/Avg)
Minimum	2.99	15,249	122,400	1.66
Average	4.15	21,165		
Maximum	6.89	35,139		

Notes:

(1) Runtime data provided by York Township Public Works Department
(2) Based on hours of operation multiplied by actual capacity of 85 gpm.
(3) Based on the actual capacity of 85 gpm and 24 hours of runtime.

Table 8 presents a summary of the projected flows to the pump station for the next two (2) years based on anticipated growth within the pump station's service area, as detailed in Attachment 2. Based on the maximum daily operation time during 2013, the pump station is operating approximately 30 percent of its design capacity. No overloads are expected at the Spangler Meadows Pump Station over the next two (2) years.

Table 8: Spangler Meadows Pump Station-Estimated 2-Year Flow Increase

	Year		
	2013	2014	2015
Avg. Daily Flow (gpd) (1)	21,165	21,165	21,165
Max. Day Flow (gpd)	35,139	35,139	35,139
% Loading (design)	30.5%	30.5%	30.5%
% Loading (existing capacity)	28.7%	28.7%	28.7%

Notes:

(1) Future year average flows based on projections of wastewater flows for planned developments tributary to the Spangler Meadows Pump Station (see Attachment 2).

4.5 Imperial Drive Pump Station

The Imperial Drive Pump Station is located off Imperial Drive in northwest York Township. The pump station has a design capacity of 350 gpm (504,000 gpd). An emergency generator is onsite for standby power. The pumping capacity is determined by performing drawdown testing of the pumps. The most recent drawdown test results demonstrated that the pumping capacity was 330 gpm with one pump out of service and 440 gpm with both pumps running. The elapsed time meters, which monitor pump motor operating time, are typically recorded on a weekly basis by the Township staff. Table 9 includes an analysis of the weekly meter readings at the Imperial Drive Pump Station during 2013.

Table 9: Imperial Drive Pump Station-2013 Operating Data

	Recorded Operating Time (hours per day) (1)	Gallons Pumped per Day (2)	Pumping Station Capacity (gallons per day) (3)	Peaking Factor (Max/Avg)
Minimum	2.49	49,302	475,200	2.18
Average	3.53	69,894		
Maximum	7.70	152,460		

Notes:

(1) Runtime data provided by York Township Public Works Department.
(2) Based on hours of operation multiplied by actual capacity of 330 gpm.
(3) Based on the actual capacity of 330 gpm and 24 hours of runtime.

Table 10 presents a summary of the projected flows to the pump station within the next two (2) years based on anticipated growth within the pump station's service area, as detailed in Attachment 2. Based on the maximum daily operation time during 2013, the pump station is operating at approximately 32 percent of its design capacity. No overloads are expected at the Imperial Drive Pump Station over the next two (2) years

Table 10: Imperial Drive Pump Station-Estimated 2-Year Flow Increase

	Year		
	2013	2014	2015
Avg. Daily Flow (gpd) [1]	69,894	70,594	92,294
Max. Day Flow (gpd)	152,460	153,987	201,321
% Loading (design)	30.3%	30.6%	39.9%
% Loading (existing capacity)	32.1%	32.4%	42.4%

Notes:

(1) Future year average flows based on projections of wastewater flows for planned developments tributary to the Imperial Drive Pump Station (see Attachment 2).

4.6 Lentzlyn Drive Pump Station

The Lentzlyn Drive Pump Station is located off Lentzlyn Drive in western York Township. The station was placed into operation in May 2009, and has a design capacity of 100 gpm. An emergency generator is onsite for standby power. The pumping capacity is determined by performing drawdown testing of the pumps. The most recent drawdown test results demonstrated that the pumping capacity was 100 gpm with one pump out of service. The elapsed time meters, which monitor pump motor operating time, are typically recorded on a weekly basis by the Township staff. Table 11 includes a summary of the weekly meter readings at the Lentzlyn Drive Pump Station during 2013.

Table 12 presents a summary of the projected flows to the pump station within the next two (2) years based on anticipated growth within the pump station's service area, as detailed in Attachment 2. Based on the maximum daily operation time during 2013, the pump station is operating at just under 14 percent of its design capacity. No overloads are expected at the Lenyzlyn Drive Pump Station over the next two (2) years.

Table 11: Lentzlyn Drive Pump Station-2013 Operating Data

	Recorded Operating Time (hours per day) (1)	Gallons Pumped per Day (2)	Pumping Station Capacity (gallons per day) (3)	Peaking Factor (Max/Avg)
Minimum	2.04	6,800	144,000	1.65
Average	2.69	16,140		
Maximum	4.44	20,040		

Notes:

(1) Runtime data provided by York Township Public Works Department.
(2) Based on hours of operation multiplied by actual capacity of 100 gpm.
(3) Based on the actual capacity of 100 gpm and 24 hours of runtime.

Table 12: Lentzlyn Drive Pump Station-Estimated 2-Year Flow Increase

	Year		
	2013	2014	2015
Avg. Daily Flow (gpd) (1)	16,140	16,140	16,140
Max. Day Flow (gpd)	20,040	20,040	20,040
% Loading (design)	13.9%	13.9%	13.9%
% Loading (capacity)	13.9%	13.9%	13.9%

Notes:

(1) Future year average flows based on projections of wastewater flows for planned developments tributary to the Lentzlyn Pump Station (see Attachment 2).

5.0 2013 WASTEWATER FLOW TO CITY OF YORK WWTP

The 2013 average daily wastewater flow from the York Township meter on the Tyler Run Interceptor (TY01) was 1,527,792 gpd. This value includes flow from Spring Garden Township, which averaged 158,315 gpd in 2013. In order to determine the actual wastewater flow contributed to the City of York WWTP from York Township, the Spring Garden Township flows must be subtracted from the metered 2013 average daily wastewater flow value. Additionally, there are a number of unmetered connections in York Township that flow into the Spring Garden Township sewer system and then into the City of York system at one of three metered points (SG1, SG2, or SG3). The average daily flow from these connections totaled

39,594 gpd in 2013. Accordingly, the 2013 average daily flow from York Township into the City of York system was 1,409,071 gpd. Appendix 4 contains a summary of monthly flow readings for the YT01 meter and backup related to the calculation of York township's average daily flow for 2013.

6.0 SUMMARY OF CONNECTION PERMITS

During 2013, there were 3 new permits issued for connections to the York Township sewer system. All of the permits were for commercial establishments. Estimated flow from these new connections is expected to equal 48 EDUs. As shown in Table 13, a total of 139 connection permits were issued in the past five (5) years for the Township Sewer System tributary to the City of York WWTP.

Table 13: Connection Permits Issued - Past 5 Years

Year	Number of Permits Issued
2009	123
2010	7
2011	6
2012	0
2013	3
Total	**139**

7.0 PROJECTED COLLECTION SYSTEM CONNECTIONS AND EXTENSIONS

Attachment 2 is a summary of the projected sewer system connections within York Township that will contribute flow to the City of York WWTP. The anticipated wastewater flow per year for the next five (5) years is included in Attachment 2. The location of each of the projected connections is shown on the map included as Attachment 3, with the number on the map referring to the number in Attachment 2.

The pumping station flow projections in Tables 2, 4, 6, 8, 10 and 12 were developed using the information in Attachment 2. The total wastewater flow projected per year was used in the tabulation of available sewer capacity included in Attachment 4. As shown in Attachment 4, there is adequate capacity available in the Township System tributary to the City of York WWTP to serve the anticipated development given in Table 2.

8.0 TOTAL NITROGEN OFFSET CREDITS

The City of York WWTP discharges to waters tributary to the Chesapeake Bay and has been issued an NPDES Permit containing an annual cap load for Total Nitrogen (TN). Title 25, Chapter 96 of the Pennsylvania Code provides regulations related to the use of offsets from pollution reduction activities as a component of the WWTP's efforts to comply with its annual cap load for TN. Offsets are granted for connection of properties to the public sewer system that were previously served by on-lot wastewater systems. An annual offset of 25 pounds per year of TN is granted if the permittee maintains records that show that the on-lot system existed or was put in place prior to January 1, 2003, and was eliminated by connecting the property to the sewage conveyance system after January 1, 2003. These records must verify when the on-lot system was built, when the on-lot system was taken out of service, and when the dwelling was connected to the public sewer system.

During 2013, there were two (2) on-lot systems located in York Township that were retired through a connection to the sewer system tributary to the City of York WWTP, a residential property at 2626 Vireo Road and a church at 2500 Pine Grove Road. A summary of on-lot systems retired since 2003 is provided in Table 14.

Table 14: Summary of Retired On-Lot Systems

Year	EDUs	Offset TN (lbs/year)
2003	10	250
2004	0	0
2005	1	25
2006	3	75
2007	4	100
2008	27	675
2009	109	2,725
2010	0	0
2011	0	0
2012	0	0
2013	2	50
Total	156	3,900

9.0 INFILTRATION/INFLOW REDUCTION PLAN

The City of York maintains a permanent wastewater flow meter (YT01) in the Tyler Run Interceptor to measure the flow contributed by York Township and Spring Garden Township to the City of York Sewer System. Flow metering results during three major wet weather events in 2011 indicated surcharge conditions in the 18-inch interceptor sewer immediately before its connection to the City of York Sewer System. According to the York Township Public Works Department, there were no indications of sanitary sewer overflows in the Township System during these three surcharge events.

In response to the surcharge events, the 2011 annual report prepared by the Authority for use by York City in its Annual Report included a Corrective Action Plan (CAP) setting forth steps to be taken by York Township to eliminate the surcharge conditions. PADEP also established a ban on new connections to the Tyler Run Interceptor until the hydraulic overload conditions were adequately addressed. York Township completed the majority of the CAP

components such that PADEP lifted the connection ban in a letter dated November 1, 2012. The 2012 CAP and the Township's actions resulting in the PADEP lifting the CAP were discussed at length in the Township's 2013 Wasteload Management Report submission.

Annual precipitation in York Township was about normal for 2013, with 42.3 inches recorded by the City of York WWTP for the year compared to the long-term average of about 42.4 inches for the York area. However, the Township's largest rain event occurred over a 30-hour period on October 10th and 11th when 6.9 inches to 9.6 inches of precipitation was recorded throughout the Township. This was equivalent to about a 50-year frequency storm for the lower precipitation value and about a 150-year frequency storm for the higher precipitation value. York City recorded 8.90 inches at the York WWTP for this event. Township staff reported that the conveyance system was able to handle this large storm event without any major problems and no known overflows. The average daily flow measured at YT01 for this two-day rain event equaled 3.36 million gallons per day (mgd) on the first day and 3.42 mgd on the second day compared to the meter's annual average flow of 1.53 mgd for 2013. The increase in flow for this extreme precipitation event resulted in a peaking factor (maximum day flow to annual average flow) of only 2.23. As noted in last year's report, the YT01 meter had the lowest peak to average ratio of all flow meters within the York City WWTP service area.

Appendix 1 includes a summary of the activities undertaken by York Township in 2013 to reduce I/I within the Sewer System tributary to the Tyler Run Interceptor. As noted in Section 3.0, the Township will be updating its hydraulic model of the Tyler Run Interceptor to determine options for providing capacity of the service area at build-out conditions. This was the final item identified by the Township in its 2012 CAP for the Tyler Run Interceptor. The updated model will be used to determine if and when expansion of portions of the Tyler Run Interceptor will be needed and the degree of expansion needed to meet future needs. A summary of the hydraulic modeling findings will be included in the Township's 2014 Wasteload Management Report submission.

Attachment 1

York Township Maintenance Report

YORK TOWNSHIP

Public Works Department

194 Oak Rd., Dallastown,Pa. 17313-9300
Phone (717) 741-3513 Fax (717) 741-1394

January 14, 2014

Mr. Mark Malarich
P.O. Box 67100
Harrisburg, PA 17106-7100

Re: 2013 Municipal Wasteload Management Report
York City WWTP

Dear Mr. Malarich

York Township employs six (6) full time employees certified by Pa. DEP to perform maintenance of the sanitary sewer system which flows to the York City WWTP. The personnel perform routine maintenance twice weekly on six (6) sewer pumping stations. Each pump station is monitored by a dial up paging system constantly to ensure a timely response in the event of a mechanical failure.

The township owns the following maintenance equipment. There is one Vac-Con sewer machine for flushing and pumping of lines and stations, one 3500 gallon water tank truck to complement the Vac-Con. We own one high cube van equipped with a TV studio and a self propelled television camera for 8" or greater sewer lines. We have a Cues model pan and tilt self propelled television camera for 6" or greater sewer lines, one hand fed portable television camera for 4" lateral connections, one portable flusher, root cutter and rodder for laterals. The township also has a trailer mounted Godwin pump (Model #CD160M) capable of bypass pumping any pump station or interceptor line it operates and maintains.

During 2013 our crew flushed and televised 21,000 lineal feet in the Tyler Run drainage basin. We lined 300' of 18" ESVC with a cured in place liner. We completed a metering project in several of the sub basins to identify areas of future investigation. The completion of the hydraulic modeling of the interceptor will take place in 2014. This information will allow us to plan for the future.

This year we have completed the Marlborough pump station replacement. The station has been on line for six months with no problems withstanding a few minor adjustments. This station is the first one in York Township where we did not install a standby generator for

emergency power. We installed a Godwin package pump in the control building which remotely starts in the event of a power interruption or a pump failure. We also added a valve vault that allows us to totally bypass the station with our trailer mounted Godwin pump if the need arises. The old stand by generator has been moved to the site of the Leader Heights pump station which we are proposing to replace in 2014. The design and permitting processes have started for this project and we hope to move forward with construction in a timely manner.

Respectfully submitted,

Robert W. Miller II
Assistant Director of Public Works

Enc: Meter readings
Cc: Public Works Director
Township Manager
Gary Milbrand
Water & Sewer Authority
File

2013 York City WWTP Chapter 94 Report

53 GPM rated in 2009	Leader Heights Pump Station			
	Hours of operation/day	Gallons pumped/day	Actual pump capacity(GPD)	Peaking Factor
Minimum	0.29	922		
Average	0.43	1,367		
Maximum	0.66	2,099	76,320	1.53

85 GPM rated in 2009 100gpm(both motors)	Joppa Rd. Pump Station			
	Hours of operation/day	Gallons pumped/day	Actual pump capacity(GPD)	Peaking Factor
Minimum	6.26	31,926		
Average	7.77	39,627		
Maximum	9.00	45,900	122,400	1.16

330 GPM rated in 2009 440gpm(both motors)	Imperial Dr. Pump Station			
	Hours of operation/day	Gallons pumped/day	Actual pump capacity(GPD)	Peaking Factor
Minimum	2.49	49,302		
Average	3.53	69,894		
Maximum	7.70	152,460	475,200	2.18

85 GPM rated in 2009 95 gpm(both motors)	Spangler Meadows Pump Station			
	Hours of operation/day	Gallons pumped/day	Actual pump capacity(GPD)	Peaking Factor
Minimum	2.99	15,249		
Average	4.15	21,165		
Maximum	6.89	35,139	122,400	1.66

100 GPM rated in 2009	Lentzlyn Drive Pump Station			
	Hours of operation/day	Gallons pumped/day	Actual pump capacity(GPD)	
Minimum	2.04	6800		
Average	2.69	16,140		
Maximum	4.44	26,640	144,000	1.65

449 GPM rated in 2009	Marlborough Pump Station			
	Hours of operation/day	Gallons pumped/day	Actual pump capacity(GPD)	Peaking Factor
Minimum	4.9	132,000		
Average	7.52	202,868		
Maximum	9.72	262,080	646,560	1.29

The above numbers are reflective of the time period January 1, thru May 31, 2013

380 GPM GPM rated in 2013	Marlborough Pump Station			
	Hours of operation/day	Gallons pumped/day	Actual pump capacity(GPD)	Peaking Factor
Minimum	3.8	86,640		
Average	5.4	123,120		
Maximum	8.9	202,920	547,200	1.65

The above numbers are reflective of the time period June 1, thru December 31, 2013

380 GPM GPM rated in 2013	Marlborough Pump Station			
	Hours of operation/day	Gallons pumped/day	Actual pump capacity(GPD)	Peaking Factor
Minimum	3.8	86,640		
Average	6.3	156,350		
Maximum	9.72	262,080	588,600	1.67

Old and new station data combined together for average. The old station pumped at 449 GPM and was rated in 2009.

Attachment 2

York Township Projected Connections

YORK TOWNSHIP
PROJECTED CONNECTIONS TO York City
WASTEWATER TREATMENT PLANT

		Total Gallons	2014	2015	2016	2017	2018
1	Fred Drenning 1 @ 350 DEP A3-67971-481-3E	350			350		
2	Fair Valley (6) 103 existing mobile home pads 142 new connections 245 @ 350 DEP Not Filed	85,750		21,000	43,050	21,700	
3	Wright Bros & Make Believing Map 04, Parcels 52 & 49A DEP A3-67971-652-3E Commercial	6,300	6,300				
4	Austin E Hartman Estate DEP A3-67971-614-3E 2 @ 350 1870 Powder Mill Rd	700	350	350			
5	Jewish Community Center DEP not filed, daycare expansion	5,000	2,000	3,000			
6	Apple Hill-Specialty Hospital DEP A3-67971-637-3E Future development	3,000	350	350	2,300		
7	Cherry Lane A3-67971-611-3E 13 @ 350	4,550	1,050	1,050	1,400	1,050	
8	Jay Crist/Temple Baptist east side of Pine Grove Rd DEP A3-67971-485-3E	5,250	5,250				
9A	Kinsley DEP A3-67971-436-3 St. Charles Lot 10	1,400	1,400				

10	Steve Kleiser Map HI parcel 259E 1 @ 350 DEP Not Filed	350				350	
11	Kinsley/Lehman Tract Map 20 parcel 154,155,158 DEP Not Filed	11,550	3,850	3,850	3,850		
12	Westminster Place Map 04, Parcels 52 & 49B Senior Living facility DEP A3- 67971-653-3E	3,000	3,000				
13	Crest DEP P3-67971-159-IV 16 @ 350	5,600		5,600			
14	Sunrise Holdings Map 04 Parcel 41 & 42 Commercial 20@350 DEP Not Filed	7,000	3,500	3,500			
15	Richard Geever (2) (3) DEP P3-67971-259-111 Map HI, Parcel 103E	7,450	1,000				6,450
16	Country Meadows (2) (3) DEP P3-67971-259-III	21,350	1,400		5,250	14,700	
17	Reserved for future development						
18	Bergdoll/Dew Drop DEP P3-67971-214-IV 1 @ 350	350	350				
19	Cherrywood Map 24 parcel 72 8 @ 350 DEP A3-67971-631-3E	2,800	700	2,100			
20	Greek Orthodox Church Map HI Parcel 403 @ 350 Not applied for as of 12/31/13						
21	Reserved for future development						

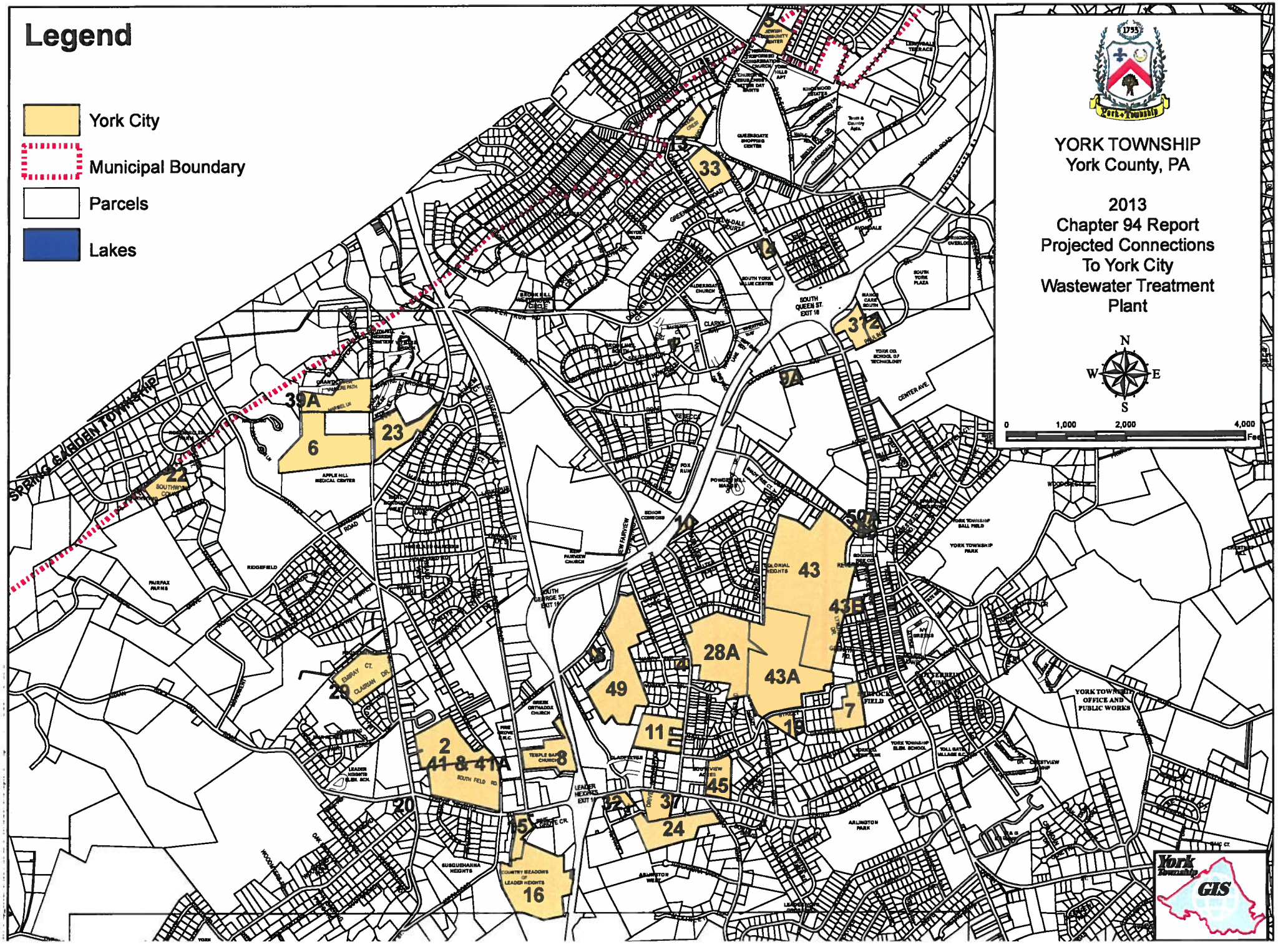
22	Southwynd (1) DEP P3-67971-184-3 4 @ 350	700	350	350			
23	Kinsley Ducray/Eyster DEP Not Filed	33,600	12,000	12,000	9,600		
24	Presbyterian Homes (4) Map 36, Parcels 210 & 211 Senior living facility Not applied for as of 11/7/13	5,000	350	4,650			
25	Reserved for future use						
26	Reserved for future use						
27	Reserved for future use						
28	Reserved for future use						
28A	OSS/office bldg/expansion DEP A3-67971-596-3E	800				400	400
29	Fountainhead (6) 4 @ 350 DEP A3-67971-428-3	1,400	700	700			
30	Reserved for future use						
31	Reserved for future development						
32	Shipley/Leader Hts (4) Leader Hts. DEP Not Filed	3,000			3,000		
33	Wellspan DEP A3-67971-627-3E 2050 S Queen St	3,500			3,500		
34	Reserved for future use						
35	Reserved for future development						
36	Reserved for future development						
37	Powder Mill Partners Map 36 parcel 204 & 205 DEP Not Filed	15,000	350	7,500	7,150		
38	Reserved for future use						
39A	Chanticleer DEP A3-67971-563-3E 20 @ 250	5,000	2,500	2,500			

40	Reserved for future use						
41	Kinsley/Southfield (2) DEP A3-67971-580-3E	11,550	2,500	5,000	4,050		
41A	Kinsley/Hovis (2) DEP Not Filed	7,700	2,500	5,200			
42	Reserved for future development						
43	Village Grove Estates Map HI parcel 185 414 @ 350 DEP Not Filed	144,900	350	28,000	28,000	28,000	60,550
43A	Village Grove Estates Godfrey property Map HI parcel 184A, 186 324 @ 350 DEP Not Filed	113,400	350	22,400	21,000	21,000	48,650
43B	Village Grove Estates 2394 Arlington St. 10 @ 350 DEP Not Filed	3,500	350	3,150			
44	Reserved for future development						
45	Nutec Map HI Parcel 165 213 Leader Hts Rd DEP Not Filed	5,250	5,250				
46	Reserved for future development						
47	Reserved for future development						
48	Reserved for future development						
49	James Ilyes 75 @ 350 DEP P3-67971-257-3	26,250					26,250
50	Pasch/Dew Drop Map 3 parcel 109 DEP Not Filed	3,000	1,400	1,600			
50A	Pasch/Nick's diner Map 3 parcels 66 & 67 DEP Not Filed	3,000	3,000				
51	Misc Tap Ins	17,500	3,500	3,500	3,500	3,500	3,500
	TOTALS	575,800	65,950	137,350	136,000	90,700	145,800

(1) Projects tributary to Spring Garden	700	350	350	0	0	0
(2) Projects tributary to Marlborough Pump	48,050	7,400	10,200	9,300	14,700	6,450
(3) Projects tributary to Joppa Road Pump	28,800	2,400	0	5,250	14,700	6,450
(4) Projects tributary to Leader Heights	8,000	350	4,650	3,000	0	0
(5) Projects tributary to Spangler Meadows	0	0	0	0	0	0
(6) Projects tributary to Imperial Drive Pump	87,150	700	21,700	43,050	21,700	0
(7) Projects tributary to Lentzlyn Drive Pump	0	0	0	0	0	0

Attachment 3

York Township Projected Connections Map


Legend
York City
Municipal Boundary
Parcels
Lakes
YORK TOWNSHIP
York County, PA
2013
Chapter 94 Report
Projected Connections
To York City
Wastewater Treatment
Plant
N
W
E
S
0
1,000
2,000
4,000
Feet
SPRING GARDEN TOWNSHIP
YORK TOWNSHIP OFFICE AND PUBLIC WORKS
York Township GIS

Attachment 4

York Township Reserve Capacity Calculation

ATTACHMENT 4
YORK TOWNSHIP
TABULATION OF AVAILABLE SEWER RESERVE CAPACITY TO CITY OF YORK WWTP
[All flows are in units of gallons per day (gpd)]

Component	2013	2014	2015	2016	2017	2018
Existing Flow from Current Users (1)	1,409,071	1,409,071	1,475,021	1,612,371	1,749,721	1,887,071
Projected Flow Increase (2)	----	65,950	137,350	137,350	137,350	137,350
Total Estimated Wastewater Flows	1,409,071	1,475,021	1,612,371	1,749,721	1,887,071	2,024,421
Percent Usage	41.90%	43.86%	47.94%	52.03%	56.11%	60.20%
Total Reserved Capacity (3)	3,363,000	3,363,000	3,363,000	3,363,000	3,363,000	3,363,000
Remaining Reserved Capacity	1,953,929	1,887,979	1,750,629	1,613,279	1,475,929	1,338,579

Notes:

(1) York City flow meter YT01 reading (1,527,792 gpd) less Spring Garden flow through YT01 (158,315 gpd) plus unmeterd York Township connections that flow into Spring Garden Township and are metered at SG01, SG02 and SG03 (39,594 gpd).

(2) From projected future connections (see Attachment 2).

(3) York Township currenct capacity in City of York WWTP.

York Township
Tabulation of Flows to York City
YT01 Meter

Year:	2013

Month	Days	Monthly Flow (MG)	Monthly Precipitation (inches)
January	31	54.605	4.19
February	28	47.379	1.35
March	31	51.866	2.97
April	30	44.477	1.47
May	31	43.984	2.80
June	30	46.386	4.86
July	31	44.432	4.98
August	31	44.451	2.01
September	30	36.811	1.54
October	31	49.955	10.50
November	30	39.722	2.02
December	31	53.576	3.61
Total	365	557.644	42.30

Average (MGD):	1,527,792	
Less Spring Garden Average(MDG) to YT-01:	158,315	(A)
Sub Total(MGD):	1,369,476	
Plus Unmetered Connections:	39,594	(B)
Average Daily Flow (MGD)	1,409,071	(C)

(A): Spring Garden Township Flows through YT01 (A). See attached table.

(B): Unmetered connections from York Township to Spring Garden Township that are then metered to York City via Meter SG1, SG2 or SG03. See attached table.

(C): York City Flow Meter YT01 plus Unmetered flows (B) to Spring Garden Township less Spring Garden Township Flows through YT01 (A).

Chapter 94 Report Summary of Spring Garden Flows thru
York Township Flow Meter No. 7 (YT01)

Year 2013

Quarter	Non Metered EDU's	Days	Metered Flow	Total Flow (MG)	Average Daily Flow (gpd)
1	422	92	1,222,417	14,810,817	160,987
2	422	92	552,989	14,141,389	153,711
3	423	89	791,714	13,968,164	156,946
4	423	92	1,244,167	14,864,767	161,574
	Total:	365		57,785,137	

Average (GPD)	158,315

Unmetered Residential Connections to York City
via Spring Garden Township
Year: **2013**

Unmetered Residential Connections:												
Address	Edu Quarter 1	Edu Quarter 2	Edu Quarter 3	Edu Quarter 4	AVG EDU's	Flow Q.1 (Gallons)	Flow Q.2 (Gallons)	Flow Q.3 (Gallons)	Flow Q.4 (Gallons)	Flow Total (Gallons)	To Spring Garden Meter	To Spring Garden
990, 1040, 1060 Wyndsong Drive	3	3	3	3	3						SG01	
2020 Southwynd Court	0	0	0	1	0.25						SG01	
710 Rosewood Lane	1	1	1	1	1						SG01	
603, 604, 607 E. Hillcrest Road	3	3	3	3	3						SG02	57
2091, 2093, 2095 Hollywood Drive	3	3	3	3	3						SG03	60
2097, 2101 Hollywood Drive	2	2	2	2	2						SG02	59
2103, 2109 Hollywood Drive	2	2	2	2	2						SG02	58
2125, 2135 Hollywood Drive	2	2	2	2	2						SG02	57
2000 Hollywood Drive						756,600	533,000	679,000	674,000	2,642,600	SG03	60
2090 Hollywood Drive						9,000	6,000	8,000	7,000	30,000	SG03	60
2100 Hollywood Drive						37,200	34,800	34,900	30,400	137,300	SG03	60
1925,1930, 1940 lancaster Ave.	3	3	3	3	3						SG02	59
1925 S. Queen Street						9,600	8,500	9,100	12,300	39,500	SG02	61
1945 S. Queen Street						97,300	107,300	125,700	91,800	422,100	SG02	61
2005 S. Queen Street (Flat)	1	1	1	1	1					0	SG02	61
2005 S. Queen Street (Metered)						40,000	39,000	45,000	38,000	162,000	SG02	61
2115 Suburban Road	6	6	6	6	6					0	SG02	57
2125 Suburban Road	6	6	6	6	6					0	SG02	57
2135 Suburban Road	6	6	6	6	6					0	SG02	57
2150 Suburban Road	4	4	4	4	4					0	SG02	58
2160 Suburban Road	4	4	4	4	4					0	SG02	58
2170 Suburban Road	4	4	4	4	4					0	SG02	58
2180 Suburban Road	4	4	4	4	4					0	SG02	58
221,222,223,224 Queens Crest	4	4	4	4	4					0	SG02	58
231,232,233,234 Queens Crest	4	4	4	4	4					0	SG02	58
241,242,243,244 Queens Crest	4	4	4	4	4					0	SG02	58
251,252,253,254 Queens Crest	4	4	4	4	4					0	SG02	58
321,322,323,324 Queens Crest	4	4	4	4	4					0	SG02	58
331,332,333,334 Queens Crest	4	4	4	4	4					0	SG02	58
341,342,343,344 Queens Crest	4	4	4	4	4					0	SG02	58
351,352,353,354 Queens Crest	4	4	4	4	4					0	SG02	58
Sub Total:	86	86	86	87	86	949,700	728,600	901,700	853,500	3,433,500		

Avg EDU's:	86.25
Flow per EDU (Gallons):	350
Avg Daily EDU Flow (Gallons):	30,188
Total Metered Flow (Gallons):	3,433,500
Days in Year:	365
Avg Daily Metered Flow (Gallons):	9,407
Avg Daily EDU Flow (Gallons)	39,594

Appendix I
York City Wastewater Treatment Facility Influent Meter Certifications of Calibration

Control Systems 21

"Your Process Control Specialists"

CERTIFICATE of CALIBRATION

Cal Certificate # 14248

Company Name YWWTP

Instrument ID **YP-023**

Description	Influent Flowmeter @ Headworks	**Status**	Active
Manufacturer	Milltronics	**Temp °F**	71
Model Number	MultiRanger	**Cal Proc**	4.8
Serial Number	N/A	**Adjusted To Improve**	No
Location	Plant	**Calibration Frequency**	6 Months
Building	Headworks	**Calibrated**	03/08/2013
Department	N/A	**Next Due Date**	09/30/2013

Calibration Specifications

Group Name Flow Meter

Test Point	Ref Standard	Tol	UUT As Found	P/F	UUT As Left	P/F	Dev
1	10.56 MGD	+3.70/-3.69	10.56 MGD	P	10.56 MGD	P	0.00

Calibration Standards Used

Test Instrument ID	Manufacturer	Model Number	Serial Number	Next Cal Date
M-007	Johnson Level & Tool Co.	J48	N/A	4/30/2013

Equipment listed on this cert is certified in reference to our current work instructions as part of our quality system.

Where applicable and noted calibrations were performed using standards whose calibration is traceable through NIST or another National Metrology Institute to the International System of Units (SI units).

Control Systems 21 utilizes the comparison method of calibration. Results are reviewed, when applicable, and any results exceeding the agreed upon specifications are indicated by red and/or bold print

All results with this certification relate only to the item(s) calibrated. This certificate shall not be reproduced except in full and with written consent of Control Systems 21. Unless otherwise noted all calibrations were performed in the field at the customers location.

Please note: *any number of factors may cause the calibration item to drift out of tolerance before the calibration interval has expired.*

Remarks or Special Requirements:

Calibration Result: Calibration Successful

Calibrated By: Eric Selak

Finalized By: Sam Hackenberger 25 March 2013 2:51:56PM
Quality Manager

Control Systems 21
713 Range End Rd. • Dillsburg, PA 17019 • Voice: 717 432-5511 • Fax: 717 432-7550
email@controlsystems21.com

Control Systems 21

"Your Process Control Specialists"

CERTIFICATE of CALIBRATION

Cal Certificate # 16825

Company Name YWWTP
Instrument ID **YP-023**

Description	Influent Flowmeter @ Headworks	**Status**	Active
Manufacturer	Milltronics	**Temp °F**	71
Model Number	MultiRanger	**Cal Proc**	4.8
Serial Number	N/A	**Adjusted To Improve**	No
Location	Plant	**Calibration Frequency**	6 Months
Building	Headworks	**Calibrated**	09/25/2013
Department	N/A	**Next Due Date**	03/31/2014

Calibration Specifications

Group Name Flow Meter

Test Point	Ref Standard	Tol	UUT As Found	P/F	UUT As Left	P/F	Dev
1	8.72 MGD	+3.70/-3.69	9.20 MGD	P	9.20 MGD	P	0.48

Calibration Standards Used

Test Instrument ID	Manufacturer	Model Number	Serial Number	Next Cal Date
M-007	Johnson Level & Tool Co.	J48	N/A	4/30/2014

Equipment listed on this cert is certified in reference to our current work instructions as part of our quality system.

Where applicable and noted calibrations were performed using standards whose calibration is traceable through NIST or another National Metrology Institute to the International System of Units (SI units).

Control Systems 21 utilizes the comparison method of calibration. Results are reviewed, when applicable, and any results exceeding the agreed upon specifications are indicated by red and/or bold print

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Please note: *any number of factors may cause the calibration item to drift out of tolerance before the calibration interval has expired.*

Remarks or Special Requirements:

Calibration Result: Calibration Successful

Calibrated By: Eric Selak

Finalized By: Sam Hackenberger 02 October 2013 4:31:38PM
Quality Manager

Print Date: 11/19/2013

Control Systems 21
713 Range End Rd. • Dillsburg, PA 17019 • Voice: 717 432-5511 • Fax: 717 432-7550
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e-mailed
MAR 27 2013

SIEMENS Energy & Automation, Inc

Ultrasonic Gas Meter diagnostic and maintanance report

Version: 2.02

Meter Site Name:	EFFLUENT	Last Report Time & Date:	9/18/2012 14:27	Report Start Time & Date:	3/22/2013 14:24:34
Location / Tag#:	CITY_WWTP	Meter Part# :	N/A S/N: N/A	Report End Time & Date:	3/22/2013 14:39:31
Technician's Name:		Spool Part#:	N/A S/N: N/A	Number of Samples:	300

Meter Information:

Operating System:	1010N04-3.02.00K
Date of Manufacture:	N/A

Averages for Report Duration:

Avg. Flow Rate:	13.07	*MGAL/DAY*
Avg. Flow Velocity:	0.73	*fps*
Avg. VoS:	4723.30	*fps*

Gas Signal

Report Averages

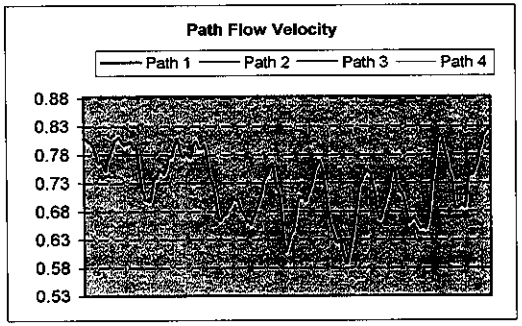
	Path 1	Path 2	Path 3	Path 4	Warning	Alarm
ALC (up)	51				0	0
ALC (dn)	51				0	0
SNR (up)	25				0	0
SNR (dn)	25				0	0
Correlation Q	0.97				0	0
ADC Buffer%	24				0	0
% Accepted	100				0	0
Envel Change	-2 %				0	0
Status	-				0	0
Burst / sec	47					
Delta-Time usec	174.591					
Digital Damping	4					
HF factor	0.428					
Fx	112					

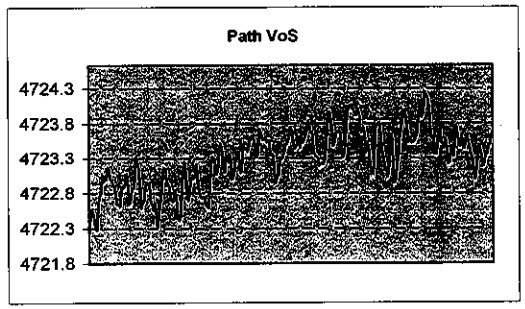
ZeroMatic

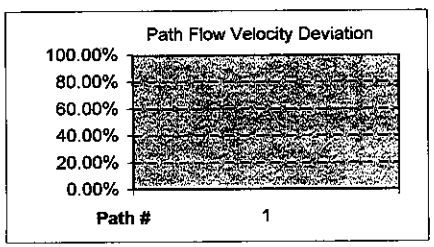
	OFF	OFF	OFF	OFF		
Avg. ALC						
Delta-Time usec						

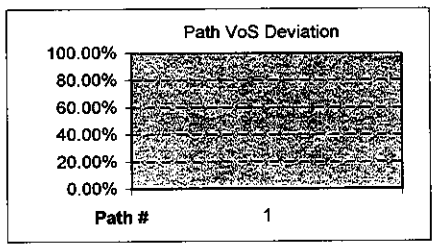
Flow & VoS

Flow Rate	13.07					
Flow Velocity	0.73					
VoS	4723.3					









Meter Setting:

	Path 1	Path 2	Path 3	Path 4	Units
Spool Inside Dia:	71.25				*inches*
Path Inside Dia:	71.25				*inches*
Wall Thickness:	0.375				*inches*
Transducer Size:	E2				
Mount Mode:	Direct				
Spacing Index:	48				
Spacing LTN:	29.129				*inches*
VoS min:	4216				*fps*
VoS max:	5310				*fps*
AGA8 Table:	Disabled				
Standard Volume:	N/A				
K-Factor:					
Damping Factor:	30				*seconds*
Base Pressure:	0				
Base Temp:	0				
Avg Pressure:	14.7				
Indicated Temp:					
Flow Units:	MGAL/DAY				

Calibration Factors:

Fixed Kc = 0.000%

Multipoint Comp: Actual FlowRate	Posflow mult	Negflow mult

Comments:

Signed by: _____ **Date:** 3-22-13

File Name: EFFLUENTCITY_WWTP_____032213_1417.CSV

Appendix J
York City WWTP NPDES Quarterly Local Limits Analyses, Annual Priority Pollutant Scan, Semimonthly Sludge Results

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

February 25, 2013

Mr. Joe Concino
York, City of (WWTP)
1701 Blackridge Road
York, PA 17405

Certificate of Analysis

Project Name:	**PP SCANS AND LOCAL LIMITS -**	Workorder:	**1011520**
Purchase Order:	**13-100389/13-100392**	Workorder ID:	**Centrifuge Cake 02/07/13**

Dear Mr. Concino,

Enclosed are the analytical results for samples received by the laboratory on Monday, February 11, 2013.

The ALS Environmental laboratory in Middletown, Pennsylvania (formerly Analytical Laboratory Services, Inc.) is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Shannon Butler (Project Coordinator) or Anna G Milliken (Technical Manager) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Anna G Milliken
Technical Manager

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

SAMPLE SUMMARY

Workorder: 1011520 Centrifuge Cake 02/07/13 Discard Date: 03/11/2013

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
1011520001	Centrifuge Cake	Solid	2/7/13 15:00	2/11/13 09:49	Customer

Workorder Comments:

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as “analyze immediately” require analysis within 15 minutes of collection. Any “analyze immediately” parameters not listed under the header “Field Parameters” are performed in the laboratory and are therefore analyzed out of hold time.

Standard Acronyms/Flags

J, B	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference

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ANALYTICAL RESULTS

Workorder: 1011520 Centrifuge Cake 02/07/13

Lab ID: **1011520001** Date Collected: 2/7/2013 15:00 Matrix: Solid

Sample ID: **Centrifuge Cake** Date Received: 2/11/2013 09:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
SEMIVOLATILES										
Acenaphthene	ND		ug/kg	2540	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Acenaphthylene	ND		ug/kg	2540	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Anthracene	ND		ug/kg	2540	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Benzidine	ND		ug/kg	27400	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Benzo(a)anthracene	ND		ug/kg	2540	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Benzo(a)pyrene	ND		ug/kg	2540	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Benzo(b)fluoranthene	ND		ug/kg	2540	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Benzo(g,h,i)perylene	ND		ug/kg	2540	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Benzo(k)fluoranthene	ND		ug/kg	2540	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
4-Bromophenyl-phenylether	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Butylbenzylphthalate	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
4-Chloro-3-methylphenol	ND		ug/kg	13700	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
bis(2-Chloroethoxy)methane	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
bis(2-Chloroethyl)ether	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
bis(2-Chloroisopropyl)ether	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
2-Chloronaphthalene	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
2-Chlorophenol	ND		ug/kg	13700	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
4-Chlorophenyl-phenylether	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Chrysene	ND		ug/kg	2540	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Di-n-Butylphthalate	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Di-n-Octylphthalate	ND		ug/kg	13700	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Dibenzo(a,h)anthracene	ND		ug/kg	2540	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
1,2-Dichlorobenzene	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
1,3-Dichlorobenzene	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
1,4-Dichlorobenzene	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
3,3-Dichlorobenzidine	ND		ug/kg	7620	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
2,4-Dichlorophenol	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Diethylphthalate	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
2,4-Dimethylphenol	ND		ug/kg	13700	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Dimethylphthalate	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
2,4-Dinitrophenol	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
2,4-Dinitrotoluene	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
2,6-Dinitrotoluene	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
1,2-Diphenylhydrazine	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
bis(2-Ethylhexyl)phthalate	23700		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Fluoranthene	ND		ug/kg	2540	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Fluorene	ND		ug/kg	2540	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Hexachlorobenzene	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Hexachlorobutadiene	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Hexachlorocyclopentadiene	ND		ug/kg	13700	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 1011520 Centrifuge Cake 02/07/13

Lab ID: **1011520001** Date Collected: 2/7/2013 15:00 Matrix: Solid

Sample ID: **Centrifuge Cake** Date Received: 2/11/2013 09:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Hexachloroethane	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Indeno(1,2,3-cd)pyrene	ND		ug/kg	2540	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Isophorone	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
2-Methyl-4,6-dinitrophenol	ND		ug/kg	13700	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Naphthalene	ND		ug/kg	2540	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Nitrobenzene	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
2-Nitrophenol	ND		ug/kg	13700	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
4-Nitrophenol	ND		ug/kg	13700	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
N-Nitrosodimethylamine	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
N-Nitroso-di-n-propylamine	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
N-Nitrosodiphenylamine	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Pentachlorophenol	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Phenanthrene	ND		ug/kg	2540	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Phenol	ND		ug/kg	13700	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Pyrene	ND		ug/kg	2540	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
1,2,4-Trichlorobenzene	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
2,4,6-Trichlorophenol	ND		ug/kg	5080	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	82		%	37-123	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
2-Fluorobiphenyl (S)	88.2		%	45-105	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
2-Fluorophenol (S)	82.8		%	35-104	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Nitrobenzene-d5 (S)	82.4		%	41-110	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Phenol-d5 (S)	87.6		%	40-100	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
Terphenyl-d14 (S)	88.8		%	38-113	SW846 8270D	2/13/13	RMP	2/13/13 22:44	DHF	B
WET CHEMISTRY										
Cyanide, Total	ND	1	mg/kg	1.3	SW846 9012B	2/12/13	SYB	2/13/13 13:26	JEP	A1
Hexane Extractable Material	34400		mg/kg	1010	SW846 9071B			2/25/13 02:30	MPP	A
Moisture	80.4		%	0.1	SM20-2540 G			2/14/13 17:30	CF	A
Silica Gel Treated HEM	132000		mg/kg	1010	SW846 9071B			2/25/13 02:30	MPP	A
Total Solids	19.6		%	0.1	SM20-2540 G			2/14/13 17:30	CF	A
METALS										
Arsenic, Total	ND		mg/kg	8.5	SW846 6010C	2/12/13	KMK	2/15/13 12:23	SRT	B1
Cadmium, Total	2.3		mg/kg	2.1	SW846 6010C	2/12/13	KMK	2/15/13 12:23	SRT	B1
Chromium, Total	18.8		mg/kg	4.3	SW846 6010C	2/12/13	KMK	2/15/13 12:23	SRT	B1
Copper, Total	337		mg/kg	8.5	SW846 6010C	2/12/13	KMK	2/15/13 12:23	SRT	B1
Lead, Total	49.8		mg/kg	8.5	SW846 6010C	2/12/13	KMK	2/15/13 12:23	SRT	B1
Mercury, Total	1.2		mg/kg	0.25	SW846 7471B	2/22/13	MNP	2/22/13 11:30	MNP	A2
Molybdenum, Total	19.3		mg/kg	8.5	SW846 6010C	2/12/13	KMK	2/15/13 12:23	SRT	B1

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ANALYTICAL RESULTS

Workorder: 1011520 Centrifuge Cake 02/07/13

Lab ID: **1011520001** Date Collected: 2/7/2013 15:00 Matrix: Solid

Sample ID: **Centrifuge Cake** Date Received: 2/11/2013 09:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Nickel, Total	21.9		mg/kg	8.5	SW846 6010C	2/12/13	KMK	2/15/13 12:23	SRT	B1
Selenium, Total	ND		mg/kg	21.3	SW846 6010C	2/12/13	KMK	2/15/13 12:23	SRT	B1
Silver, Total	8.6		mg/kg	2.1	SW846 6010C	2/12/13	KMK	2/15/13 12:23	SRT	B1
Zinc, Total	523		mg/kg	8.5	SW846 6010C	2/12/13	KMK	2/15/13 12:23	SRT	B1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS QUALIFIERS\FLAGS

Workorder: 1011520 Centrifuge Cake 02/07/13

PARAMETER QUALIFIERS\FLAGS

[1] The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits.

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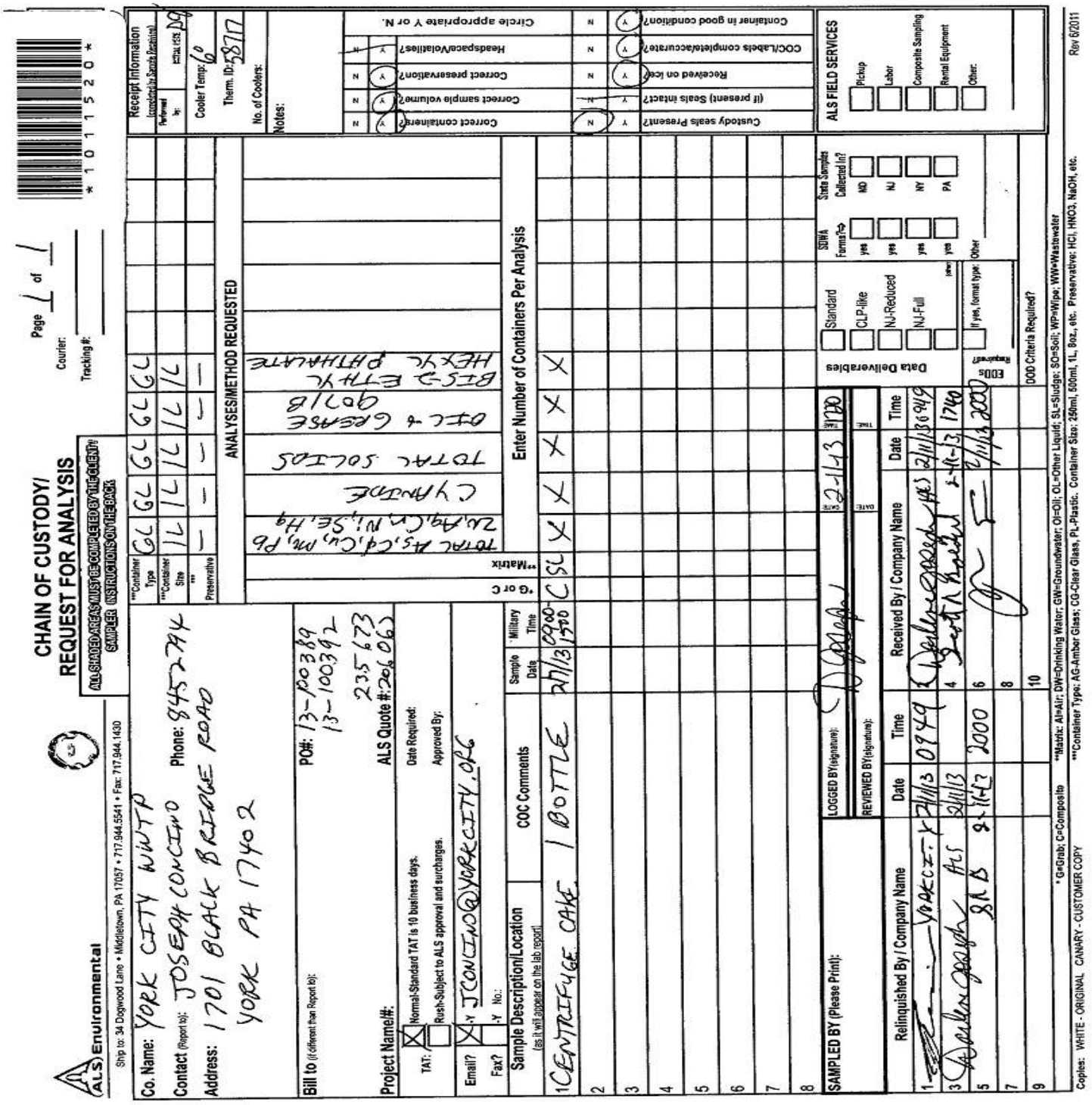

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February 19, 2013

Mr. Joe Concino
York, City of (WWTP)
1701 Blackridge Road
York, PA 17405

Certificate of Analysis

Project Name:	**2011-ADDITIONAL TESTING**	Workorder:	**1011045**
Purchase Order:	**13-100392**	Workorder ID:	**Add'l Local Limits 02/07/13**

Dear Mr. Concino,

Enclosed are the analytical results for samples received by the laboratory on Thursday, February 07, 2013.

The ALS Environmental laboratory in Middletown, Pennsylvania (formerly Analytical Laboratory Services, Inc.) is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Shannon Butler (Project Coordinator) or Anna G Milliken (Technical Manager) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Anna G Milliken
Technical Manager

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

SAMPLE SUMMARY

Workorder: 1011045 Add'l Local Limits 02/07/13 Discard Date: 03/05/2013

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
1011045001	Raw Influent	Waste Water	2/6/13 00:00	2/7/13 14:10	Customer
1011045002	GBT Thick Sludge	Solid	2/6/13 00:00	2/7/13 14:10	Customer
1011045003	T2 Mixed Liquor	Waste Water	2/6/13 00:00	2/7/13 14:10	Customer

Workorder Comments:

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.

Standard Acronyms/Flags

J, B	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference

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ANALYTICAL RESULTS

Workorder: 1011045 Add'l Local Limits 02/07/13

Lab ID: **1011045001** Date Collected: 2/6/2013 00:00 Matrix: Waste Water

Sample ID: **Raw Influent** Date Received: 2/7/2013 14:10

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
SEMIVOLATILES										
bis(2-Ethylhexyl)phthalate	9.6		ug/L	2.9	EPA 625	2/12/13	LEH	2/15/13 07:51	DHF	A1
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	84.4		%	38-134	EPA 625	2/12/13	LEH	2/15/13 07:51	DHF	A1
2-Fluorobiphenyl (S)	85.8		%	37-113	EPA 625	2/12/13	LEH	2/15/13 07:51	DHF	A1
2-Fluorophenol (S)	46.2		%	17-73	EPA 625	2/12/13	LEH	2/15/13 07:51	DHF	A1
Nitrobenzene-d5 (S)	86.8		%	37-124	EPA 625	2/12/13	LEH	2/15/13 07:51	DHF	A1
Phenol-d5 (S)	23		%	11-53	EPA 625	2/12/13	LEH	2/15/13 07:51	DHF	A1
Terphenyl-d14 (S)	145	1	%	33-125	EPA 625	2/12/13	LEH	2/15/13 07:51	DHF	A1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 1011045 Add'l Local Limits 02/07/13

Lab ID:	**1011045002**	Date Collected:	2/6/2013 00:00	Matrix:	Solid
Sample ID:	**GBT Thick Sludge**	Date Received:	2/7/2013 14:10		

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Cyanide, Total	ND		mg/kg	5.9	SW846 9012B	2/10/13	RPE	2/11/13 12:16	JEP	A1
Moisture	95.6		%	0.1	SM20-2540 G			2/11/13 20:30	CF	A
Total Solids	4.4		%	0.1	SM20-2540 G			2/11/13 20:30	CF	A

Sample Comments:

Anna G Milliken
Technical Manager

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ANALYTICAL RESULTS

Workorder: 1011045 Add'l Local Limits 02/07/13

Lab ID: **1011045003** Date Collected: 2/6/2013 00:00 Matrix: Waste Water

Sample ID: **T2 Mixed Liquor** Date Received: 2/7/2013 14:10

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Copper, Total	0.51		mg/L	0.0050	EPA 200.7	2/11/13	KMK	2/19/13 10:12	JWK	A1
Silver, Total	0.016		mg/L	0.0020	EPA 200.7	2/11/13	KMK	2/19/13 10:12	JWK	A1
Zinc, Total	0.62		mg/L	0.010	EPA 200.7	2/11/13	KMK	2/19/13 10:12	JWK	A1

Sample Comments:

Anna G Milliken
Technical Manager

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ANALYTICAL RESULTS QUALIFIERS\FLAGS

Workorder: 1011045 Add'l Local Limits 02/07/13

PARAMETER QUALIFIERS\FLAGS

[1] The surrogate Terphenyl-d14 for method EPA 625 was outside of control limits. The % Recovery was reported as 145 and the control limits were 33 to 125. This result was reported at a dilution of 1.

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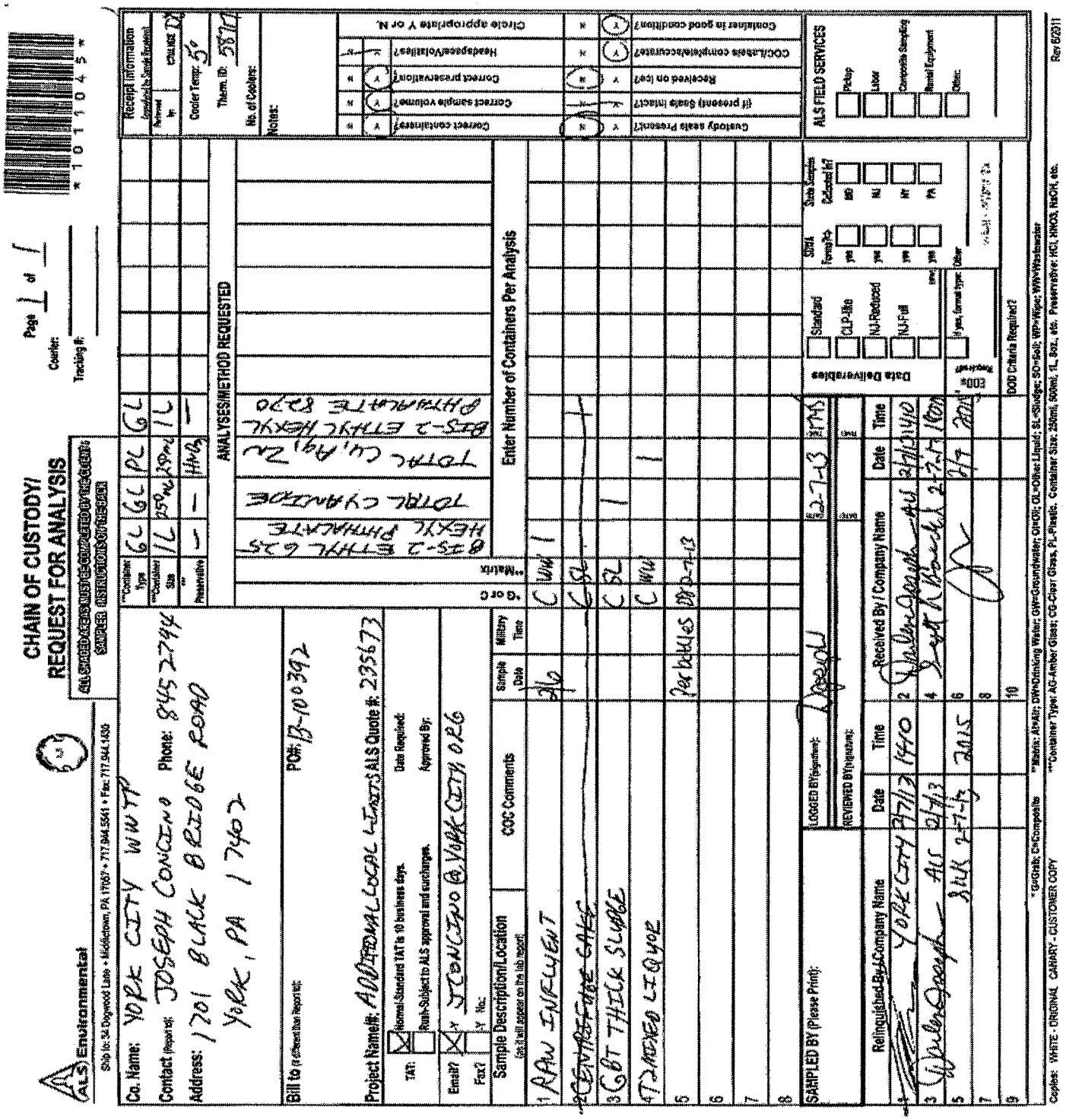

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February 22, 2013

Mr. Joe Concino
York, City of (WWTP)
1701 Blackridge Road
York, PA 17405

Certificate of Analysis

Project Name:	**PP SCANS AND LOCAL LIMITS -**	Workorder:	**1011044**
Purchase Order:	**13-100389**	Workorder ID:	**WW Local Limits 02/07/13**

Dear Mr. Concino,

Enclosed are the analytical results for samples received by the laboratory on Thursday, February 07, 2013.

The ALS Environmental laboratory in Middletown, Pennsylvania (formerly Analytical Laboratory Services, Inc.) is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Shannon Butler (Project Coordinator) or Anna G Milliken (Technical Manager) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Anna G Milliken
Technical Manager

ALS Environmental

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SAMPLE SUMMARY

Workorder: 1011044 WW Local Limits 02/07/13 Discard Date: 03/08/2013

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
1011044001	Raw Influent	Waste Water	2/6/13 00:00	2/7/13 14:10	Customer
1011044002	002 Effluent	Waste Water	2/6/13 00:00	2/7/13 14:10	Customer
1011044003	Raw Influent Grab	Waste Water	2/6/13 00:00	2/7/13 00:00	Customer
1011044004	002 Effluent	Waste Water	2/6/13 00:00	2/7/13 14:10	Customer

Workorder Comments:

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
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U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference

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ANALYTICAL RESULTS

Workorder: 1011044 WW Local Limits 02/07/13

Lab ID: **1011044001** Date Collected: 2/6/2013 00:00 Matrix: Waste Water

Sample ID: **Raw Influent** Date Received: 2/7/2013 14:10

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Cyanide, Total	ND		mg/L	0.0050	EPA 335.4	2/12/13	SYB	2/13/13 13:26	JEP	A2
METALS										
Arsenic, Total	ND		mg/L	0.0050	EPA 200.7	2/11/13	KMK	2/19/13 10:04	JWK	B2
Cadmium, Total	ND		mg/L	0.0010	EPA 200.7	2/11/13	KMK	2/19/13 10:04	JWK	B2
Chromium, Total	0.0027		mg/L	0.0010	EPA 200.8	2/11/13	KMK	2/12/13 01:59	MWO	B1
Copper, Total	0.043		mg/L	0.0050	EPA 200.7	2/11/13	KMK	2/19/13 10:04	JWK	B2
Lead, Total	0.0072		mg/L	0.0030	EPA 200.7	2/11/13	KMK	2/19/13 10:04	JWK	B2
Mercury, Total (Low-level)	0.00035		mg/L	0.00020	EPA 245.1	2/22/13	MNP	2/22/13 14:52	MNP	B3
Molybdenum, Total	0.027		mg/L	0.010	EPA 200.7	2/11/13	KMK	2/19/13 10:04	JWK	B2
Nickel, Total	0.0071		mg/L	0.0025	EPA 200.8	2/11/13	KMK	2/12/13 01:59	MWO	B1
Selenium, Total	ND		mg/L	0.0020	EPA 200.8	2/11/13	KMK	2/12/13 01:59	MWO	B1
Silver, Total	ND		mg/L	0.0010	EPA 200.8	2/11/13	KMK	2/12/13 01:59	MWO	B1
Zinc, Total	0.084		mg/L	0.010	EPA 200.7	2/11/13	KMK	2/19/13 10:04	JWK	B2

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 1011044 WW Local Limits 02/07/13

Lab ID: **1011044002** Date Collected: 2/6/2013 00:00 Matrix: Waste Water

Sample ID: **002 Effluent** Date Received: 2/7/2013 14:10

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Cyanide, Total	ND		mg/L	0.0050	EPA 335.4	2/8/13	RPE	2/11/13 10:14	JEP	A1
METALS										
Arsenic, Total	ND		mg/L	0.0050	EPA 200.7	2/11/13	KMK	2/19/13 10:08	JWK	B2
Cadmium, Total	ND		mg/L	0.0010	EPA 200.7	2/11/13	KMK	2/19/13 10:08	JWK	B2
Chromium, Total	0.0019		mg/L	0.0010	EPA 200.8	2/11/13	KMK	2/12/13 02:03	MWO	B1
Copper, Total	ND		mg/L	0.0050	EPA 200.7	2/11/13	KMK	2/19/13 10:08	JWK	B2
Lead, Total	ND		mg/L	0.0030	EPA 200.7	2/11/13	KMK	2/19/13 10:08	JWK	B2
Mercury, Total (Low-level)	ND		mg/L	0.00020	EPA 245.1	2/22/13	MNP	2/22/13 14:53	MNP	B3
Molybdenum, Total	0.028		mg/L	0.010	EPA 200.7	2/11/13	KMK	2/19/13 10:08	JWK	B2
Nickel, Total	0.0050		mg/L	0.0025	EPA 200.8	2/11/13	KMK	2/12/13 02:03	MWO	B1
Selenium, Total	ND		mg/L	0.0020	EPA 200.8	2/11/13	KMK	2/12/13 02:03	MWO	B1
Silver, Total	ND		mg/L	0.0010	EPA 200.8	2/11/13	KMK	2/12/13 02:03	MWO	B1
Zinc, Total	0.025		mg/L	0.010	EPA 200.7	2/11/13	KMK	2/19/13 10:08	JWK	B2

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 1011044 WW Local Limits 02/07/13

Lab ID: **1011044003** Date Collected: 2/6/2013 00:00 Matrix: Waste Water

Sample ID: **Raw Influent Grab** Date Received: 2/7/2013 00:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Oil/Grease Hexane Extractable	48.2		mg/L	2.4	EPA 1664B			2/14/13 00:03	JJS	A

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 1011044 WW Local Limits 02/07/13

Lab ID: **1011044004** Date Collected: 2/6/2013 00:00 Matrix: Waste Water

Sample ID: **002 Effluent** Date Received: 2/7/2013 14:10

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Oil/Grease Hexane Extractable	ND		mg/L	2.2	EPA 1664B			2/12/13 10:30	MPP	A

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

Ship to: 34 Dogwood Lane • Middletown, PA 17057 • 717.944.5541 • Fax: 717.944.1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT/SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 1

Courier:

Tracking #:

1011044

Co. Name: YORK CITY WWTP

Contact (Report to): JOSEPH CONCINO Phone: 8452794

Address: 1701 BLACK BRIDGE ROAD YORK, PA 17402

Bill to (if different than Report to):

PO#: 13-100389

Project Name/#: LOCAL LIMITS ALS Quote #: 206062

TAT: [X] Normal-Standard TAT is 10 business days. [ ] Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? [X] Y JCONCINO@YORKCITY.ORG

Fax? [ ] Y No.:

	TOTAL As, Cd, Cu, Mo, Pb, Zn, Ag, Cr, Ni, SE, Hg	CYANIDE	OIL & GREASE 1664	TOTAL SOLIDS	OIL & GREASE 9071B
***Container Type	PL	PL	GL	GL	GL
***Container Size	0.5L	0.5L	1L	1L	1L
***Preservative	HNO3	NaOH	H2SO4	—	—

ANALYSES/METHOD REQUESTED

Enter Number of Containers Per Analysis

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TOTAL As, Cd, Cu, Mo, Pb, Zn, Ag, Cr, Ni, SE, Hg	CYANIDE	OIL & GREASE 1664	TOTAL SOLIDS	OIL & GREASE 9071B
1 RAW INFLUENT		2/6		C	WW	1	1			
2 002 EFFLUENT		|		C	WW	1	1			
3 RAW INFLUENT		|		G	WW			1		
4 002 EFFLUENT		|		G	WW			1		
5 ~~CENTRIFUGE CAKE / BOTTLE~~				C	SL	X	X		X	X
6		per bottles 2-7-13 DY								
7										
8										

Receipt Information (completed by Sample Receiving)

Performed by: Initial here DJ

Cooler Temp: 5°

Therm. ID: 58717

No. of Coolers:

Notes:

Circle appropriate Y or N.		
Correct containers?	(Y)	N
Correct sample volume?	(Y)	N
Correct preservation?	(Y)	N
Headspace/Volatiles?	—	—
Custody seals Present?	Y	(N)
(If present) Seals intact?	—	—
Received on ice?	Y	(N)
COC/Labels complete/accurate?	(Y)	N
Container in good condition?	(Y)	N

SAMPLED BY (Please Print):

LOGGED BY (signature): D Joseph DATE: 2-7-13 TIME: 1445

REVIEWED BY (signature): DATE: TIME:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1. [signature] YORK CITY	2/7/13	1409	2 Darlene Joseph ALS	2/7/13	1410
3 Darlene Joseph ALS	2/7/13		4 Scott R Bergdahl	2-7-13	1900
5 SIW	2-7-13	2015	6 [signature]	2/7	2015
7			8		
9			10		

Data Deliverables: [ ] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] (other)

EDDs Required? [ ] If yes, format type: Other

SDWA Forms?: yes [ ] yes [ ] yes [ ] yes [ ]

State Samples Collected In?: MD [ ] NJ [ ] NY [ ] PA [ ]

DOD Criteria Required?

ALS FIELD SERVICES: [ ] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

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ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

May 8, 2013

Mr. Joe Concino
York, City of (WWTP)
1701 Blackridge Road
York, PA 17405

Certificate of Analysis

Project Name:	**2011-ADDITIONAL TESTING**	Workorder:	**1023709**
Purchase Order:		Workorder ID:	**Add'l Local Limits 04/24/13**

Dear Mr. Concino,

Enclosed are the analytical results for samples received by the laboratory on Thursday, April 25, 2013.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Shannon Butler (Project Coordinator) or Anna G Milliken (Technical Manager) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS York: 978 Loucks Mill Road, York, PA 17402 717-505-5280

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Anna G Milliken
Technical Manager

ALS Environmental

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

SAMPLE SUMMARY

Workorder: 1023709 Add'l Local Limits 04/24/13 Discard Date: 05/22/2013

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
1023709001	Raw Influent	Waste Water	4/24/13 00:00	4/25/13 21:40	Customer
1023709002	T2 Mixed Liquor	Waste Water	4/24/13 00:00	4/25/13 21:40	Customer
1023709003	Centrifuge Cake	Solid	4/24/13 12:30	4/25/13 21:40	Customer

Workorder Comments:

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as “analyze immediately” require analysis within 15 minutes of collection. Any “analyze immediately” parameters not listed under the header “Field Parameters” are performed in the laboratory and are therefore analyzed out of hold time.

Standard Acronyms/Flags

J, B	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference

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ANALYTICAL RESULTS

Workorder: 1023709 Add'l Local Limits 04/24/13

Lab ID: **1023709001** Date Collected: 4/24/2013 00:00 Matrix: Waste Water

Sample ID: **Raw Influent** Date Received: 4/25/2013 21:40

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
SEMIVOLATILES										
bis(2-Ethylhexyl)phthalate	19.3		ug/L	2.8	EPA 625	4/26/13	PDK	4/30/13 01:09	DHF	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	96.2		%	38-134	EPA 625	4/26/13	PDK	4/30/13 01:09	DHF	A
2-Fluorobiphenyl (S)	74.7		%	37-113	EPA 625	4/26/13	PDK	4/30/13 01:09	DHF	A
2-Fluorophenol (S)	47		%	17-73	EPA 625	4/26/13	PDK	4/30/13 01:09	DHF	A
Nitrobenzene-d5 (S)	66.5		%	37-124	EPA 625	4/26/13	PDK	4/30/13 01:09	DHF	A
Phenol-d5 (S)	32		%	11-53	EPA 625	4/26/13	PDK	4/30/13 01:09	DHF	A
Terphenyl-d14 (S)	93		%	33-125	EPA 625	4/26/13	PDK	4/30/13 01:09	DHF	A

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 1023709 Add'l Local Limits 04/24/13

Lab ID: **1023709002** Date Collected: 4/24/2013 00:00 Matrix: Waste Water

Sample ID: **T2 Mixed Liquor** Date Received: 4/25/2013 21:40

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Copper, Total	0.69		mg/L	0.0050	EPA 200.7	5/5/13	ZMC	5/8/13 12:10	JWK	A
Silver, Total	0.0035		mg/L	0.0020	EPA 200.7	5/5/13	ZMC	5/8/13 12:10	JWK	A
Zinc, Total	0.98		mg/L	0.010	EPA 200.7	5/5/13	ZMC	5/8/13 12:10	JWK	A

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 1023709 Add'l Local Limits 04/24/13

Lab ID: **1023709003** Date Collected: 4/24/2013 12:30 Matrix: Solid

Sample ID: **Centrifuge Cake** Date Received: 4/25/2013 21:40

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
SEMIVOLATILES										
bis(2-Ethylhexyl)phthalate	26700		ug/kg	5870	SW846 8270D	4/30/13	JCS	5/1/13 18:02	DHF	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	72.5		%	37-123	SW846 8270D	4/30/13	JCS	5/1/13 18:02	DHF	A
2-Fluorobiphenyl (S)	79.7		%	45-105	SW846 8270D	4/30/13	JCS	5/1/13 18:02	DHF	A
2-Fluorophenol (S)	80.4		%	35-104	SW846 8270D	4/30/13	JCS	5/1/13 18:02	DHF	A
Nitrobenzene-d5 (S)	78.3		%	41-110	SW846 8270D	4/30/13	JCS	5/1/13 18:02	DHF	A
Phenol-d5 (S)	88		%	40-100	SW846 8270D	4/30/13	JCS	5/1/13 18:02	DHF	A
Terphenyl-d14 (S)	79.1		%	38-113	SW846 8270D	4/30/13	JCS	5/1/13 18:02	DHF	A
WET CHEMISTRY										
Moisture	83.7		%	0.1	SM20-2540 G			4/26/13 10:26	NV	A
Total Solids	16.3		%	0.1	SM20-2540 G			4/26/13 10:26	NV	A

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental
Ship to: 34 Dogwood Lane • Middletown, PA 17057 • 717.944.5541 • Fax: 717.944.1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER INSTRUCTIONS ON THE BACK

Page 1 of 1
Courier:
Tracking #:
1023709

Co. Name: YORK CITY WWTP
Contact (Report to): JOSEPH CONCINO Phone: 8452744
Address: 1701 BLACK BRIDGE ROAD YORK, PA 17402
Bill to (if different than Report to):
PO#: 13-100392
Project Name/#: ADDITIONAL LOCAL LIMITS ALS Quote #: 235673
TAT: [X] Normal-Standard TAT is 10 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:
Email? [X] Y JCONCINO@YORKCITY.ORG
Fax? [ ] Y No.:

						***Container Type	GL	PL	GL							
						***Container Size	1L	250mL	8OZ							
						***Preservative	—	HNO3	—							
							ANALYSES/METHOD REQUESTED									
Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix		BIS 2 ETHYL HEXYL PHTHALATE 625	TOTAL Cu, Ag, Zn	BIS 2 ETHYL HEXYL PHTHALATE 8270							
							Enter Number of Containers Per Analysis									
1 RAW INFLUENT		4/24/13	0000-2400	C	WW		1									
2 T.2 MIXED LIQUOR		4/24/13	0000-2400	C	WW			1								
3 CENTRIFUGE CAKE		4/24/13	0730-1230	C	SL				1							
4																
5																
6																
7																
8																

Receipt Information (completed by Sample Receiving)
Performed by: [signature]
Cooler Temp: 1
Therm. ID: [illegible]
No. of Coolers:
Notes:

Circle appropriate Y or N.		
Correct containers?	Y (circled)	N
Correct sample volume?	Y (circled)	N
Correct preservation?	Y (circled)	N
Headspace/Volatiles?	Y	N
Custody seals Present?	Y	N (circled)
(if present) Seals intact?	Y	N
Received on ice?	Y (circled)	N
COC/Labels complete/accurate?	Y (circled)	N
Container in good condition?	Y (circled)	N

SAMPLED BY (Please Print):
LOGGED BY (signature): [signature] DATE: 4/26/13 TIME: 0854
REVIEWED BY (signature): SRB DATE: TIME:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature] YORK CITY	4/25/13	1036	2 Darlene Joseph ALS	4/25/13	1036
3 Darlene Joseph ALS	4/25/13		4 [signature]	4/25/13	21:00
5 [signature]	4/25/13	21:40	6 [signature]	4/25/13	[illegible]
7			8		
9			10		

Data Deliverables: [ ] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] (other)
EDDs Required? [ ] If yes, format type:
SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ] Other
State Samples Collected In? MD [ ] NJ [ ] NY [ ] PA [ ]
DOD Criteria Required?

ALS FIELD SERVICES: [ ] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.
Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY
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ALS Environmental

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May 8, 2013

Mr. Joe Concino
York, City of (WWTP)
1701 Blackridge Road
York, PA 17405

Certificate of Analysis

Project Name:	**PP SCANS AND LOCAL LIMITS -**	Workorder:	**1023708**
Purchase Order:	**13-100389**	Workorder ID:	**WW Local Limits 04/24/13**

Dear Mr. Concino,

Enclosed are the analytical results for samples received by the laboratory on Thursday, April 25, 2013.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Shannon Butler (Project Coordinator) or Anna G Milliken (Technical Manager) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

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ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

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Anna G Milliken
Technical Manager

ALS Environmental

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SAMPLE SUMMARY

Workorder: 1023708 WW Local Limits 04/24/13 Discard Date: 05/22/2013

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
1023708001	Raw Influent Composite	Waste Water	4/24/13 00:00	4/25/13 21:40	Customer
1023708002	002 Effluent	Waste Water	4/24/13 00:00	4/25/13 21:40	Customer
1023708003	Raw Influent Grab	Waste Water	4/24/13 07:42	4/25/13 21:40	Customer
1023708004	002 Effluent Grab	Waste Water	4/24/13 07:35	4/25/13 21:40	Customer
1023708005	Centrifuge Cake	Solid	4/24/13 12:30	4/25/13 21:40	Customer

Workorder Comments:

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as “analyze immediately” require analysis within 15 minutes of collection. Any “analyze immediately” parameters not listed under the header “Field Parameters” are performed in the laboratory and are therefore analyzed out of hold time.

Standard Acronyms/Flags

J, B	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 1023708 WW Local Limits 04/24/13

Lab ID: **1023708001** Date Collected: 4/24/2013 00:00 Matrix: Waste Water

Sample ID: **Raw Influent Composite** Date Received: 4/25/2013 21:40

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Cyanide, Total	ND		mg/L	0.0050	EPA 335.4	4/30/13	SYB	5/1/13 13:20	JEP	A1
METALS										
Arsenic, Total	ND		mg/L	0.0050	EPA 200.7	5/5/13	ZMC	5/7/13 14:47	JWK	B
Cadmium, Total	ND		mg/L	0.0010	EPA 200.7	5/5/13	ZMC	5/7/13 14:47	JWK	B
Chromium, Total	0.0023		mg/L	0.0010	EPA 200.8	4/30/13	ZMC	5/7/13 12:48	MWO	B1
Copper, Total	0.063		mg/L	0.0050	EPA 200.7	5/5/13	ZMC	5/7/13 14:47	JWK	B
Lead, Total	0.0086		mg/L	0.0030	EPA 200.7	5/5/13	ZMC	5/7/13 14:47	JWK	B
Mercury, Total (Low-level)	0.00046		mg/L	0.00020	EPA 245.1	5/7/13	MNP	5/7/13 10:01	MNP	B2
Molybdenum, Total	0.017		mg/L	0.010	EPA 200.7	5/5/13	ZMC	5/7/13 14:47	JWK	B
Nickel, Total	0.0039		mg/L	0.0025	EPA 200.8	4/30/13	ZMC	5/7/13 12:48	MWO	B1
Selenium, Total	ND		mg/L	0.0020	EPA 200.8	4/30/13	ZMC	5/7/13 12:48	MWO	B1
Silver, Total	ND		mg/L	0.0010	EPA 200.8	4/30/13	ZMC	5/7/13 12:48	MWO	B1
Zinc, Total	0.13		mg/L	0.010	EPA 200.7	5/5/13	ZMC	5/7/13 14:47	JWK	B

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 1023708 WW Local Limits 04/24/13

Lab ID: **1023708002** Date Collected: 4/24/2013 00:00 Matrix: Waste Water

Sample ID: **002 Effluent** Date Received: 4/25/2013 21:40

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Cyanide, Total	ND		mg/L	0.0050	EPA 335.4	4/30/13	SYB	5/1/13 13:20	JEP	A1
METALS										
Arsenic, Total	ND		mg/L	0.0050	EPA 200.7	5/5/13	ZMC	5/7/13 14:51	JWK	B
Cadmium, Total	ND		mg/L	0.0010	EPA 200.7	5/5/13	ZMC	5/7/13 14:51	JWK	B
Chromium, Total	ND		mg/L	0.0010	EPA 200.8	4/30/13	ZMC	5/7/13 12:51	MWO	B1
Copper, Total	ND		mg/L	0.0050	EPA 200.7	5/5/13	ZMC	5/7/13 14:51	JWK	B
Lead, Total	ND		mg/L	0.0030	EPA 200.7	5/5/13	ZMC	5/7/13 14:51	JWK	B
Mercury, Total (Low-level)	ND		mg/L	0.00020	EPA 245.1	5/7/13	MNP	5/7/13 10:02	MNP	B2
Molybdenum, Total	0.025		mg/L	0.010	EPA 200.7	5/5/13	ZMC	5/7/13 14:51	JWK	B
Nickel, Total	ND		mg/L	0.0025	EPA 200.8	4/30/13	ZMC	5/7/13 12:51	MWO	B1
Selenium, Total	ND		mg/L	0.0020	EPA 200.8	4/30/13	ZMC	5/7/13 12:51	MWO	B1
Silver, Total	ND		mg/L	0.0010	EPA 200.8	4/30/13	ZMC	5/7/13 12:51	MWO	B1
Zinc, Total	0.036		mg/L	0.010	EPA 200.7	5/5/13	ZMC	5/7/13 14:51	JWK	B

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 1023708 WW Local Limits 04/24/13

Lab ID: **1023708003** Date Collected: 4/24/2013 07:42 Matrix: Waste Water

Sample ID: **Raw Influent Grab** Date Received: 4/25/2013 21:40

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Oil/Grease Hexane Extractable	10.1		mg/L	2.6	EPA 1664B			5/8/13 14:00	MPP	A

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

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ANALYTICAL RESULTS

Workorder: 1023708 WW Local Limits 04/24/13

Lab ID: **1023708004** Date Collected: 4/24/2013 07:35 Matrix: Waste Water

Sample ID: **002 Effluent Grab** Date Received: 4/25/2013 21:40

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Oil/Grease Hexane Extractable	3.2		mg/L	2.1	EPA 1664B			5/8/13 14:00	MPP	A

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 1023708 WW Local Limits 04/24/13

Lab ID: **1023708005** Date Collected: 4/24/2013 12:30 Matrix: Solid

Sample ID: **Centrifuge Cake** Date Received: 4/25/2013 21:40

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Cyanide, Total	ND		mg/kg	1.4	SW846 9012B	4/26/13	RPE	4/29/13 13:55	JEP	A2
Hexane Extractable Material	42900		mg/kg	1180	SW846 9071B			5/7/13 01:00	MPP	A
Moisture	83.2		%	0.1	SM20-2540 G			4/29/13 12:31	NV	A
Silica Gel Treated HEM	17000		mg/kg	1180	SW846 9071B			5/7/13 01:00	MPP	A
Total Solids	16.8		%	0.1	SM20-2540 G			4/29/13 12:31	NV	A
METALS										
Arsenic, Total	ND		mg/kg	10.4	SW846 6010C	4/26/13	SRT	4/26/13 11:42	SRT	A1
Cadmium, Total	2.8		mg/kg	2.6	SW846 6010C	4/26/13	SRT	4/26/13 11:42	SRT	A1
Chromium, Total	26.7		mg/kg	5.2	SW846 6010C	4/26/13	SRT	4/26/13 11:42	SRT	A1
Copper, Total	482		mg/kg	10.4	SW846 6010C	4/26/13	SRT	4/26/13 11:42	SRT	A1
Lead, Total	64.8		mg/kg	10.4	SW846 6010C	4/26/13	SRT	4/26/13 11:42	SRT	A1
Mercury, Total	0.80		mg/kg	0.28	SW846 7471B	5/7/13	MNP	5/7/13 13:51	MNP	A3
Molybdenum, Total	26.9		mg/kg	10.4	SW846 6010C	4/26/13	SRT	4/26/13 11:42	SRT	A1
Nickel, Total	26.4		mg/kg	10.4	SW846 6010C	4/26/13	SRT	4/26/13 11:42	SRT	A1
Selenium, Total	ND		mg/kg	26.1	SW846 6010C	4/26/13	SRT	4/26/13 11:42	SRT	A1
Silver, Total	12.6		mg/kg	2.6	SW846 6010C	4/26/13	SRT	4/26/13 11:42	SRT	A1
Zinc, Total	653		mg/kg	10.4	SW846 6010C	4/26/13	SRT	4/26/13 11:42	SRT	A1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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CHAIN OF CUSTODY/
REQUEST FOR ANALYSIS

ALL GOOD DATA MUST BE COMPLETED BY THE CLIENT
SAMPLER INSTRUCTIONS ON THE BACK

Page 1 of 1

Courier:
Tracking #:

1023708

ALS Environmental
Ship to: 34 Dogwood Lane • Middletown, PA 17057 • 717.944.5541 • Fax: 717.944.1430

Co. Name: YORK CITY WWTP
Contact (Report to): JOSEPH CONCINO Phone: 8452794
Address: 1701 BLACK BRIDGE ROAD
YORK, PA 17402

Bill to (if different than Report to):

PO#: 13-1003B9

Project Name/#: LOCAL LIMITS ALS Quote #: 206062

TAT: Normal-Standard TAT is 10 business days. Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? Y JCONCINO@YORKCITYDEG.COM
Fax? Y No:

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	***Container Size	***Container Type	Preservative	TOTAL As,Cd,Cu,Mo Pb,Zn,Ag,Cr,Ni,Se,Hg	CYANIDE	OIL+GREASE 1664	TOTAL SOLIDS	OIL+GREASE 9071B	Enter Number of Containers Per Analysis
1	RAW INFLUENT		4/24/13	0800-2400	C	WW	1L	PL	HNO3	1	1	1			
2	002 EFFLUENT		4/24/13	0800-2400	C	WW	1L	PL	HNO3	1	1	1			
3	RAW INFLUENT		4/24/13	0742	G	WW	1L	GL	H2SO4						
4	002 EFFLUENT		4/24/13	0735	G	WW	1L	GL	H2SO4	1	1	1			
5	CENTRIFUGE CAKE		4/24/13	0730-1230	C	SL	8oz	GL	-	X	X	X	X	X	1 BOTTLE
6															
7															
8															

SAMPLED BY (Please Print):

LOGGED BY(signature): DATE
REVIEWED BY(signature): DATE TIME

Data Deliverables: Standard, CLP-like, NJ-Reduced, NJ-Full (new), EDDs Required?, If yes, format type:
SDWA Farms? yes yes yes yes
State Samples Collected In? MD NJ NY PA
DOD Criteria Required? Other

ALS FIELD SERVICES: Pickup, Labor, Composite Sampling, Rental Equipment, Other:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1					
2 YORK CITY	4/25/13	1036	2	4/25/13	1036
3			4		
5			6		
7			8		
9			10		

Cooler Temp: Therm. ID:
No. of Coolers:
Notes:

Circle appropriate Y or N.

Container in good condition?	N
COC/Labels complete/accurate?	N
Received on ice?	N
(if present) Seals intact?	Y N
Custody seals Present?	Y N
Correct containers?	Y N
Correct sample volume?	Y N
Correct preservation?	Y N
Headspace/Volatiles?	Y N

Preferred by: Shipped Via: FEDEX

* G=Grab; C=Composite **Matrix: Air=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

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May 31, 2013

Mr. Joe Concino
York, City of (WWTP)
1701 Blackridge Road
York, PA 17405

Certificate of Analysis

Project Name:	**PP SCANS AND LOCAL LIMITS -**	Workorder:	**1027255**
Purchase Order:	**13-100390**	Workorder ID:	**Priority Pollutants 05/15/13**

Dear Mr. Concino,

Enclosed are the analytical results for samples received by the laboratory on Thursday, May 16, 2013.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Shannon Butler (Project Coordinator) or Anna G Milliken (Technical Manager) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

ALS York: 978 Loucks Mill Road, York, PA 17402 717-505-5280

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Anna G Milliken
Technical Manager

ALS Environmental

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SAMPLE SUMMARY

Workorder: 1027255 Priority Pollutants 05/15/13 Discard Date: 06/13/2013

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
1027255001	Raw Influent Comp	Waste Water	5/15/13 00:00	5/16/13 19:20	Customer
1027255002	Raw Influent Grab	Waste Water	5/15/13 07:38	5/16/13 19:20	Customer
1027255003	Centrifuge Cake	Solid	5/15/13 06:30	5/16/13 19:20	Customer

Workorder Comments:

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as “analyze immediately” require analysis within 15 minutes of collection. Any “analyze immediately” parameters not listed under the header “Field Parameters” are performed in the laboratory and are therefore analyzed out of hold time.

Standard Acronyms/Flags

J, B	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference

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ANALYTICAL RESULTS

Workorder: 1027255 Priority Pollutants 05/15/13

Lab ID: **1027255001** Date Collected: 5/15/2013 00:00 Matrix: Waste Water

Sample ID: **Raw Influent Comp** Date Received: 5/16/2013 19:20

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
SEMIVOLATILES										
Acenaphthene	ND		ug/L	1.4	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Acenaphthylene	ND		ug/L	1.4	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Anthracene	ND		ug/L	1.4	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Benzidine	ND		ug/L	46.7	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Benzo(a)anthracene	ND		ug/L	1.4	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Benzo(a)pyrene	ND		ug/L	1.4	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Benzo(b)fluoranthene	ND		ug/L	1.4	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Benzo(g,h,i)perylene	ND		ug/L	1.4	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Benzo(k)fluoranthene	ND		ug/L	1.4	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
4-Bromophenyl-phenylether	ND		ug/L	2.8	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Butylbenzylphthalate	4.1		ug/L	2.8	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
4-Chloro-3-methylphenol	ND		ug/L	7.5	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
bis(2-Chloroethoxy)methane	ND		ug/L	2.8	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
bis(2-Chloroethyl)ether	ND		ug/L	2.8	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
bis(2-Chloroisopropyl)ether	ND		ug/L	2.8	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
2-Chloronaphthalene	ND		ug/L	2.8	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
2-Chlorophenol	ND		ug/L	7.5	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
4-Chlorophenyl-phenylether	ND		ug/L	2.8	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Chrysene	ND		ug/L	1.4	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Di-n-Butylphthalate	ND		ug/L	2.8	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Di-n-Octylphthalate	ND		ug/L	7.5	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Dibenzo(a,h)anthracene	ND		ug/L	1.4	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
3,3-Dichlorobenzidine	ND		ug/L	15.0	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
2,4-Dichlorophenol	ND		ug/L	7.5	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Diethylphthalate	ND		ug/L	7.5	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
2,4-Dimethylphenol	ND		ug/L	7.5	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Dimethylphthalate	ND		ug/L	7.5	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
2,4-Dinitrophenol	ND		ug/L	15.0	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
2,4-Dinitrotoluene	ND		ug/L	2.8	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
2,6-Dinitrotoluene	ND		ug/L	2.8	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
1,2-Diphenylhydrazine	ND		ug/L	2.8	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
bis(2-Ethylhexyl)phthalate	19.4		ug/L	2.8	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Fluoranthene	ND		ug/L	1.4	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Fluorene	ND		ug/L	1.4	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Hexachlorobenzene	ND		ug/L	2.8	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Hexachlorobutadiene	ND		ug/L	2.8	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Hexachlorocyclopentadiene	ND		ug/L	7.5	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Hexachloroethane	ND		ug/L	2.8	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Indeno(1,2,3-cd)pyrene	ND		ug/L	1.4	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Isophorone	ND		ug/L	2.8	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A

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ANALYTICAL RESULTS

Workorder: 1027255 Priority Pollutants 05/15/13

Lab ID: **1027255001** Date Collected: 5/15/2013 00:00 Matrix: Waste Water

Sample ID: **Raw Influent Comp** Date Received: 5/16/2013 19:20

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
2-Methyl-4,6-dinitrophenol	ND		ug/L	7.5	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Naphthalene	2.9		ug/L	1.4	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Nitrobenzene	ND		ug/L	2.8	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
2-Nitrophenol	ND		ug/L	7.5	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
4-Nitrophenol	ND		ug/L	7.5	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
N-Nitrosodimethylamine	ND		ug/L	2.8	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
N-Nitroso-di-n-propylamine	ND		ug/L	2.8	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
N-Nitrosodiphenylamine	ND		ug/L	2.8	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Pentachlorophenol	ND		ug/L	15.0	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Phenanthrene	ND		ug/L	1.4	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Phenol	ND		ug/L	7.5	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Pyrene	ND		ug/L	1.4	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
1,2,4-Trichlorobenzene	ND		ug/L	2.8	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
2,4,6-Trichlorophenol	ND		ug/L	7.5	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	84.8		%	38-134	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
2-Fluorobiphenyl (S)	67.1		%	37-113	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
2-Fluorophenol (S)	23.8		%	17-73	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Nitrobenzene-d5 (S)	88.9		%	37-124	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Phenol-d5 (S)	25.9		%	11-53	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Terphenyl-d14 (S)	247	1	%	33-125	EPA 625	5/22/13	LEH	5/30/13 06:40	DHF	A
Pesticides and PCBs										
Aldrin	ND		ug/L	0.12	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
alpha-BHC	ND		ug/L	0.12	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
beta-BHC	ND		ug/L	0.12	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
delta-BHC	ND		ug/L	0.12	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
gamma-BHC	ND		ug/L	0.12	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
Chlordane	ND		ug/L	2.4	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
4,4'-DDD	ND		ug/L	0.12	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
4,4'-DDE	ND		ug/L	0.12	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
4,4'-DDT	ND		ug/L	0.12	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
Dieldrin	ND		ug/L	0.12	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
Endosulfan I	ND		ug/L	0.12	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
Endosulfan II	ND		ug/L	0.12	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
Endosulfan Sulfate	ND		ug/L	0.12	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
Endrin	ND		ug/L	0.12	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
Endrin Aldehyde	ND		ug/L	0.12	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
Heptachlor	ND		ug/L	0.12	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
Heptachlor Epoxide	ND		ug/L	0.12	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C

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ANALYTICAL RESULTS

Workorder: 1027255 Priority Pollutants 05/15/13

Lab ID: **1027255001** Date Collected: 5/15/2013 00:00 Matrix: Waste Water

Sample ID: **Raw Influent Comp** Date Received: 5/16/2013 19:20

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Mirex	ND		ug/L	0.12	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
Toxaphene	ND		ug/L	4.8	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
Aroclor-1016	ND		ug/L	2.4	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
Aroclor-1221	ND		ug/L	2.4	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
Aroclor-1232	ND		ug/L	2.4	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
Aroclor-1242	ND		ug/L	2.4	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
Aroclor-1248	ND		ug/L	2.4	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
Aroclor-1254	ND		ug/L	2.4	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
Aroclor-1260	ND		ug/L	2.4	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyl (S)	45.4		%	30-150	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
Tetrachloro-m-xylene (S)	43		%	36-112	EPA 608	5/20/13	CAC	5/22/13 14:26	KJH	C
WET CHEMISTRY										
Cyanide, Total	ND		mg/L	0.0050	EPA 335.4	5/22/13	SYB	5/23/13 11:47	JEP	F2
Phenolics	0.04		mg/L	0.01	EPA 420.4	5/28/13	JPA	5/29/13 15:50	JPA	G
METALS										
Antimony, Total	ND		mg/L	0.010	EPA 200.7	5/22/13	KMK	5/29/13 18:12	JWK	E2
Arsenic, Total	ND		mg/L	0.0050	EPA 200.7	5/22/13	KMK	5/29/13 18:12	JWK	E2
Beryllium, Total	ND		mg/L	0.0020	EPA 200.7	5/22/13	KMK	5/29/13 18:12	JWK	E2
Cadmium, Total	ND		mg/L	0.0010	EPA 200.7	5/22/13	KMK	5/29/13 18:12	JWK	E2
Chromium, Total	0.0031		mg/L	0.0025	EPA 200.7	5/22/13	KMK	5/29/13 18:12	JWK	E2
Copper, Total	0.050		mg/L	0.0050	EPA 200.7	5/22/13	KMK	5/29/13 18:12	JWK	E2
Lead, Total	0.011		mg/L	0.0030	EPA 200.7	5/22/13	KMK	5/29/13 18:12	JWK	E2
Mercury, Total	ND		mg/L	0.00050	EPA 245.1	5/28/13	MNP	5/28/13 13:38	MNP	E1
Nickel, Total	ND		mg/L	0.010	EPA 200.7	5/22/13	KMK	5/29/13 18:12	JWK	E2
Selenium, Total	ND		mg/L	0.010	EPA 200.7	5/22/13	KMK	5/29/13 18:12	JWK	E2
Silver, Total	ND		mg/L	0.0020	EPA 200.7	5/22/13	KMK	5/29/13 18:12	JWK	E2
Thallium, Total	ND		mg/L	0.010	EPA 200.7	5/22/13	KMK	5/29/13 18:12	JWK	E2
Zinc, Total	0.14		mg/L	0.010	EPA 200.7	5/22/13	KMK	5/29/13 18:12	JWK	E2

Sample Comments:

This sample was analyzed at a dilution in the 608 analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

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ANALYTICAL RESULTS

Workorder: 1027255 Priority Pollutants 05/15/13

Lab ID:	**1027255001**	Date Collected:	5/15/2013 00:00	Matrix:	Waste Water
Sample ID:	**Raw Influent Comp**	Date Received:	5/16/2013 19:20		

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr

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Technical Manager

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ANALYTICAL RESULTS

Workorder: 1027255 Priority Pollutants 05/15/13

Lab ID: **1027255002** Date Collected: 5/15/2013 07:38 Matrix: Waste Water

Sample ID: **Raw Influent Grab** Date Received: 5/16/2013 19:20

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acrolein	ND		ug/L	30.0	EPA 624			5/21/13 07:01	GLQ	A
Acrylonitrile	ND		ug/L	5.0	EPA 624			5/21/13 07:01	GLQ	A
Benzene	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
Bromodichloromethane	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
Bromoform	ND		ug/L	2.0	EPA 624			5/21/13 07:01	GLQ	A
Bromomethane	ND		ug/L	2.0	EPA 624			5/21/13 07:01	GLQ	A
Carbon Tetrachloride	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
Chlorobenzene	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
Chlorodibromomethane	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
Chloroethane	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	EPA 624			5/21/13 07:01	GLQ	A
Chloroform	2.6		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
Chloromethane	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
1,2-Dichlorobenzene	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
1,3-Dichlorobenzene	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
1,4-Dichlorobenzene	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
1,1-Dichloroethane	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
1,2-Dichloroethane	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
1,1-Dichloroethene	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
trans-1,2-Dichloroethene	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
1,2-Dichloropropane	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
1,3-Dichloropropene, Total	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
Ethylbenzene	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
Methylene Chloride	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
Tetrachloroethene	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
Toluene	7.2		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
1,1,1-Trichloroethane	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
1,1,2-Trichloroethane	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
Trichloroethene	1.5		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
Trichlorofluoromethane	ND		ug/L	1.0	EPA 624			5/21/13 07:01	GLQ	A
Vinyl Chloride	ND		ug/L	2.0	EPA 624			5/21/13 07:01	GLQ	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	82.2		%	72-142	EPA 624			5/21/13 07:01	GLQ	A
4-Bromofluorobenzene (S)	82.2		%	73-119	EPA 624			5/21/13 07:01	GLQ	A
Dibromofluoromethane (S)	85.8		%	74-132	EPA 624			5/21/13 07:01	GLQ	A
Toluene-d8 (S)	97.1		%	75-133	EPA 624			5/21/13 07:01	GLQ	A

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ANALYTICAL RESULTS

Workorder: 1027255 Priority Pollutants 05/15/13

Lab ID:	**1027255002**	Date Collected:	5/15/2013 07:38	Matrix:	Waste Water
Sample ID:	**Raw Influent Grab**	Date Received:	5/16/2013 19:20		

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr

Sample Comments:

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ANALYTICAL RESULTS

Workorder: 1027255 Priority Pollutants 05/15/13

Lab ID: **1027255003** Date Collected: 5/15/2013 06:30 Matrix: Solid

Sample ID: **Centrifuge Cake** Date Received: 5/16/2013 19:20

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acrolein	ND		ug/kg	15400	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
Acrylonitrile	ND		ug/kg	3080	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
Benzene	ND		ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
Bromodichloromethane	ND		ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
Bromoform	ND		ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
Bromomethane	ND	2	ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
2-Butanone	ND		ug/kg	6160	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
Carbon Tetrachloride	ND		ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
Chlorobenzene	ND		ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
Chlorodibromomethane	ND		ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
Chloroethane	ND		ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
2-Chloroethylvinyl ether	ND		ug/kg	1230	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
Chloroform	ND		ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
Chloromethane	ND		ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
1,1-Dichloroethane	ND		ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
1,2-Dichloroethane	ND		ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
1,1-Dichloroethene	ND		ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
trans-1,2-Dichloroethene	ND		ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
1,2-Dichloropropane	ND		ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
1,3-Dichloropropene, Total	ND		ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
Ethylbenzene	ND		ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
Methylene Chloride	ND		ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
1,1,2,2-Tetrachloroethane	ND		ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
Tetrachloroethene	ND		ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
Toluene	ND		ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
1,1,1-Trichloroethane	ND		ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
1,1,2-Trichloroethane	ND		ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
Trichloroethene	ND		ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
Vinyl Chloride	ND		ug/kg	616	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	86.9		%	71-146	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
4-Bromofluorobenzene (S)	79.9		%	46-138	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
Dibromofluoromethane (S)	76.8		%	42-143	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
Toluene-d8 (S)	96.9		%	54-141	8260/5035	5/17/13	TMP	5/17/13 16:55	TMP	A1
SEMIVOLATILES										
Acenaphthene	ND		ug/kg	2980	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Acenaphthylene	ND		ug/kg	2980	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Anthracene	ND		ug/kg	2980	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B

ANALYTICAL RESULTS

Workorder: 1027255 Priority Pollutants 05/15/13

Lab ID: **1027255003** Date Collected: 5/15/2013 06:30 Matrix: Solid

Sample ID: **Centrifuge Cake** Date Received: 5/16/2013 19:20

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Benzidine	ND		ug/kg	32100	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Benzo(a)anthracene	ND		ug/kg	2980	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Benzo(a)pyrene	ND		ug/kg	2980	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Benzo(b)fluoranthene	ND		ug/kg	2980	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Benzo(g,h,i)perylene	ND		ug/kg	2980	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Benzo(k)fluoranthene	ND		ug/kg	2980	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
4-Bromophenyl-phenylether	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Butylbenzylphthalate	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
4-Chloro-3-methylphenol	ND		ug/kg	16100	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
bis(2-Chloroethoxy)methane	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
bis(2-Chloroethyl)ether	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
bis(2-Chloroisopropyl)ether	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
2-Chloronaphthalene	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
2-Chlorophenol	ND		ug/kg	16100	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
4-Chlorophenyl-phenylether	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Chrysene	ND		ug/kg	2980	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Di-n-Butylphthalate	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Di-n-Octylphthalate	ND		ug/kg	16100	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Dibenzo(a,h)anthracene	ND		ug/kg	2980	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
1,2-Dichlorobenzene	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
1,3-Dichlorobenzene	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
1,4-Dichlorobenzene	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
3,3-Dichlorobenzidine	ND		ug/kg	8930	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
2,4-Dichlorophenol	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Diethylphthalate	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
2,4-Dimethylphenol	ND		ug/kg	16100	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Dimethylphthalate	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
2,4-Dinitrophenol	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
2,4-Dinitrotoluene	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
2,6-Dinitrotoluene	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
1,2-Diphenylhydrazine	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
bis(2-Ethylhexyl)phthalate	14300		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Fluoranthene	ND		ug/kg	2980	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Fluorene	ND		ug/kg	2980	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Hexachlorobenzene	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Hexachlorobutadiene	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Hexachlorocyclopentadiene	ND		ug/kg	16100	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Hexachloroethane	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Indeno(1,2,3-cd)pyrene	ND		ug/kg	2980	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Isophorone	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
2-Methyl-4,6-dinitrophenol	ND		ug/kg	16100	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B

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ANALYTICAL RESULTS

Workorder: 1027255 Priority Pollutants 05/15/13

Lab ID: **1027255003** Date Collected: 5/15/2013 06:30 Matrix: Solid

Sample ID: **Centrifuge Cake** Date Received: 5/16/2013 19:20

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Naphthalene	ND		ug/kg	2980	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Nitrobenzene	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
2-Nitrophenol	ND		ug/kg	16100	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
4-Nitrophenol	ND		ug/kg	16100	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
N-Nitrosodimethylamine	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
N-Nitroso-di-n-propylamine	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
N-Nitrosodiphenylamine	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Pentachlorophenol	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Phenanthrene	ND		ug/kg	2980	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Phenol	ND		ug/kg	16100	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Pyrene	ND		ug/kg	2980	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
1,2,4-Trichlorobenzene	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
2,4,6-Trichlorophenol	ND		ug/kg	5950	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	73.2		%	37-123	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
2-Fluorobiphenyl (S)	70.2		%	45-105	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
2-Fluorophenol (S)	83.2		%	35-104	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Nitrobenzene-d5 (S)	70		%	41-110	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Phenol-d5 (S)	81.5		%	40-100	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
Terphenyl-d14 (S)	80.5		%	38-113	SW846 8270D	5/17/13	RMP	5/21/13 17:35	DHF	B
PCBs										
Total Polychlorinated Biphenyl	ND		mg/kg	0.20	SW846 8082A	5/23/13	RMP	5/23/13 18:21	EGO	B
Aroclor-1016	ND		mg/kg	0.20	SW846 8082A	5/23/13	RMP	5/23/13 18:21	EGO	B
Aroclor-1221	ND		mg/kg	0.20	SW846 8082A	5/23/13	RMP	5/23/13 18:21	EGO	B
Aroclor-1232	ND		mg/kg	0.20	SW846 8082A	5/23/13	RMP	5/23/13 18:21	EGO	B
Aroclor-1242	ND		mg/kg	0.20	SW846 8082A	5/23/13	RMP	5/23/13 18:21	EGO	B
Aroclor-1248	ND		mg/kg	0.20	SW846 8082A	5/23/13	RMP	5/23/13 18:21	EGO	B
Aroclor-1254	ND		mg/kg	0.20	SW846 8082A	5/23/13	RMP	5/23/13 18:21	EGO	B
Aroclor-1260	ND		mg/kg	0.20	SW846 8082A	5/23/13	RMP	5/23/13 18:21	EGO	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyl (S)	77.8		%	30-150	SW846 8082A	5/23/13	RMP	5/23/13 18:21	EGO	B
Tetrachloro-m-xylene (S)	64.2		%	30-150	SW846 8082A	5/23/13	RMP	5/23/13 18:21	EGO	B
PESTICIDES										
Aldrin	ND		ug/kg	50.2	SW846 8081B	5/23/13	RMP	5/29/13 15:04	KJH	B
alpha-BHC	ND		ug/kg	50.2	SW846 8081B	5/23/13	RMP	5/29/13 15:04	KJH	B
beta-BHC	ND		ug/kg	50.2	SW846 8081B	5/23/13	RMP	5/29/13 15:04	KJH	B
delta-BHC	ND		ug/kg	50.2	SW846 8081B	5/23/13	RMP	5/29/13 15:04	KJH	B

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ANALYTICAL RESULTS

Workorder: 1027255 Priority Pollutants 05/15/13

Lab ID: **1027255003** Date Collected: 5/15/2013 06:30 Matrix: Solid

Sample ID: **Centrifuge Cake** Date Received: 5/16/2013 19:20

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
gamma-BHC	ND		ug/kg	50.2	SW846 8081B	5/23/13	RMP	5/29/13 15:04	KJH	B
Chlordane	ND		ug/kg	2070	SW846 8081B	5/23/13	RMP	5/29/13 15:04	KJH	B
4,4'-DDD	ND		ug/kg	97.5	SW846 8081B	5/23/13	RMP	5/29/13 15:04	KJH	B
4,4'-DDE	ND		ug/kg	97.5	SW846 8081B	5/23/13	RMP	5/29/13 15:04	KJH	B
4,4'-DDT	ND		ug/kg	97.5	SW846 8081B	5/23/13	RMP	5/29/13 15:04	KJH	B
Dieldrin	ND		ug/kg	97.5	SW846 8081B	5/23/13	RMP	5/29/13 15:04	KJH	B
Endosulfan I	ND		ug/kg	50.2	SW846 8081B	5/23/13	RMP	5/29/13 15:04	KJH	B
Endosulfan II	ND		ug/kg	97.5	SW846 8081B	5/23/13	RMP	5/29/13 15:04	KJH	B
Endosulfan Sulfate	ND		ug/kg	97.5	SW846 8081B	5/23/13	RMP	5/29/13 15:04	KJH	B
Endrin	ND		ug/kg	97.5	SW846 8081B	5/23/13	RMP	5/29/13 15:04	KJH	B
Endrin Aldehyde	ND		ug/kg	97.5	SW846 8081B	5/23/13	RMP	5/29/13 15:04	KJH	B
Heptachlor	ND		ug/kg	50.2	SW846 8081B	5/23/13	RMP	5/29/13 15:04	KJH	B
Heptachlor Epoxide	ND		ug/kg	50.2	SW846 8081B	5/23/13	RMP	5/29/13 15:04	KJH	B
Toxaphene	ND		ug/kg	2070	SW846 8081B	5/23/13	RMP	5/29/13 15:04	KJH	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyl (S)	106		%	30-150	SW846 8081B	5/23/13	RMP	5/29/13 15:04	KJH	B
Tetrachloro-m-xylene (S)	84		%	30-131	SW846 8081B	5/23/13	RMP	5/29/13 15:04	KJH	B
WET CHEMISTRY										
Cyanide, Total	ND		mg/kg	1.5	SW846 9012B	5/22/13	SYB	5/22/13 17:17	JEP	B2
Moisture	83.3		%	0.1	SM20-2540 G			5/20/13 10:21	CF	A
Phenolics	28.2		mg/kg	2.9	SW846 9066	5/23/13	SYB	5/23/13 16:30	JPA	B
Total Solids	16.7		%	0.1	SM20-2540 G			5/20/13 10:21	CF	A
METALS										
Antimony, Total	ND		mg/kg	10.7	SW846 6010C	5/21/13	ZMC	5/28/13 09:49	SRT	B1
Arsenic, Total	ND		mg/kg	10.7	SW846 6010C	5/21/13	ZMC	5/28/13 09:49	SRT	B1
Beryllium, Total	ND		mg/kg	5.3	SW846 6010C	5/21/13	ZMC	5/28/13 09:49	SRT	B1
Cadmium, Total	2.9		mg/kg	2.7	SW846 6010C	5/21/13	ZMC	5/28/13 09:49	SRT	B1
Chromium, Total	21.1		mg/kg	5.3	SW846 6010C	5/21/13	ZMC	5/28/13 09:49	SRT	B1
Copper, Total	459		mg/kg	10.7	SW846 6010C	5/21/13	ZMC	5/28/13 09:49	SRT	B1
Lead, Total	55.2		mg/kg	10.7	SW846 6010C	5/21/13	ZMC	5/28/13 09:49	SRT	B1
Mercury, Total	1.5		mg/kg	0.29	SW846 7471B	5/28/13	MNP	5/28/13 15:26	MNP	B3
Nickel, Total	26.1		mg/kg	10.7	SW846 6010C	5/21/13	ZMC	5/28/13 09:49	SRT	B1
Selenium, Total	ND		mg/kg	26.7	SW846 6010C	5/21/13	ZMC	5/28/13 09:49	SRT	B1
Silver, Total	11.8		mg/kg	2.7	SW846 6010C	5/21/13	ZMC	5/28/13 09:49	SRT	B1
Thallium, Total	ND		mg/kg	16.0	SW846 6010C	5/21/13	ZMC	5/28/13 09:49	SRT	B1
Zinc, Total	603		mg/kg	10.7	SW846 6010C	5/21/13	ZMC	5/28/13 09:49	SRT	B1

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ANALYTICAL RESULTS

Workorder: 1027255 Priority Pollutants 05/15/13

Lab ID:	**1027255003**	Date Collected:	5/15/2013 06:30	Matrix:	Solid
Sample ID:	**Centrifuge Cake**	Date Received:	5/16/2013 19:20		

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr

Sample Comments:

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Anna G Milliken
Technical Manager

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ANALYTICAL RESULTS QUALIFIERS\FLAGS

Workorder: 1027255 Priority Pollutants 05/15/13

PARAMETER QUALIFIERS\FLAGS

[1] The surrogate Terphenyl-d14 for method EPA 625 was outside of control limits. The % Recovery was reported as 247 and the control limits were 33 to 125. This result was reported at a dilution of 1.

[2] The QC sample type LCS for method 8260/5035 was outside the control limits for the analyte Bromomethane. The % Recovery was reported as 38.8 and the control limits were 41 to 143.

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 1

Courier:

Tracking #:

* 1 0 2 7 2 5 5 *

Co. Name: YORK CITY WWTP

Contact (Report to): JOSEPH CONCINO **Phone:** 845-2794

Address: 1701 BLACK BRIDGE ROAD YORK, PA 17402

Bill to (if different than Report to):

PO#: 13-100390

Project Name/#: PRIORITY POLLUTANTS **ALS Quote #:** 206062

TAT: [X] Normal-Standard TAT is 10 business days. [ ] Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? [X] Y JCONCINO@YORKCITY.ORG

Fax? [ ] Y No.:

***Container Type	GL	GL	PL	GL	GL	GL	[illegible]	[illegible]	GL	PL
***Container Size	40ml	1L	0,5L	0,5L	1L	1L	[illegible]	[illegible]	1L	0,5L
***Preservative	HCl	—	NaOH	H2SO4	—	—	[illegible]	[illegible]	—	HNO3
ANALYSES/METHOD REQUESTED	VOC's 624	SVOC's 625	CYANIDE	PHENOLICS	PESTICIDES, + PCB's 608	BNA's 8270	VOC's 8260	PRIORITY POLLUTANT METALS + As, Hg		

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	VOC's 624	SVOC's 625	CYANIDE	PHENOLICS	PESTICIDES, + PCB's 608	BNA's 8270	VOC's 8260	PRIORITY POLLUTANT METALS + As, Hg		
1 RAW INFLUENT		5/15/13	0800-2400	C	WW		2	1	1	2			1		
2 RAW INFLUENT		5/15/13	0738	G	WW	2									
3 CENTRIFUGE CAKE		5/15/13	0800-0630	C	SL	X		X	X	X	X	X	X - 2 - 1L BOTTLES		
4															
5															
6															
7															
8															

Enter Number of Containers Per Analysis

Receipt Information (completed by Sample Receiver) Performed by: INITIAL HERE: DB

Cooler Temp: 6°

Therm. ID: 58717

No. of Coolers:

Notes:

Circle appropriate Y or N.		
Correct containers?	(Y)	N
Correct sample volume?	(Y)	N
Correct preservation?	(Y)	N
Headspace/Volatiles?		N
Custody seals Present?	Y	(N)
(if present) Seals intact?		
Received on ice?	(Y)	N
COC/Labels complete/accurate?	Y	N
Container in good condition?	(Y)	N

SAMPLED BY (Please Print):

LOGGED BY(signature): [signature] Date: 5/17/13 Time: 1245

REVIEWED BY(signature): SLB

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	[signature] YORK CITY	5/16/13	0947	2	[signature] ALS	5/16/13	0947
3	[signature] ALS	5/16/13		4	[signature]	5/16/13	1115
5	[signature]	5/16/13	1920	6	[signature] /ALS	5/16/13	1920
7				8			
9				10			

Data Deliverables: [ ] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] (other) [ ] If yes, format type:

EDDs Required?

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ] Other

State Samples Collected In? MD [ ] NJ [ ] NY [ ] PA [ ]

Enter PWSID No.

DOD Criteria Required?

ALS FIELD SERVICES: [ ] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 6/2011

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September 11, 2013

Mr. Joe Concino
York, City of (WWTP)
1701 Blackridge Road
York, PA 17405

Certificate of Analysis

Project Name:	**PP SCANS AND LOCAL LIMITS -**	Workorder:	**1044162**
Purchase Order:		Workorder ID:	**WW Local Limits 08/21/13**

Dear Mr. Concino,

Enclosed are the analytical results for samples received by the laboratory on Thursday, August 22, 2013.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Shannon Butler (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS York: 978 Loucks Mill Road, York, PA 17402 717-505-5280

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

Shannon Butler
Project Coordinator

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

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SAMPLE SUMMARY

Workorder 1044162 WW Local Limits 08/21/13 Discard Date: 09/25/2013

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
1044162001	Raw Influent	Waste Water	8/21/13 00:00	8/22/13 16:50	Customer
1044162002	002 Effluent	Waste Water	8/21/13 00:00	8/22/13 16:50	Customer
1044162003	Raw Influent Grab	Waste Water	8/21/13 13:05	8/22/13 16:50	Customer
1044162004	002 Effluent Grab	Waste Water	8/21/13 12:50	8/22/13 16:50	Customer
1044162005	Centrifuge Cake	Solid	8/20/13 13:00	8/22/13 16:50	Customer

Workorder Comments:

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".

Standard Acronyms/Flags

J, B	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference

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ANALYTICAL RESULTS

Workorder 1044162 WW Local Limits 08/21/13

Lab ID: **1044162001** Date Collected: 8/21/2013 00:00 Matrix: Waste Water

Sample ID: **Raw Influent** Date Received: 8/22/2013 16:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Cyanide, Total	ND		mg/L	0.0050	EPA 335.4	8/30/13	JEP	8/30/13 15:41	SYB	A1
METALS										
Arsenic, Total	ND		mg/L	0.0050	EPA 200.7	8/27/13	KMK	8/30/13 09:47	JWK	B2
Cadmium, Total	ND		mg/L	0.0010	EPA 200.7	8/27/13	KMK	8/30/13 09:47	JWK	B2
Chromium, Total	0.0025		mg/L	0.0010	EPA 200.8	8/26/13	KMK	8/28/13 13:11	MWO	B1
Copper, Total	0.052		mg/L	0.0050	EPA 200.7	8/27/13	KMK	8/30/13 09:47	JWK	B2
Lead, Total	0.0087		mg/L	0.0030	EPA 200.7	8/27/13	KMK	8/30/13 09:47	JWK	B2
Mercury, Total (Low-level)	ND		mg/L	0.00020	EPA 245.1	9/3/13	MNP	9/3/13 13:09	MNP	B3
Molybdenum, Total	0.037		mg/L	0.010	EPA 200.7	8/27/13	KMK	8/30/13 09:47	JWK	B2
Nickel, Total	0.0033		mg/L	0.0025	EPA 200.8	8/26/13	KMK	8/28/13 13:11	MWO	B1
Selenium, Total	ND		mg/L	0.0020	EPA 200.8	8/26/13	KMK	8/28/13 13:11	MWO	B1
Silver, Total	ND		mg/L	0.0010	EPA 200.8	8/26/13	KMK	8/28/13 13:11	MWO	B1
Zinc, Total	0.12		mg/L	0.010	EPA 200.7	8/27/13	KMK	8/30/13 09:47	JWK	B2

Sample Comments:

Shannon Butler
Project Coordinator

ALS Environmental

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ANALYTICAL RESULTS

Workorder 1044162 WW Local Limits 08/21/13

Lab ID: **1044162002** Date Collected: 8/21/2013 00:00 Matrix: Waste Water

Sample ID: **002 Effluent** Date Received: 8/22/2013 16:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Cyanide, Total	ND		mg/L	0.0050	EPA 335.4	8/30/13	JEP	8/30/13 15:41	SYB	A1
METALS										
Arsenic, Total	ND		mg/L	0.0050	EPA 200.7	8/27/13	KMK	8/30/13 09:51	JWK	B2
Cadmium, Total	ND		mg/L	0.0010	EPA 200.7	8/27/13	KMK	8/30/13 09:51	JWK	B2
Chromium, Total	ND		mg/L	0.0010	EPA 200.8	8/26/13	KMK	8/28/13 13:51	MWO	B1
Copper, Total	ND		mg/L	0.0050	EPA 200.7	8/27/13	KMK	8/30/13 09:51	JWK	B2
Lead, Total	ND		mg/L	0.0030	EPA 200.7	8/27/13	KMK	8/30/13 09:51	JWK	B2
Mercury, Total (Low-level)	ND		mg/L	0.00020	EPA 245.1	9/3/13	MNP	9/3/13 13:10	MNP	B3
Molybdenum, Total	0.028		mg/L	0.010	EPA 200.7	8/27/13	KMK	8/30/13 09:51	JWK	B2
Nickel, Total	ND		mg/L	0.0025	EPA 200.8	8/26/13	KMK	8/28/13 13:51	MWO	B1
Selenium, Total	ND		mg/L	0.0020	EPA 200.8	8/26/13	KMK	8/28/13 13:51	MWO	B1
Silver, Total	ND		mg/L	0.0010	EPA 200.8	8/26/13	KMK	8/28/13 13:51	MWO	B1
Zinc, Total	0.029		mg/L	0.010	EPA 200.7	8/27/13	KMK	8/30/13 09:51	JWK	B2

Sample Comments:

Shannon Butler
Project Coordinator

ALS Environmental

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ANALYTICAL RESULTS

Workorder 1044162 WW Local Limits 08/21/13

Lab ID: **1044162003** Date Collected: 8/21/2013 13:05 Matrix: Waste Water

Sample ID: **Raw Influent Grab** Date Received: 8/22/2013 16:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Oil/Grease Hexane Extractable	24.8		mg/L	2.4	EPA 1664A			8/29/13 13:46	AT	A

Sample Comments:

Shannon Butler
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder 1044162 WW Local Limits 08/21/13

Lab ID: **1044162004** Date Collected: 8/21/2013 12:50 Matrix: Waste Water

Sample ID: **002 Effluent Grab** Date Received: 8/22/2013 16:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Oil/Grease Hexane Extractable	ND		mg/L	2.2	EPA 1664A			8/29/13 13:46	AT	A

Sample Comments:

Shannon Butler
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder 1044162 WW Local Limits 08/21/13

Lab ID: **1044162005** Date Collected: 8/20/2013 13:00 Matrix: Solid

Sample ID: **Centrifuge Cake** Date Received: 8/22/2013 16:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Cyanide, Total	ND		mg/kg	1.2	SW846 9012B	9/3/13	JEP	9/4/13 08:54	SYB	A3
Hexane Extractable Material	31500		mg/kg	969	SW846 9071B			8/27/13 16:42	AT	A
Moisture	79.4		%	0.1	S2540G-97			8/26/13 09:41	LEW	A
Silica Gel Treated HEM	16300		mg/kg	969	SW846 9071B			8/27/13 16:42	AT	A
Total Solids	20.6		%	0.1	S2540G-97			8/26/13 09:41	LEW	A
METALS										
Arsenic, Total	ND		mg/kg	9.5	SW846 6010C	8/27/13	KMK	9/3/13 12:44	SRT	A2
Cadmium, Total	ND		mg/kg	2.4	SW846 6010C	8/27/13	KMK	9/3/13 12:44	SRT	A2
Chromium, Total	ND		mg/kg	4.8	SW846 6010C	8/27/13	KMK	9/3/13 12:44	SRT	A2
Copper, Total	168		mg/kg	9.5	SW846 6010C	8/27/13	KMK	9/3/13 12:44	SRT	A2
Lead, Total	18.4		mg/kg	9.5	SW846 6010C	8/27/13	KMK	9/3/13 12:44	SRT	A2
Mercury, Total	1.4		mg/kg	0.24	SW846 7471B	9/5/13	MNP	9/5/13 15:13	MNP	A4
Molybdenum, Total	ND		mg/kg	9.5	SW846 6010C	8/27/13	KMK	9/3/13 12:44	SRT	A2
Nickel, Total	ND		mg/kg	9.5	SW846 6010C	8/27/13	KMK	9/3/13 12:44	SRT	A2
Selenium, Total	ND		mg/kg	23.8	SW846 6010C	8/27/13	KMK	9/3/13 12:44	SRT	A2
Silver, Total	ND		mg/kg	2.4	SW846 6010C	8/27/13	KMK	9/3/13 12:44	SRT	A2
Zinc, Total	267		mg/kg	9.5	SW846 6010C	8/27/13	KMK	9/3/13 12:44	SRT	A2

Sample Comments:

Shannon Butler
Project Coordinator

ALS Environmental
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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
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September 17, 2013

Mr. Joe Concino
York, City of (WWTP)
1701 Blackridge Road
York, PA 17405

Certificate of Analysis

Project Name:	**2011-ADDITIONAL TESTING**	Workorder:	**1044161**
Purchase Order:	**13-100392**	Workorder ID:	**Add'l Local Limits 08/21/13**

Dear Mr. Concino,

Enclosed are the analytical results for samples received by the laboratory on Thursday, August 22, 2013.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Shannon Butler (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS York: 978 Loucks Mill Road, York, PA 17402 717-505-5280

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

Shannon Butler

Shannon Butler
Project Coordinator

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

ALS Environmental

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

SAMPLE SUMMARY

Workorder: 1044161 Add'l Local Limits 08/21/13 Discard Date: 10/01/2013

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
1044161001	Raw Influent	Waste Water	8/21/13 00:00	8/22/13 16:50	Customer
1044161002	T2 Mixed Liquor	Waste Water	8/21/13 00:00	8/22/13 16:50	Customer
1044161003	Centrifuge Cake	Solid	8/20/13 13:00	8/22/13 16:50	Customer

Workorder Comments:

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as “analyze immediately” require analysis within 15 minutes of collection. Any “analyze immediately” parameters not listed under the header “Field Parameters” are performed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.

Standard Acronyms/Flags

J, B	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference

ALS Environmental

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 1044161 Add'l Local Limits 08/21/13

Lab ID: **1044161001** Date Collected: 8/21/2013 00:00 Matrix: Waste Water

Sample ID: **Raw Influent** Date Received: 8/22/2013 16:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
SEMIVOLATILES										
bis(2-Ethylhexyl)phthalate	107		ug/L	2.9	EPA 625	8/26/13	RMP	8/27/13 00:44	CGS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	115		%	38-134	EPA 625	8/26/13	RMP	8/27/13 00:44	CGS	A
2-Fluorobiphenyl (S)	83.2		%	37-113	EPA 625	8/26/13	RMP	8/27/13 00:44	CGS	A
2-Fluorophenol (S)	45.3		%	17-73	EPA 625	8/26/13	RMP	8/27/13 00:44	CGS	A
Nitrobenzene-d5 (S)	81.4		%	37-124	EPA 625	8/26/13	RMP	8/27/13 00:44	CGS	A
Phenol-d5 (S)	23.3		%	11-53	EPA 625	8/26/13	RMP	8/27/13 00:44	CGS	A
Terphenyl-d14 (S)	158	1	%	33-125	EPA 625	8/26/13	RMP	8/27/13 00:44	CGS	A

Sample Comments:

Shannon Butler
Project Coordinator

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

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ANALYTICAL RESULTS

Workorder: 1044161 Add'l Local Limits 08/21/13

Lab ID: **1044161002** Date Collected: 8/21/2013 00:00 Matrix: Waste Water

Sample ID: **T2 Mixed Liquor** Date Received: 8/22/2013 16:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Copper, Total	1.2		mg/L	0.010	EPA 200.7	8/27/13	KMK	8/30/13 09:41	JWK	A1
Silver, Total	0.021		mg/L	0.0040	EPA 200.7	8/27/13	KMK	8/30/13 09:41	JWK	A1
Zinc, Total	2.0		mg/L	0.020	EPA 200.7	8/27/13	KMK	8/30/13 09:41	JWK	A1

Sample Comments:

Shannon Butler
Project Coordinator

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 1044161 Add'l Local Limits 08/21/13

Lab ID: **1044161003** Date Collected: 8/20/2013 13:00 Matrix: Solid

Sample ID: **Centrifuge Cake** Date Received: 8/22/2013 16:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
SEMIVOLATILES										
bis(2-Ethylhexyl)phthalate	15100		ug/kg	475	SW846 8270D	8/27/13	PDK	8/28/13 16:03	DRS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	102		%	37-123	SW846 8270D	8/27/13	PDK	8/28/13 16:03	DRS	A
2-Fluorobiphenyl (S)	107	2	%	45-105	SW846 8270D	8/27/13	PDK	8/28/13 16:03	DRS	A
2-Fluorophenol (S)	70.5		%	35-104	SW846 8270D	8/27/13	PDK	8/28/13 16:03	DRS	A
Nitrobenzene-d5 (S)	79.6		%	41-110	SW846 8270D	8/27/13	PDK	8/28/13 16:03	DRS	A
Phenol-d5 (S)	63		%	40-100	SW846 8270D	8/27/13	PDK	8/28/13 16:03	DRS	A
Terphenyl-d14 (S)	102		%	38-113	SW846 8270D	8/27/13	PDK	8/28/13 16:03	DRS	A
WET CHEMISTRY										
Moisture	79.6		%	0.1	S2540G-97			9/16/13 15:54	AMH	A
Total Solids	20.4		%	0.1	S2540G-97			9/16/13 15:54	AMH	A

Sample Comments:

Shannon Butler
Project Coordinator

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS QUALIFIERS\FLAGS

Workorder: 1044161 Add'l Local Limits 08/21/13

PARAMETER QUALIFIERS\FLAGS

[1] The surrogate Terphenyl-d14 for method EPA 625 was outside of control limits. The % Recovery was reported as 158 and the control limits were 33 to 125. This result was reported at a dilution of 1.

[2] The surrogate 2-Fluorobiphenyl for method SW846 8270D was outside of control limits. The % Recovery was reported as 107 and the control limits were 45 to 105. This result was reported at a dilution of 1.

ALS Environmental
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ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 1
Courier:
Tracking #:

1044161

Co. Name: YORK CITY WW. T.P.
Contact (Report to): JOSEPH CONCINO Phone: 845 2794
Address: 1701 BLACK BRIDGE ROAD YORK, PA 17402

Bill to (if different than Report to): PO#: 13-100392

Project Name/#: ADDITIONAL LOCAL LIMITS ALS Quote #: 235673

TAT: [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:

Email? [X] Y JCONCINO@YORKCITY.ORG
Fax? [ ] Y No.:

	Analysis 1	Analysis 2	Analysis 3
***Container Type	GL	PL	GL
***Container Size	1L	0.5L	1L
***Preservative	—	HNO_3	—
ANALYSES/METHOD REQUESTED	BIS 2 ETHYL HEXYL PHTHALATE 625	TOTAL Cu, Ag, Zn	BIS 2 ETHYL HEXYL PHTHALATE 8270

Performed by: INITIAL HERE DD
Cooler Temp: 6°
Therm. ID: 5877
No. of Coolers:
Notes:

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	BIS 2 ETHYL HEXYL PHTHALATE 625	TOTAL Cu, Ag, Zn	BIS 2 ETHYL HEXYL PHTHALATE 8270
1 RAW INFLUENT		8/21/13	0000-2400	C	WW	2		
2 T2 MIXED LIQUOR		8/21/13	0000-2400	C	WW		1	
3 CENTRIFUGE CAKE		8/20/13	0800-1300	C	SL			1
4								
5								
6								
7								
8								

Check	Y/N
Correct containers?	(Y) N
Correct sample volume?	(Y) N
Correct preservation?	(Y) N
Headspace/Volatiles?	—
Custody seals Present?	Y (N)
(if present) Seals Intact?	Y N
Received on ice?	(Y) N
COC/Labels complete/accurate?	(Y) N
Container in good condition?	(Y) N

Circle appropriate Y or N.

SAMPLED BY (Please Print):
Project Comments: ENTERED AT 8/23/13 0344 SLB

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	[signature] - YORK CITY	8/22/13	1101	2	Darlene Joseph ALS	8/22/13	11:01
3	Darlene Joseph ALS	8/22/13		4	Scott A Roeder	8/22/13	15:5
5	SLVB	8-22-13	1630	6			
7				8			
9				10			

Data Deliverables: [ ] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] (other)
SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ]
State Samples Collected In? MD [ ] NJ [ ] NY [ ] PA [ ]
EDDs Required? [ ] If yes, format type: Other
DOD Criteria Required?

ALS FIELD SERVICES: [ ] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.
Rev 01-2013

ALS Environmental

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

December 4, 2013

Mr. Joe Concino
York, City of (WWTP)
1701 Blackridge Road
York, PA 17405

Certificate of Analysis

Project Name:	**2011-ADDITIONAL TESTING**	Workorder:	**1060221**
Purchase Order:	**13-100392**	Workorder ID:	**Add. Local Limits 11/21/19**

Dear Mr. Concino,

Enclosed are the analytical results for samples received by the laboratory on Friday, November 22, 2013.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Shannon Butler (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS York: 978 Loucks Mill Road, York, PA 17402 717-505-5280

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

Shannon Butler

Shannon Butler
Project Coordinator

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

ALS Environmental

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

SAMPLE SUMMARY

Workorder: 1060221 Add. Local Limits 11/21/19 Discard Date: 12/18/2013

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
1060221001	Raw Influent	Waste Water	11/21/13 00:00	11/22/13 21:05	Customer
1060221002	Centrifinge Cake	Solid	11/19/13 23:00	11/22/13 21:05	Customer

Workorder Comments:

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as “analyze immediately” require analysis within 15 minutes of collection. Any “analyze immediately” parameters not listed under the header “Field Parameters” are performed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.

Standard Acronyms/Flags

J, B	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 1060221 Add. Local Limits 11/21/19

Lab ID: **1060221001** Date Collected: 11/21/2013 00:00 Matrix: Waste Water

Sample ID: **Raw Influent** Date Received: 11/22/2013 21:05

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
SEMIVOLATILES										
bis(2-Ethylhexyl)phthalate	18.5		ug/L	2.8	EPA 625	11/26/13	PDK	12/2/13 22:27	DRS	A

Sample Comments:

Shannon Butler
Project Coordinator

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

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ANALYTICAL RESULTS

Workorder: 1060221 Add. Local Limits 11/21/19

Lab ID: **1060221002** Date Collected: 11/19/2013 23:00 Matrix: Solid

Sample ID: **Centrifinge Cake** Date Received: 11/22/2013 21:05

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
SEMIVOLATILES										
bis(2-Ethylhexyl)phthalate	13400		ug/kg	2240	SW846 8270D	11/27/13	MMM	11/29/13 08:29	DRS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	89.4		%	37-123	SW846 8270D	11/27/13	MMM	11/29/13 08:29	DRS	A
2-Fluorobiphenyl (S)	73.2		%	45-105	SW846 8270D	11/27/13	MMM	11/29/13 08:29	DRS	A
2-Fluorophenol (S)	73		%	35-104	SW846 8270D	11/27/13	MMM	11/29/13 08:29	DRS	A
Nitrobenzene-d5 (S)	75.2		%	41-110	SW846 8270D	11/27/13	MMM	11/29/13 08:29	DRS	A
Phenol-d5 (S)	76.5		%	40-100	SW846 8270D	11/27/13	MMM	11/29/13 08:29	DRS	A
Terphenyl-d14 (S)	86		%	38-113	SW846 8270D	11/27/13	MMM	11/29/13 08:29	DRS	A
WET CHEMISTRY										
Moisture	82.2		%	0.1	S2540G-97			11/25/13 11:30	OA	A
Total Solids	17.8		%	0.1	S2540G-97			11/25/13 11:30	OA	A

Sample Comments:

Shannon Butler
Project Coordinator

CHAIN OF CUSTODY/
REQUEST FOR ANALYSIS

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

Page 1 of 1
Courier:
Tracking #:

1060221

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT/SAMPLER. INSTRUCTIONS ON THE BACK

Co. Name: YORK CITY W W T P
Contact (Report to): JOSEPH CONCINO Phone: 845-2794
Address: 1701 BLACK BRIDGE ROAD
YORK, PA 17402

Bill to (If different than Report to):

PO#: 13-00392

Project Name/#: AOD, LOCAL LIMITS ALS Quote #: 235673

TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? Y JCONCINO@YORKCITY.ORG
Fax? Y No.:

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	G or C	Matrix	Container Type	Container Size	Preservative	ANALYSES/METHOD REQUESTED	Enter Number of Containers Per Analysis
1 RAW INFLUENT		11/21/13	0800	C	WW	G	1L	—	BIS 2 ETHYL HEXYL PHTHALATE & 25 TOTAL Cu, Ag, Zn BIS 2 ETHYL HEXYL PHTHALATE & 270	2
2 T2 MIXED LIQUOR		11/21/13	0800-2400	C	WW	G	1L	—		1
3 CENTRIFUGE CAKE		11/21/13	1530	C	SL	G	1L	—		1
4										
5										
6										
7										
8										

SAMPLED BY (Please Print):

Project Comments:

Data Deliverables: Standard, CLP-like, NJ-Reduced, NJ-Full, If yes, format type:
EDDs Required?
SDWA Format? yes yes yes yes
State Samples Collected in? MD NJ NY PA
Other

DOD Criteria Required?

ALS FIELD SERVICES: Pickup, Labor, Composite Sampling, Rental Equipment, Other:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1	11/21/13	0949	2 Jacqueline Yeager ALS	11/21/13	0949
3 Jacqueline Yeager ALS	11/21/13	2105	4		
5			6		
7			8		
9			10		

Cooler Temp: 4.2 Therm. ID: #4
No. of Coolers:
Notes:

		Circle appropriate Y or N.
Custody seals Present?	Y N	
(if present) Seals intact?	Y N	
Received on ice?	Y N	
Correct preservation?	Y N	
Headspace/Volumes?	Y N	
COC/Labels complete/accurate?	Y N	
Container in good condition?	Y N	
Correct container?	Y N	
Correct sample volume?	Y N	

*G=Grab; C=Composite
**Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Oil=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

ALS Environmental

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

December 12, 2013

Mr. Joe Concino
York, City of (WWTP)
1701 Blackridge Road
York, PA 17405

Certificate of Analysis

Project Name:	**PP SCANS AND LOCAL LIMITS -**	Workorder:	**1060220**
Purchase Order:	**13-100389**	Workorder ID:	**Local Limits 11/22/13**

Dear Mr. Concino,

Enclosed are the analytical results for samples received by the laboratory on Friday, November 22, 2013.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Shannon Butler (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS York: 978 Loucks Mill Road, York, PA 17402 717-505-5280

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

Shannon Butler
Project Coordinator

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

ALS Environmental

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SAMPLE SUMMARY

Workorder: 1060220 Local Limits 11/22/13 Discard Date: 12/26/2013

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
1060220001	Raw Influent	Waste Water	11/21/13 00:00	11/22/13 21:05	Customer
1060220002	002 Effluent	Waste Water	11/21/13 00:00	11/22/13 21:05	Customer
1060220003	Raw Influent	Waste Water	11/21/13 13:30	11/22/13 21:05	Customer
1060220004	002 Effluent	Waste Water	11/21/13 13:20	11/22/13 21:05	Customer
1060220005	Centrifuge Cake	Solid	11/19/13 23:00	11/22/13 21:05	Customer

Workorder Comments:

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as “analyze immediately” require analysis within 15 minutes of collection. Any “analyze immediately” parameters not listed under the header “Field Parameters” are performed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.

Standard Acronyms/Flags

J, B	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 1060220 Local Limits 11/22/13

Lab ID: **1060220001** Date Collected: 11/21/2013 00:00 Matrix: Waste Water

Sample ID: **Raw Influent** Date Received: 11/22/2013 21:05

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Cyanide, Total	ND		mg/L	0.0050	EPA 335.4	11/25/13	JEP	11/26/13 15:50	AKC	A1
METALS										
Arsenic, Total	ND		mg/L	0.0050	EPA 200.7	12/5/13	LAM	12/6/13 15:20	SRT	B2
Cadmium, Total	ND		mg/L	0.0010	EPA 200.7	12/5/13	LAM	12/6/13 15:20	SRT	B2
Chromium, Total	0.0026		mg/L	0.0010	EPA 200.8	12/3/13	MRT	12/10/13 01:30	ZMC	B1
Copper, Total	0.061		mg/L	0.0050	EPA 200.7	12/5/13	LAM	12/6/13 15:20	SRT	B2
Lead, Total	0.014		mg/L	0.0030	EPA 200.7	12/5/13	LAM	12/6/13 15:20	SRT	B2
Mercury, Total (Low-level)	0.00034		mg/L	0.00020	EPA 245.1	12/9/13	MNP	12/9/13 13:58	MNP	B3
Molybdenum, Total	0.021		mg/L	0.010	EPA 200.7	12/5/13	LAM	12/6/13 15:20	SRT	B2
Nickel, Total	0.0037		mg/L	0.0025	EPA 200.8	12/3/13	MRT	12/10/13 01:30	ZMC	B1
Selenium, Total	ND		mg/L	0.0020	EPA 200.8	12/3/13	MRT	12/10/13 01:30	ZMC	B1
Silver, Total	0.0013		mg/L	0.0010	EPA 200.8	12/3/13	MRT	12/10/13 01:30	ZMC	B1
Zinc, Total	0.14		mg/L	0.010	EPA 200.7	12/5/13	LAM	12/6/13 15:20	SRT	B2

Sample Comments:

Shannon Butler
Project Coordinator

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 1060220 Local Limits 11/22/13

Lab ID: **1060220002** Date Collected: 11/21/2013 00:00 Matrix: Waste Water

Sample ID: **002 Effluent** Date Received: 11/22/2013 21:05

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Cyanide, Total	ND		mg/L	0.0050	EPA 335.4	11/25/13	JEP	11/26/13 15:50	AKC	A1
METALS										
Arsenic, Total	ND		mg/L	0.0050	EPA 200.7	12/5/13	LAM	12/6/13 15:25	SRT	B2
Cadmium, Total	ND		mg/L	0.0010	EPA 200.7	12/5/13	LAM	12/6/13 15:25	SRT	B2
Chromium, Total	ND		mg/L	0.0010	EPA 200.8	12/3/13	MRT	12/10/13 01:33	ZMC	B1
Copper, Total	ND		mg/L	0.0050	EPA 200.7	12/5/13	LAM	12/6/13 15:25	SRT	B2
Lead, Total	ND		mg/L	0.0030	EPA 200.7	12/5/13	LAM	12/6/13 15:25	SRT	B2
Mercury, Total (Low-level)	ND		mg/L	0.00020	EPA 245.1	12/9/13	MNP	12/9/13 13:59	MNP	B3
Molybdenum, Total	0.028		mg/L	0.010	EPA 200.7	12/5/13	LAM	12/6/13 15:25	SRT	B2
Nickel, Total	ND		mg/L	0.0025	EPA 200.8	12/3/13	MRT	12/10/13 01:33	ZMC	B1
Selenium, Total	ND		mg/L	0.0020	EPA 200.8	12/3/13	MRT	12/10/13 01:33	ZMC	B1
Silver, Total	ND		mg/L	0.0010	EPA 200.8	12/3/13	MRT	12/10/13 01:33	ZMC	B1
Zinc, Total	0.044		mg/L	0.010	EPA 200.7	12/5/13	LAM	12/6/13 15:25	SRT	B2

Sample Comments:

Shannon Butler
Project Coordinator

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 1060220 Local Limits 11/22/13

Lab ID: **1060220003** Date Collected: 11/21/2013 13:30 Matrix: Waste Water

Sample ID: **Raw Influent** Date Received: 11/22/2013 21:05

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Oil/Grease Hexane Extractable	48.3		mg/L	2.4	EPA 1664B			12/9/13 11:30	TDD	A

Sample Comments:

Shannon Butler
Project Coordinator

ALS Environmental

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 1060220 Local Limits 11/22/13

Lab ID: **1060220004** Date Collected: 11/21/2013 13:20 Matrix: Waste Water

Sample ID: **002 Effluent** Date Received: 11/22/2013 21:05

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Oil/Grease Hexane Extractable	ND		mg/L	2.1	EPA 1664B			12/5/13 15:30	AT	A

Sample Comments:

Shannon Butler
Project Coordinator

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 1060220 Local Limits 11/22/13

Lab ID: **1060220005** Date Collected: 11/19/2013 23:00 Matrix: Solid

Sample ID: **Centrifuge Cake** Date Received: 11/22/2013 21:05

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Cyanide, Total	2.1		mg/kg	1.5	SW846 9012B	11/26/13	JEP	11/26/13 17:45	AKC	A2
Hexane Extractable Material	2450	1	mg/kg	1140	SW846 9071B			11/26/13 10:30	AT	A
Moisture	82.5		%	0.1	S2540G-97			11/25/13 11:30	OA	A
Silica Gel Treated HEM	1430	1	mg/kg	1140	SW846 9071B			11/26/13 10:30	AT	A
Total Solids	17.5		%	0.1	S2540G-97			11/25/13 11:30	OA	A
METALS										
Arsenic, Total	ND		mg/kg	10.2	SW846 6010C	11/26/13	MRT	11/27/13 02:54	SRT	A1
Cadmium, Total	3.1		mg/kg	2.5	SW846 6010C	11/26/13	MRT	11/27/13 02:54	SRT	A1
Chromium, Total	31.8		mg/kg	5.1	SW846 6010C	11/26/13	MRT	11/27/13 02:54	SRT	A1
Copper, Total	485		mg/kg	10.2	SW846 6010C	11/26/13	MRT	11/27/13 02:54	SRT	A1
Lead, Total	91.4		mg/kg	10.2	SW846 6010C	11/26/13	MRT	11/27/13 02:54	SRT	A1
Mercury, Total	1.4		mg/kg	0.25	SW846 7471B	12/9/13	MNP	12/9/13 15:34	MNP	A3
Molybdenum, Total	28.1		mg/kg	10.2	SW846 6010C	11/26/13	MRT	11/27/13 02:54	SRT	A1
Nickel, Total	25.2		mg/kg	10.2	SW846 6010C	11/26/13	MRT	11/27/13 02:54	SRT	A1
Selenium, Total	ND		mg/kg	25.5	SW846 6010C	11/26/13	MRT	11/27/13 02:54	SRT	A1
Silver, Total	8.4		mg/kg	2.5	SW846 6010C	11/26/13	MRT	11/27/13 02:54	SRT	A1
Zinc, Total	858		mg/kg	10.2	SW846 6010C	11/26/13	MRT	11/27/13 02:54	SRT	A1

Sample Comments:

Shannon Butler
Project Coordinator

ALS Environmental

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ANALYTICAL RESULTS QUALIFIERS\FLAGS

Workorder: 1060220 Local Limits 11/22/13

PARAMETER QUALIFIERS\FLAGS

[1] The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits.

ALS Environmental
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ALS Environmental
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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 1
Courier:
Tracking #:
1060220

Co. Name: YORK CITY WWTP
Contact (Report to): JOSEPH CONCINO Phone: 8452794
Address: 1701 BLACK BRIDGE ROAD YORK, PA 17402
Bill to (if different than Report to): PO#: 13-100389
Project Name/#: LOCAL LIMITS ALS Quote #: 206062
TAT: [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:
Email? [X] Y JCONCINO@YORKCITY.ORG
Fax? Y No.:

	Analysis 1	Analysis 2	Analysis 3	Analysis 4	Analysis 5
***Container Type	PL	PL	GL	GL	GL
***Container Size	0.5L	0.5L	1L	1L	1L
***Preservative	HNO_3	NaOH	H_2SO_4	—	—
ANALYSES/METHOD REQUESTED	TOTAL As, Cd, Cu, Mo, Pb, Zn, Ag, Cr, Ni, SE, Hg	CYANIDE	OIL & GREASE 1664	TOTAL SOLIDS	OIL + GREASE 9071B

Enter Number of Containers Per Analysis

#	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Total metals	Cyanide	Oil & Grease 1664	Total Solids	Oil + Grease 9071B
1	RAW INFLUENT		11/21/13	0006-2400	C	WW	1	1			
2	002 EFFLUENT		11/21/13	0000-2400	C	WW	1	1			
3	RAW INFLUENT		11/21/13	1330	G	WW			2		
4	002 EFFLUENT		11/21/13	1320	G	WW			2		
5	CENTRIFUGE CAKE	[illegible]	11/19/13	[illegible] 1530-2300	C	SL	X	X		X	X - 1 BOTTLE
6		AT 11/23/13 0314									
7											
8		SLB 11/27									

(completed by sample receiving)
Performed by: AT
Cooler Temp: 3
Therm. ID: ##215
No. of Coolers:
Notes:

Correct containers? Y
Correct sample volume? Y
Correct preservation? Y
Headspace/Volatiles? —
Circle appropriate Y or N.

Custody seals Present? N
(if present) Seals intact? —
Received on ice? Y
COC/Labels complete/accurate? Y
Container in good condition? Y

SAMPLED BY (Please Print):
Project Comments:

#	Relinquished By / Company Name	Date	Time	#	Received By / Company Name	Date	Time
1	[signature] YORK CITY	11/22/13	0949	2	Darlene Joseph ALS	11/22/13	0949
3	Darlene Joseph ALS	11/22/13		4	Scott N Boeck [illegible]	11-22-13	1730
5	SLB	11-22-13	2105	6			
7				8			
9				10			

Data Deliverables: [ ] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] (other)
EDDs Required? [ ] If yes, format type:
SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ] Other
State Samples Collected In? MD [ ] NJ [ ] NY [ ] PA [ ]
DOD Criteria Required?

ALS FIELD SERVICES: [ ] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.
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PENN STATE

Agricultural Analytical Services Laboratory
College of Agricultural Sciences
The Pennsylvania State University
University Park, PA 16802

Phone: 814-863-0841
Fax: 814-863-4540
Web: www.aasl.psu.edu

PA DEP Lab ID # 14-00588

Analysis Report for Use of Biosolids on Cropland

Joseph Concino
City of York - WWTP
1701 Black Bridge Rd
York PA 17402

Lab Sample ID: E15656
Date Received: January 11, 2013
Date Sampled: 1/9/13
Report Date: 1/28/13
Sample type: Composite
County: York
Customer Sample ID: Centrifuge Cake

RESULTS

pH	Solids	Volatile	Tot-N	Org-N	NH_4N	P	K	Mg	Ca	Na	Fe	Al
@ 21.9 C	— % —					% (dry weight basis)						
8.2	18.54	81.87	6.52	5.63	0.89	2.08	0.44	0.37	3.11	0.06	0.86	0.34

Mn	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Zn	PCB[1]	Reactive CN
					mg/kg (dry weight basis)							
202.3	2.35	1.93	19.2	380.7	57.3	0.82	19.3	22.9	5.47	578.5	< .15	< 1

NR-Not Requested One dry ton of this material is equivalent to 1293 gallons of wet material or 5.4 tons of wet material

PRIMARY NUTRIENT CONTENT

	% (dry wt basis)		
Total N	6.52	0.77	dry tons of this biosolid will supply 100 lbs of total N.
P_2O_5	4.77	2.40	dry tons of this biosolid will supply 100 lbs of P
K_2O	0.53		

ANALYSIS INFORMATION FOR EPA 503 POLLUTANTS

Analyte	EPA SW-846 Method	Analyst	Date	Time
Cd,Cu,Mo,Pb,Ni,Zn	3050B + 6010	Brooks	1/21/2013	7:08:25
As	3050B + 6010	Brooks	1/21/2013	7:08:25
Se	3050B + 6010	Brooks	1/21/2013	7:08:25
Hg	7473	Rishel	1/21/2013	2:37:51 PM
PCB[1]	8082			

[1]Subcontracted to Fairway Laboratories, Inc. (ID 7-00062)

RAW LABORATORY BENCH DATA FOR EPA 503 POLLUTANTS

	As	Cd	Cu	Hg	Mo	Ni	Pb	Se	Zn
Wet Wt. aliquot (g)	1.950	1.950	1.950	0.277	1.950	1.950	1.950	1.950	1.950
Analyte conc. in sample/ digest (mg/L except Hg)	0.017	0.014	2.75	0.042 ug	0.14	0.17	0.41	0.04	4.18
Method limit (mg/L except Hg)	0.015	0.005	0.015	0.0010 ug	0.015	0.010	0.025	0.025	0.050

Optional Analyses: Results (except soluble salts) on dry weight basis

Nitrate-N (mg/kg)	Total Carbon (%)	CCE Calcium Carbonate Equivalent (%)	Soluble Salts (mmhos/cm)	Other:
51.46				

Sample Receipt

ID: E15656

EPA REGULATIONS FOR LAND APPLICATION OF BIOSOLIDS (40 CFR Part 503) and DEP GUIDELINES FOR USE OF BIOSOLIDS FOR AGRICULTURAL UTILIZATION

	mg/kg	*Acceptable*	*Pollutant Limit*	*Acceptable-increased monitoring*	*Ceiling Limit*	*Exceeds ceiling limits*
As	2.35	0	41		75	
Cd	1.93	0	39		85	
Cu	380.7	0	1500		4300	
Pb	57.3	0	300		840	
Hg	0.82	0	17		57	
Mo	19.3	0	75			
Ni	22.9	0	420			
Se	5.47	0	100			
Zn	578.5	0	2800		7500	
PCB[1]	< .15	0	4		8.6	

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PA DEP Lab ID # 14-00588

Biosolids Analysis Report

Joseph Concino
City of York - WWTP
1701 Black Bridge Rd
York PA 17402

Lab Sample ID: E15656
Date Received: January 11, 2013
Date Sampled: 1/9/13
County: York
Customer Sample ID: Centrifuge Cake

RESULTS (Dry Weight Basis)

Parameter Analyzed	Result	Units	Sample Detection Limit
pH	8.15	—	—
Solids	18.54	%	—
Total Phosphorus	20,827	mg/kg	34.57
Total Potassium	4,380	mg/kg	69.14
Total Combustion Nitrogen	6.52	%	-
Ammonium Nitrogen	0.89	%	0.01
Nitrate	51.46	mg/kg	1.06
Cadmium	1.93	mg/kg	0.69
Copper	380.7	mg/kg	2.07
Nickel	22.9	mg/kg	1.38
Lead	57.3	mg/kg	3.46
Zinc	578.5	mg/kg	6.91
Mercury	0.82	mg/kg	0.02
Arsenic	2.35	mg/kg	2.07
Molybdenum	19.33	mg/kg	2.07
Selenium	5.47	mg/kg	3.46
PCBs	< .15	mg/kg	0.15

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PA DEP Lab ID # 14-00588

Analysis Report for Use of Biosolids on Cropland

Joseph Concino
City of York - WWTP
1701 Black Bridge Rd
York PA 17402

Lab Sample ID: E15758
Date Received: March 5, 2013
Date Sampled: 3/1/13
Report Date: 3/26/13
Sample type: Composite
County: York
Customer Sample ID: Centrifuge Cake

RESULTS

pH	Solids	Volatile	Tot-N	Org-N	NH_4N	P	K	Mg	Ca	Na	Fe	Al
@ 24.4 C	— % —	% (dry weight basis)										
7.8	18.59	82.05	6.70	6.09	0.61	1.87	0.36	0.41	2.76	0.05	0.79	0.30

Mn	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Zn	PCB[1]	Reactive CN
mg/kg (dry weight basis)												
147.6	2.91	2.39	18.2	389.7	54.4	1.48	20.3	19.6	6.37	567.3	< .37	< 1

NR-Not Requested One dry ton of this material is equivalent to 1290 gallons of wet material or 5.4 tons of wet material

PRIMARY NUTRIENT CONTENT

	% (dry wt basis)		
Total N	6.70	0.75	dry tons of this biosolid will supply 100 lbs of total N.
P_2O_5	4.29	2.67	dry tons of this biosolid will supply 100 lbs of P
K_2O	0.44		

ANALYSIS INFORMATION FOR EPA 503 POLLUTANTS

Analyte	EPA SW-846 Method	Analyst	Date	Time
Cd,Cu,Mo,Pb,Ni,Zn	3050B + 6010	Brooks	3/15/2013	13:31:26
As	3050B + 6010	Brooks	3/15/2013	13:31:26
Se	3050B + 6010	Brooks	3/15/2013	13:31:26
Hg	7473	Rishel	3/14/2013	11:33:08 AM
PCB[1]	8082			

[1]Subcontracted to Fairway Laboratories, Inc. (ID 7-00062)

RAW LABORATORY BENCH DATA FOR EPA 503 POLLUTANTS

	As	Cd	Cu	Hg		Mo	Ni	Pb	Se	Zn
Wet Wt. aliquot (g)	1.657	1.657	1.657	0.246		1.657	1.657	1.657	1.657	1.657
Analyte conc. in sample/ digest (mg/L except Hg)	0.018	0.015	2.40	0.067	ug	0.13	0.12	0.34	0.04	3.50
Method limit (mg/L except Hg)	0.015	0.005	0.015	0.0010	ug	0.015	0.010	0.025	0.025	0.050

Optional Analyses: Results (except soluble salts) on dry weight basis

Nitrate-N (mg/kg)	Total Carbon (%)	CCE Calcium Carbonate Equivalent (%)	Soluble Salts (mmhos/cm)	Other:
6.29				

Sample Receipt

ID: E15758

EPA REGULATIONS FOR LAND APPLICATION OF BIOSOLIDS (40 CFR Part 503) and DEP GUIDELINES FOR USE OF BIOSOLIDS FOR AGRICULTURAL UTILIZATION

	mg/kg	*Acceptable*	*Pollutant Limit*	*Acceptable-increased monitoring*	*Ceiling Limit*	*Exceeds ceiling limits*
As	2.91	0	41		75	
Cd	2.39	0	39		85	
Cu	389.7	0	1500		4300	
Pb	54.4	0	300		840	
Hg	1.48	0	17		57	
Mo	20.3	0	75			
Ni	19.6	0	420			
Se	6.37	0	100			
Zn	567.3	0	2800		7500	
PCB[1]	< .37	0	4		8.6	

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PA DEP Lab ID # 14-00588

Biosolids Analysis Report

Joseph Concino
City of York - WWTP
1701 Black Bridge Rd
York PA 17402

Lab Sample ID: E15758
Date Received: March 5, 2013
Date Sampled: 3/1/13
County: York
Customer Sample ID: Centrifuge Cake

RESULTS (Dry Weight Basis)

Parameter Analyzed	Result	Units	Sample Detection Limit
pH	7.82	—	—
Solids	18.59	%	—
Total Phosphorus	18,729	mg/kg	40.58
Total Potassium	3,646	mg/kg	81.16
Total Combustion Nitrogen	6.70	%	-
Ammonium Nitrogen	0.61	%	0.01
Nitrate	6.29	mg/kg	1.05
Cadmium	2.39	mg/kg	0.81
Copper	389.7	mg/kg	2.43
Nickel	19.6	mg/kg	1.62
Lead	54.4	mg/kg	4.06
Zinc	567.3	mg/kg	8.12
Mercury	1.48	mg/kg	0.02
Arsenic	2.91	mg/kg	2.43
Molybdenum	20.32	mg/kg	2.43
Selenium	6.37	mg/kg	4.06
PCBs	< .37	mg/kg	0.37

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PA DEP Lab ID # 14-00588

Analysis Report for Use of Biosolids on Cropland

Joseph Concino
City of York - WWTP
1701 Black Bridge Rd
York PA 17402

Lab Sample ID: E15844
Date Received: May 3, 2013
Date Sampled: 5/1/13
Report Date: 5/17/13
Sample type: Composite
County: York
Customer Sample ID: Centrifuge Cake

RESULTS

pH	Solids	Volatile	Tot-N	Org-N	NH_4N	P	K	Mg	Ca	Na	Fe	Al
@ 22.1 C	— % —					% (dry weight basis)						
8.2	15.61	80.10	7.91	6.98	0.93	2.30	0.23	0.44	3.37	0.06	0.86	0.35

Mn	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Zn	PCB[1]	Reactive CN
					mg/kg (dry weight basis)							
183.5	2.52	2.66	23.8	493.4	62.5	1.37	24.9	24.4	7.71	654.8	< .44	< 1

NR-Not Requested One dry ton of this material is equivalent to 1536 gallons of wet material or 6.4 tons of wet material

PRIMARY NUTRIENT CONTENT

	% (dry wt basis)		
Total N	7.91	0.63	dry tons of this biosolid will supply 100 lbs of total N.
P_2O_5	5.26	2.18	dry tons of this biosolid will supply 100 lbs of P
K_2O	0.28		

ANALYSIS INFORMATION FOR EPA 503 POLLUTANTS

Analyte	EPA SW-846 Method	Analyst	Date	Time
Cd,Cu,Mo,Pb,Ni,Zn	3050B + 6010	Brooks	5/14/2013	10:42:47
As	3050B + 6010	Brooks	5/14/2013	10:42:47
Se	3050B + 6010	Brooks	5/14/2013	10:42:47
Hg	7473	Brooks	5/14/2013	2:34:28 PM
PCB[1]	8082			

[1]Subcontracted to Fairway Laboratories, Inc. (ID 7-00062)

RAW LABORATORY BENCH DATA FOR EPA 503 POLLUTANTS

	As	Cd	Cu	Hg		Mo	Ni	Pb	Se	Zn
Wet Wt. aliquot (g)	2.710	2.710	2.710	0.328		2.710	2.710	2.710	2.710	2.710
Analyte conc. in sample/ digest (mg/L except Hg)	0.021	0.023	4.17	0.070	ug	0.21	0.21	0.53	0.07	5.54
Method limit (mg/L except Hg)	0.015	0.005	0.015	0.0010	ug	0.015	0.010	0.025	0.025	0.050

Optional Analyses: Results (except soluble salts) on dry weight basis

Nitrate-N (mg/kg)	Total Carbon (%)	CCE Calcium Carbonate Equivalent (%)	Soluble Salts (mmhos/cm)	Other:
11.31				

Sample Receipt

ID: E15844

EPA REGULATIONS FOR LAND APPLICATION OF BIOSOLIDS (40 CFR Part 503) and DEP GUIDELINES FOR USE OF BIOSOLIDS FOR AGRICULTURAL UTILIZATION

	mg/kg	*Acceptable*	*Pollutant Limit*	*Acceptable-increased monitoring*	*Ceiling Limit*	*Exceeds ceiling limits*
As	2.52	0	41		75	
Cd	2.66	0	39		85	
Cu	493.4	0	1500		4300	
Pb	62.5	0	300		840	
Hg	1.37	0	17		57	
Mo	24.9	0	75			
Ni	24.4	0	420			
Se	7.71	0	100			
Zn	654.8	0	2800		7500	
PCB[1]	< .44	0	4		8.6	

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PA DEP Lab ID # 14-00588

Biosolids Analysis Report

Joseph Concino
City of York - WWTP
1701 Black Bridge Rd
York PA 17402

Lab Sample ID: E15844
Date Received: May 3, 2013
Date Sampled: 5/1/13
County: York
Customer Sample ID: Centrifuge Cake

RESULTS (Dry Weight Basis)

Parameter Analyzed	Result	Units	Sample Detection Limit
pH	8.20	—	—
Solids	15.61	%	—
Total Phosphorus	22,979	mg/kg	29.54
Total Potassium	2,347	mg/kg	59.09
Total Combustion Nitrogen	7.91	%	-
Ammonium Nitrogen	0.93	%	0.01
Nitrate	11.31	mg/kg	1.26
Cadmium	2.66	mg/kg	0.59
Copper	493.4	mg/kg	1.77
Nickel	24.4	mg/kg	1.18
Lead	62.5	mg/kg	2.95
Zinc	654.8	mg/kg	5.91
Mercury	1.37	mg/kg	0.02
Arsenic	2.52	mg/kg	1.77
Molybdenum	24.93	mg/kg	1.77
Selenium	7.71	mg/kg	2.95
PCBs	< .44	mg/kg	0.44

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PA DEP Lab ID # 14-00588

Joseph Concino
City of York - WWTP
1701 Black Bridge Rd
York PA 17402

ANALYSIS REPORT

5/17/2013

Lab ID	Sample ID	Solids	Water Extractable P*	P Source Coefficient
		%	mg/kg (dry weight basis)	
E15844	Centrifuge Cake	15.61	1736.58	0.20

*1:100 (w:w, solids:water) extraction ratio

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PA DEP Lab ID # 14-00588

Analysis Report for Use of Biosolids on Cropland

Joseph Concino
City of York - WWTP
1701 Black Bridge Rd
York PA 17402

Lab Sample ID: E15927
Date Received: July 3, 2013
Date Sampled: 7/2/13
Report Date: 7/19/13
Sample type: Composite
County: York
Customer Sample ID: Centrifuge Cake

RESULTS

pH	Solids	Volatile	Tot-N	Org-N	NH_4N	P	K	Mg	Ca	Na	Fe	Al
@ 22.3 C	— % —	% (dry weight basis)										
8.1	16.04	78.26	6.74	5.81	0.93	2.18	0.20	0.45	3.51	0.05	0.92	0.35

Mn	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Zn	PCB[1]	Reactive CN
mg/kg (dry weight basis)												
170.3	3.07	3.08	19.7	466.9	76.5	0.99	25.5	20.3	8.1	715.8	< .42	< 1

NR-Not Requested One dry ton of this material is equivalent to 1495 gallons of wet material or 6.2 tons of wet material

PRIMARY NUTRIENT CONTENT

	% (dry wt basis)		
Total N	6.74	0.74	dry tons of this biosolid will supply 100 lbs of total N.
P_2O_5	4.99	2.29	dry tons of this biosolid will supply 100 lbs of P
K_2O	0.24		

ANALYSIS INFORMATION FOR EPA 503 POLLUTANTS

Analyte	EPA SW-846 Method	Analyst	Date	Time
Cd,Cu,Mo,Pb,Ni,Zn	3050B + 6010	Brooks	7/12/2013	12:56:39
As	3050B + 6010	Brooks	7/12/2013	12:56:39
Se	3050B + 6010	Brooks	7/12/2013	12:56:39
Hg	7473	Brooks	7/12/2013	12:47:40 PM
PCB[1]	8082			

[1]Subcontracted to Fairway Laboratories, Inc. (ID 7-00062)

RAW LABORATORY BENCH DATA FOR EPA 503 POLLUTANTS

	As	Cd	Cu	Hg	Mo	Ni	Pb	Se	Zn
Wet Wt. aliquot (g)	3.471	3.471	3.471	0.307	3.471	3.471	3.471	3.471	3.471
Analyte conc. in sample/ digest (mg/L except Hg)	0.034	0.034	5.20	0.049 ug	0.28	0.23	0.85	0.09	7.97
Method limit (mg/L except Hg)	0.015	0.005	0.015	0.0010 ug	0.015	0.010	0.025	0.025	0.050

Optional Analyses: Results (except soluble salts) on dry weight basis

Nitrate-N (mg/kg)	Total Carbon (%)	CCE Calcium Carbonate Equivalent (%)	Soluble Salts (mmhos/cm)	Other:
49.97				

Sample Receipt

ID: E15927

EPA REGULATIONS FOR LAND APPLICATION OF BIOSOLIDS (40 CFR Part 503) and DEP GUIDELINES FOR USE OF BIOSOLIDS FOR AGRICULTURAL UTILIZATION

	mg/kg	*Acceptable*	*Pollutant Limit*	*Acceptable-increased monitoring*	*Ceiling Limit*	*Exceeds ceiling limits*
As	3.07	0	41		75	
Cd	3.08	0	39		85	
Cu	466.9	0	1500		4300	
Pb	76.5	0	300		840	
Hg	0.99	0	17		57	
Mo	25.5	0	75			
Ni	20.3	0	420			
Se	8.1	0	100			
Zn	715.8	0	2800		7500	
PCB[1]	< .42	0	4		8.6	

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PA DEP Lab ID # 14-00588

Biosolids Analysis Report

Joseph Concino
City of York - WWTP
1701 Black Bridge Rd
York PA 17402

Lab Sample ID: E15927
Date Received: July 3, 2013
Date Sampled: 7/2/13
County: York
Customer Sample ID: Centrifuge Cake

RESULTS (Dry Weight Basis)

Parameter Analyzed	Result	Units	Sample Detection Limit
pH	8.05	—	—
Solids	16.04	%	—
Total Phosphorus	21,803	mg/kg	22.45
Total Potassium	2,028	mg/kg	44.89
Total Combustion Nitrogen	6.74	%	-
Ammonium Nitrogen	0.93	%	0.01
Nitrate	49.97	mg/kg	1.23
Cadmium	3.08	mg/kg	0.45
Copper	466.9	mg/kg	1.35
Nickel	20.3	mg/kg	0.90
Lead	76.5	mg/kg	2.24
Zinc	715.8	mg/kg	4.49
Mercury	0.99	mg/kg	0.02
Arsenic	3.07	mg/kg	1.35
Molybdenum	25.46	mg/kg	1.35
Selenium	8.1	mg/kg	2.24
PCBs	< .42	mg/kg	0.42

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PA DEP Lab ID # 14-00588

Analysis Report for Use of Biosolids on Cropland

Joseph Concino
City of York - WWTP
1701 Black Bridge Rd
York PA 17402

Lab Sample ID: E16012
Date Received: September 6, 2013
Date Sampled: 9/4/13
Report Date: 9/25/13
Sample type: Composite
County: York
Customer Sample ID: Centrifuge Cak

RESULTS

pH	Solids	Volatile	Tot-N	Org-N	NH_4N	P	K	Mg	Ca	Na	Fe	Al
@ 23.4 C	— % —					% (dry weight basis)						
8.0	20.50	77.11	6.08	5.38	0.70	2.34	0.32	0.52	3.02	0.05	1.85	0.40

Mn	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Zn	PCB[1]	Reactive CN
					mg/kg (dry weight basis)							
183.5	2.95	2.45	27.1	441.0	85.5	1.21	20.8	19.8	4.71	739.2	< .61	< 1

NR-Not Requested One dry ton of this material is equivalent to 1170 gallons of wet material or 4.9 tons of wet material

PRIMARY NUTRIENT CONTENT

	% (dry wt basis)		
Total N	6.08	0.82	dry tons of this biosolid will supply 100 lbs of total N.
P_2O_5	5.35	2.14	dry tons of this biosolid will supply 100 lbs of P
K_2O	0.39		

ANALYSIS INFORMATION FOR EPA 503 POLLUTANTS

Analyte	EPA SW-846 Method	Analyst	Date	Time
Cd,Cu,Mo,Pb,Ni,Zn	3050B + 6010	Stecko	9/13/2013	9:03:36
As	3050B + 6010	Stecko	9/13/2013	9:03:36
Se	3050B + 6010	Stecko	9/13/2013	9:03:36
Hg	7473	Brooks	9/13/2013	1:06:14 PM
PCB[1]	8082			

[1]Subcontracted to Fairway Laboratories, Inc. (ID 7-00062)

RAW LABORATORY BENCH DATA FOR EPA 503 POLLUTANTS

	As	Cd	Cu	Hg		Mo	Ni	Pb	Se	Zn
Wet Wt. aliquot (g)	2.004	2.004	2.004	0.412		2.004	2.004	2.004	2.004	2.004
Analyte conc. in sample/ digest (mg/L except Hg)	0.024	0.020	3.62	0.102	ug	0.17	0.16	0.70	0.04	6.07
Method limit (mg/L except Hg)	0.015	0.005	0.015	0.0010	ug	0.015	0.010	0.025	0.025	0.050

Optional Analyses: Results (except soluble salts) on dry weight basis

Nitrate-N (mg/kg)	Total Carbon (%)	CCE Calcium Carbonate Equivalent (%)	Soluble Salts (mmhos/cm)	Other:
2.83				

Sample Receipt

ID: E16012

EPA REGULATIONS FOR LAND APPLICATION OF BIOSOLIDS (40 CFR Part 503) and DEP GUIDELINES FOR USE OF BIOSOLIDS FOR AGRICULTURAL UTILIZATION

	mg/kg	*Acceptable*	*Pollutant Limit*	*Acceptable-increased monitoring*	*Ceiling Limit*	*Exceeds ceiling limits*
As	2.95	0	41		75	
Cd	2.45	0	39		85	
Cu	441.0	0	1500		4300	
Pb	85.5	0	300		840	
Hg	1.21	0	17		57	
Mo	20.8	0	75			
Ni	19.8	0	420			
Se	4.71	0	100			
Zn	739.2	0	2800		7500	
PCB[1]	< .61	0	4		8.6	

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PA DEP Lab ID # 14-00588

Biosolids Analysis Report

Joseph Concino
City of York - WWTP
1701 Black Bridge Rd
York PA 17402

Lab Sample ID: E16012
Date Received: September 6, 2013
Date Sampled: 9/4/13
County: York
Customer Sample ID: Centrifuge Cake

RESULTS (Dry Weight Basis)

Parameter Analyzed	Result	Units	Sample Detection Limit
pH	7.95	—	—
Solids	20.50	%	—
Total Phosphorus	23,365	mg/kg	30.42
Total Potassium	3,245	mg/kg	60.84
Total Combustion Nitrogen	6.08	%	-
Ammonium Nitrogen	0.70	%	0.02
Nitrate	2.83	mg/kg	0.94
Cadmium	2.45	mg/kg	0.61
Copper	441.0	mg/kg	1.83
Nickel	19.8	mg/kg	1.22
Lead	85.5	mg/kg	3.04
Zinc	739.2	mg/kg	6.08
Mercury	1.21	mg/kg	0.01
Arsenic	2.95	mg/kg	1.83
Molybdenum	20.76	mg/kg	1.83
Selenium	4.71	mg/kg	3.04
PCBs	< .61	mg/kg	0.61

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PA DEP Lab ID # 14-00588

Analysis Report for Use of Biosolids on Cropland

Joseph Concino
City of York - WWTP
1701 Black Bridge Rd
York PA 17402

Lab Sample ID: E16127
Date Received: November 7, 2013
Date Sampled: 11/5/13
Report Date: 11/22/13
Sample type: Composite
County: York
Customer Sample ID: Centrifuge Cake

RESULTS

pH	Solids	Volatile	Tot-N	Org-N	NH_4N	P	K	Mg	Ca	Na	Fe	Al
@ 21.7 C	— % —	% (dry weight basis)										
8.2	17.28	75.34	6.86	6.00	0.86	2.48	0.20	0.44	3.64	0.05	1.59	0.48

Mn	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Zn	PCB[1]	Reactive CN
mg/kg (dry weight basis)												
202.1	3.64	2.97	34.1	526.5	101.4	2.06	27.2	24.3	7.41	900.2	< .39	< 1

NR-Not Requested One dry ton of this material is equivalent to 1387 gallons of wet material or 5.8 tons of wet material

PRIMARY NUTRIENT CONTENT

	% (dry wt basis)		
Total N	6.86	0.73	dry tons of this biosolid will supply 100 lbs of total N.
P_2O_5	5.69	2.01	dry tons of this biosolid will supply 100 lbs of P
K_2O	0.24		

ANALYSIS INFORMATION FOR EPA 503 POLLUTANTS

Analyte	EPA SW-846 Method	Analyst	Date	Time
Cd,Cu,Mo,Pb,Ni,Zn	3050B + 6010	Brooks	11/15/2013	9:26:39
As	3050B + 6010	Brooks	11/15/2013	9:26:39
Se	3050B + 6010	Brooks	11/15/2013	9:26:39
Hg	7473	Brooks	11/15/2013	2:09:59 PM
PCB[1]	8082			

[1]Subcontracted to Fairway Laboratories, Inc. (ID 7-00062)

RAW LABORATORY BENCH DATA FOR EPA 503 POLLUTANTS

	As	Cd	Cu	Hg	Mo	Ni	Pb	Se	Zn
Wet Wt. aliquot (g)	2.139	2.139	2.139	0.297	2.139	2.139	2.139	2.139	2.139
Analyte conc. in sample/ digest (mg/L except Hg)	0.027	0.022	3.89	0.106 ug	0.20	0.18	0.75	0.05	6.66
Method limit (mg/L except Hg)	0.015	0.005	0.015	0.0010 ug	0.015	0.010	0.025	0.025	0.050

Optional Analyses: Results (except soluble salts) on dry weight basis

Nitrate-N (mg/kg)	Total Carbon (%)	CCE Calcium Carbonate Equivalent (%)	Soluble Salts (mmhos/cm)	Other:
4.55				

Sample Receipt

ID: E16127

EPA REGULATIONS FOR LAND APPLICATION OF BIOSOLIDS (40 CFR Part 503) and DEP GUIDELINES FOR USE OF BIOSOLIDS FOR AGRICULTURAL UTILIZATION

	mg/kg	*Acceptable* — *Pollutant Limit* — *Acceptable-increased monitoring* — *Ceiling Limit* — *Exceeds ceiling limits*
As	3.64	0 - - - - 41 - - - - 75 - - - -
Cd	2.97	0 - - - - 39 - - - - 85 - - - -
Cu	526.5	0 - - - - 1500 - - - - 4300 - - - -
Pb	101.4	0 - - - - 300 - - - - 840 - - - -
Hg	2.06	0 - - - - 17 - - - - 57 - - - -
Mo	27.2	0 - - - - 75 - - - -
Ni	24.3	0 - - - - 420 - - - -
Se	7.41	0 - - - - 100 - - - -
Zn	900.2	0 - - - - 2800 - - - - 7500 - - - -
PCB[1]	< .39	0 - - - - 4 - - - - 8.6 - - - -

PENNSTATE

Agricultural Analytical Services Laboratory
College of Agricultural Sciences
The Pennsylvania State University
University Park, PA 16802

Phone: 814-863-0841
Fax: 814-863-4540
Web: www.aasl.psu.edu

PA DEP Lab ID # 14-00588

Biosolids Analysis Report

Joseph Concino
City of York - WWTP
1701 Black Bridge Rd
York PA 17402

Lab Sample ID: E16127
Date Received: November 7, 2013
Date Sampled: 11/5/13
County: York
Customer Sample ID: Centrifuge Cake

RESULTS (Dry Weight Basis)

Parameter Analyzed	Result	Units	Sample Detection Limit
pH	8.15	—	—
Solids	17.28	%	—
Total Phosphorus	24,829	mg/kg	33.81
Total Potassium	2,014	mg/kg	67.62
Total Combustion Nitrogen	6.86	%	-
Ammonium Nitrogen	0.86	%	0.01
Nitrate	4.55	mg/kg	1.14
Cadmium	2.97	mg/kg	0.68
Copper	526.5	mg/kg	2.03
Nickel	24.3	mg/kg	1.35
Lead	101.4	mg/kg	3.38
Zinc	900.2	mg/kg	6.76
Mercury	2.06	mg/kg	0.02
Arsenic	3.64	mg/kg	2.03
Molybdenum	27.17	mg/kg	2.03
Selenium	7.41	mg/kg	3.38
PCBs	< .39	mg/kg	0.39

Appendix K
PADEP Correspondence

The City of York
Pennsylvania

101 S George St ❖ PO Box 509 ❖ York PA 17405
www.yorkcity.org
Honorable C. Kim Bracey, Mayor

Andrew L. Jantzer, PE
General Manager of Wastewater Facilities
Department of Public Works

York City Wastewater Treatment Plant
1701 Black Bridge Road
York, PA 17402

February 26, 2013

Mr. Austin Pardoe
Department of Environmental Protection
Water Management Program
150 Roosevelt Avenue
York, PA 17404

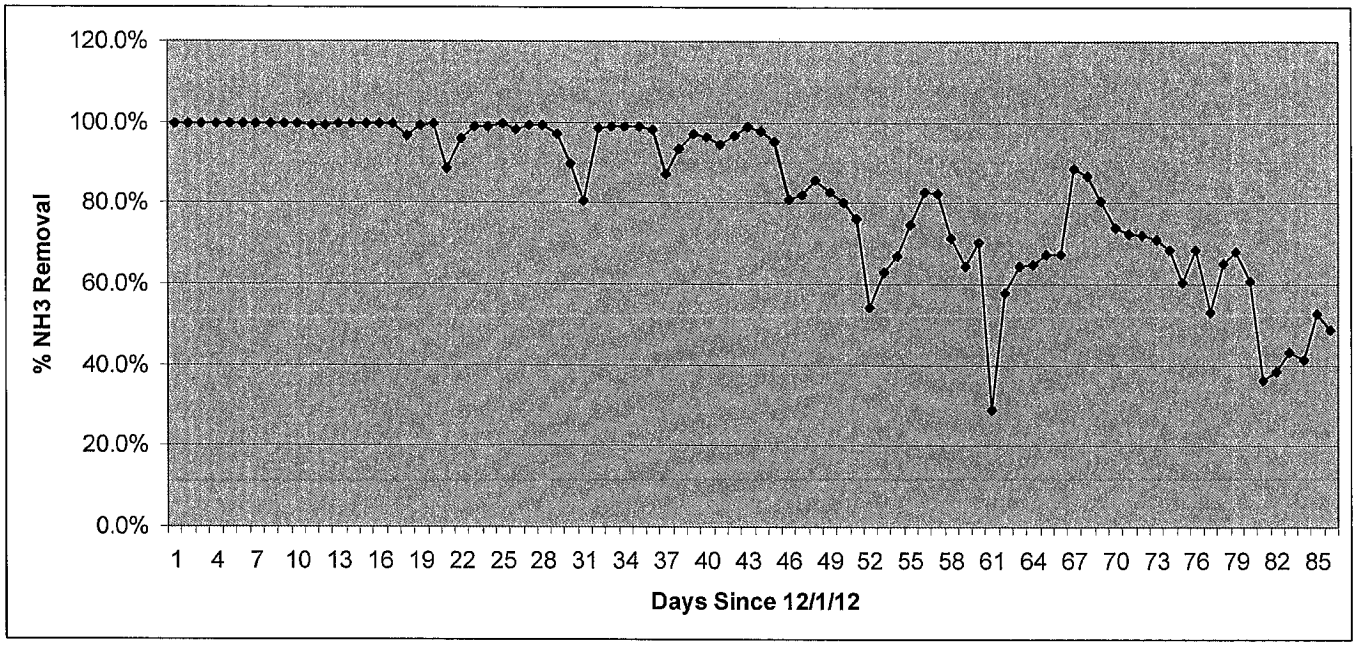
Re: York City WWTP - Nitrification Process Update

Dear Mr. Pardoe:

We are providing you with an update regarding the elevated ammonia levels at the York City treatment plant. As a general event summary, in mid-January 2013, the Train 3 nitrifiers showed signs of a process upset involving diminished capability for removing ammonia. In mid-February, this condition began to appear in Train 2 as well. Besides the ammonia removal impact, the upset includes diminished settleability in the clarifiers which is best characterized as ash bulking as opposed to filamentous bulking. Thus far the only NPDES parameter that is in exceedence due to this condition is effluent ammonia concentration. The January monthly average effluent ammonia is 3.1 mg/L versus a permit limit of 2.1 mg/L. The February monthly average effluent ammonia has so far averaged 7.4 mg/L.

On the following page is a chart that shows daily values of % NH3 Removal starting December 1, 2012. The December data is provided to show a typical month with a monthly ammonia concentration averaging 0.7 mg/L. Starting around Day-45 on the chart, it is apparent that the nitrification process is having serious problems. The ammonia removal performance has continued to steadily degrade ever since. On the positive side, the biota looks healthy and this nitrifier upset had not impacted the ability of the plant to remove the balance of the NPDES pollutants at excellent levels. For example, to date, the February monthly effluent BOD, TSS and PO4 average concentrations are 3, 3, and 0.6 mg/L respectively.

Telephone: 717-845-2794 *Facsimile: 717-845-7342* *Email: ajantzer@yorkcity.org*



As a matter of routine operation, for the purpose of process monitoring and control, the York City treatment plant tests for solids, nitrogen and phosphorus compounds in both trains seven-days per week, and emails the results to the supervisory operating staff. Accordingly, we have taken a number of actions to troubleshoot and correct the process upset since it started in mid-January.

Summary of January Activities:

1. Evaluation of loadings for plant and individual process trains, versus historical loading trends.
2. Evaluation of process control settings versus historical settings and manufacture recommendations.
3. Consultation with the process design engineer.
4. Increase flow split to Train 2 to 30% of plant total.
5. Place third path on-line at Train 3 to increase net aeration by 50%.
6. Return Train 3 to 2-path operation when the increased aeration did not improve the nitrification performance.
7. Transfer 5000 pounds of seed solids from Train 2 to Train 3.
8. Place third clarifier on-line at Train 3 to combat bulking.

Summary of February Activities:

1. Continue evaluation of loadings and process control settings and continue consultation with process design engineer.
2. Periodic microscopic examination and comparison of biota from Train 2 and Train 3 mixed liquor.
3. Commission our process design engineer to prepare BioWin process model at current process settings, in addition to predictive modeling of 3-path mode at Train 3. We elected

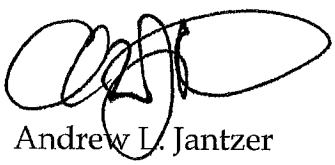
not to implement 3-path mode a second time based on the model results. The model and plant history indicates that process should be nitrifying at current settings.
4. Transfer another 5000 pounds of seed solids from Train 2 to Train 3.
5. For two consecutive days, blend in approximately 20% raw sewage to Train 3 (as opposed to 100% primary clarifier effluent) to increase BOD loading.
6. Change anoxic swing zone D at both flow paths in Train 3 to aerobic mode to increase net aeration by about 15%.
7. Adjust wasting rates to correct MLSS changes from previous seeding and flow path adjustments.
8. Assemble nitrification inhibitor list and sample for laboratory examination of inhibitors.

Despite extensive process and data evaluations, we have not been able to locate any specific cause or remedy of the nitrification upset. Historically the BNR process has been very robust at the York City plant. Due to consistent water temperatures that seldom drop below 50-degrees, this plant has historically not experienced nitrifier degradation due to winter temperatures. The plant is also routinely subject to occasional high-ammonia return flows from centrate and digester operations, for which the BNR process historically has accommodated without issues or exceedences.

Due to the historical consistency and stamina of the BNR process at this plant, we are tempted to assign the blame for this sudden degradation on an inhibitory compound received from the collection system, but this conclusion is entirely speculative at this point. We are currently obtaining a 24-hour composite sample of our influent, which will be sent to an analytical lab for analysis of nitrification inhibitors. We expect to have the results back in two weeks.

In the meantime, we plan to keep you informed in event that the nitrification process performance significantly changes from current conditions.

Very truly yours,



Andrew L. Jantzer
General Manager

cc: Jim Gross, Director of Public Works

The City of York
Pennsylvania

101 S George St ❖ PO Box 509 ❖ York PA 17405
www.yorkcity.org
Honorable C. Kim Bracey, Mayor

Andrew L. Jantzer, PE
General Manager of Wastewater Facilities
Department of Public Works

York City Wastewater Treatment Plant
1701 Black Bridge Road
York, PA 17402

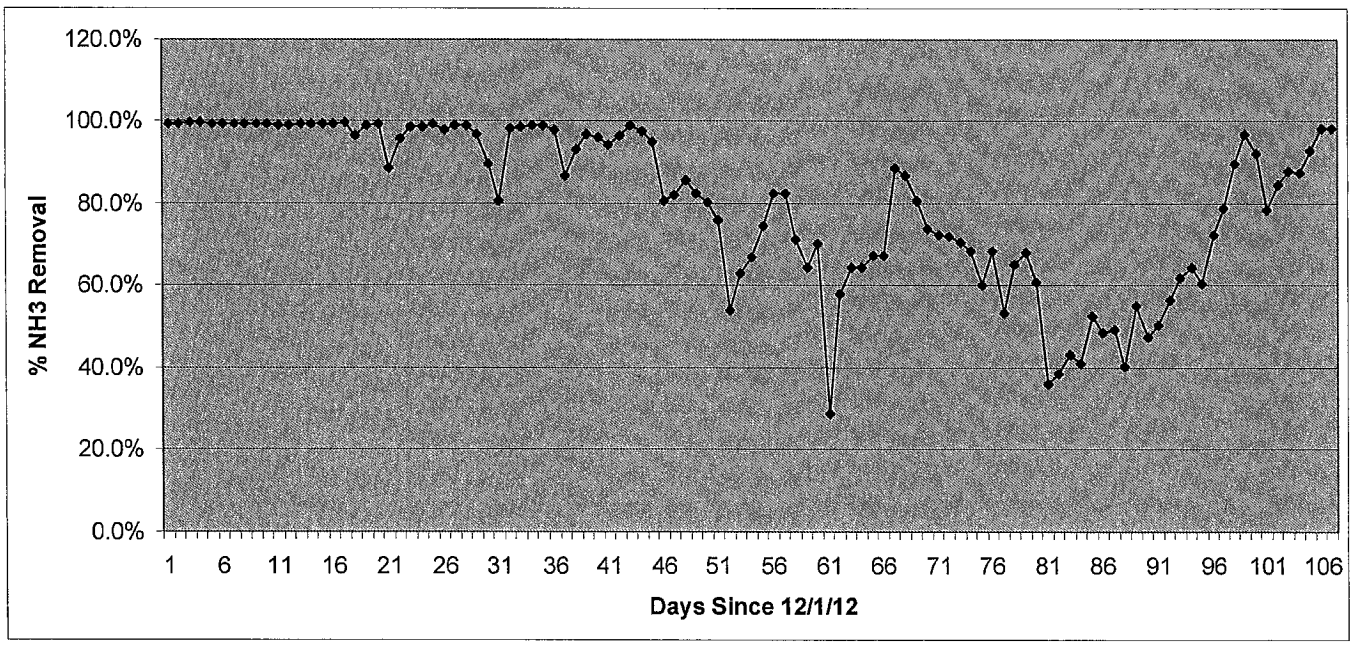
Mr. Austin Pardoe
Department of Environmental Protection
Water Management Program
150 Roosevelt Avenue
York, PA 17404

March 26, 2013

Re: York City WWTP – Nitrification Process Update
NPDES PA0026263

Dear Mr. Pardoe:

We are writing to keep you informed of the current status of the nitrification process at the York plant. Since our March 6 update, the nitrifiers have recovered and the process performance is back to normal. The following chart shows daily values of % NH3 Removal starting December 1, 2012. The chart indicates that ammonia removal efficiencies have recently recovered.



Telephone: 717-845-2794 *Facsimile: 717-845-7342* *Email: ajantzer@yorkcity.org*

Due to higher concentrations of ammonia during the first half of March, we are projecting that the March 2013 monthly average ammonia concentration will exceed the NPDES limit of 2.1 mg/L. In subsequent months, we expect that nutrient removals will fully comply with permit limits, based on the current favorable health of the plant process.

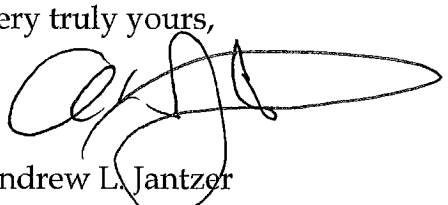
The plant upset which affected the nitrifying bacteria lasted a full 60-day period. Throughout the upset, sufficient process biology existed to remove BOD and phosphorus to normal levels. We speculate that the most likely cause of the upset is a discharge to the collection system of a compound toxic to nitrifiers. A laboratory analysis of our Train 3 influent sampled February 26 was negative for nitrification interference compounds, but a problem discharge would likely have been flushed through the system by the sample date.

As follow-up action, MIPP staff will conduct the following activities to determine an external cause to the BNR process upset. Liquid stream internal processing records for 2012 and 2013 to-date will be evaluated for trends in diminished ammonia processing and to determine if similar less-severe ammonia processing issues occurred prior to the January 2013 event. The internal processing data will also be evaluated to determine if there are data indicators that an upset is commencing so special wastewater sampling can occur immediately. The 2012 priority pollutant scan and local limit sampling data will be compared to historic results to see if parameter concentrations changed: the data will also be compared to the special Train 3 influent toxic compound sample results. Staff will evaluate general compounds that are toxic to nitrifiers, determine industrial sectors where such compounds are common, and determine if such facilities are located with the sewershed.

MIPP staff will visit industrial, commercial and institutional facilities with sizeable cooling towers that may have used larger quantities of algaecides to cause the nitrifier inhibition. Other industrial facilities will be targeted for site visits and inspections based on findings from the above liquid stream processing data, priority pollutants/local limits data, and industrial sector information evaluations.

Let me know if you have and questions regarding this matter.

Very truly yours,



Andrew L. Jantzer
General Manager

cc: Jim Gross, Director of Public Works

Telephone: 717-845-2794 *Facsimile: 717-845-7342* *Email: ajantzer@yorkcity.org*

The City of York
Pennsylvania

101 S George St ❖ PO Box 509 ❖ York PA 17405
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Honorable C. Kim Bracey, Mayor

Andrew L. Jantzer, PE
General Manager of Wastewater Facilities

York City Wastewater Treatment Plant
1701 Black Bridge Road, York, PA 17402

Austin N. Pardoe
Water Quality Specialist
Department of Environmental Protection
150 Roosevelt Avenue
York, PA 17404

November 27, 2013

RE: Revised Event Report - Storm of 10/10/2013
City of York WWTP

Dear Mr. Pardoe,

We are providing revised status report of the impact of the October 10, 2013 storm event upon the City of York wastewater facilities. This update report reflects additional data analysis and supersedes previous reports of this storm event.

Description of Storm Event and Impact

According to reports by the York Water Company, the York area received 9.15-inches of water over a duration spanning a little less than 32-hours. The storm began in the evening of 10/10/13 and ended in the morning of 10/12/13. Portions of the City collection system were filled with water and we received customer reports of sewage backups into basements in some areas of the City. York City issued a voluntary water curtailment request to all customers through media outlets.

The treatment plant received high sustained flows on 10/11/13 and 10/12/13, with our estimates of the daily volumes as summarized below.

Date	Plant Influent (Mgal)
10/10/2013	20.940
10/11/2013	68.154
10/12/2013	60.214
10/13/2013	27.119

We placed all of our liquid treatment trains on-line during the storm event. The high flows overtopped treatment plant tanks at four specific locations which are described in the following section of this report. The plant is configured to intercept most overflows and divert them back into the plant or to the plant

Telephone: 717-845-2794 *Facsimile: 717-845-7342* *Email: ajantzer@yorkcity.org*

stormwater system for chlorination and pumped discharge to Codorus Creek at Outfall 001. Some non-disinfected discharges also occurred, as discussed in the next section.

Through our high flow standard operating procedures (SOPs), we were able to retain a considerable volume of activated sludge during the storm event, so plant biological process recovered very quickly following the storm. By 10/14/13, the plant was removing ammonia and phosphorus at typical levels, which is well below permit limits.

Sewage Bypassed, Discharged Untreated or Discharged Partially Treated

There were no sewage bypasses or discharges of untreated sewage. The high flows caused partially treated process flows to overtop treatment plant tanks at four specific locations.

Sand Filter Influent Box

Final clarifier effluent overtopped the sand filter influent box and traveled directly to an adjacent empty ash lagoon. The ash lagoon drains to the head of the plant, so there was no off-site discharge associated with this tank overflow.

Event	Date Stamp
Overflow Start	10/10/13 19:04
Overflow End	10/12/13 18:30
Total Duration (hrs)	47.43

Date	Duration (hrs)	Volume (gal)
10/10/2013	4.93	29,000
10/11/2013	24	143,000
10/12/2013	18.50	110,000
Total		282,000

Outfall 005 - Train 3 Final Clarifier Scum Box

High hydraulic grade lines in the Train 3 final clarifiers caused surcharging of the final clarifier scum box located next to the Train 3 control building. The overflow from the scum box traveled along a plant driveway drainage ditch, then entered Lightner's Run at Outfall 005 on the plant site. This was a non-disinfected overflow. Some scum was pushed into the yard area and operators subsequently cleaned it up following the storm. The actual stream discharge had the appearance of final clarifier effluent, and there was no visible impact on the stream, which was a muddy torrent in flood stage at the time.

Event	Date Stamp
Overflow Start	10/10/13 22:45
Overflow End	10/12/13 22:32
Total Duration (hrs)	47.78

Date	Duration (hrs)	Volume (gal)
10/10/2013	1.25	9,000
10/11/2013	24	164,000
10/12/2013	22.53	154,000
Total		327,000

On 10/11/13 1410 hours, we sampled Lightner's Run before and after Outfall 005 to test for fecal coliform at the plant lab. Upstream fecal coliform results were 7,500 est. col./100mL and downstream fecal coliform results were 5,900 col./100mL. These results indicate that the non-disinfected overflow did not have an adverse impact on the stream in terms of fecal coliform.

Train 2 Aeration Tank Influent Flumes

Primary effluent overtopped the Train 2 aeration tank influent flumes and drained into the plant stormwater collection system via storm inlets. This is a captured flow. The plant configuration allows this process overflow to combine with stormwater, be chlorinated with sodium hypochlorite and then be pumped to the Codorus Creek via Outfall 001. This overflow is further quantified in the Outfall 001 discussion below.

Train 2 Aeration Tank Effluent

Aeration tank effluent overtopped the northeast corner of the Train 2 aeration tanks and drained into the plant stormwater collection system via storm inlets. This is a captured flow. The plant configuration allows this process overflow to combine with stormwater, be chlorinated with sodium hypochlorite and then be pumped to the Codorus Creek via Outfall 001. Portions of the aeration tank overflow also entered an adjacent final clarifier by overtopping its walls, where it subsequently was subject to sand filtration, UV disinfection and discharge to the Codorus Creek via Outfall 002. This aeration tank overflow is further quantified in the Outfall 001 discussion below.

Outfall 001 - Train 2 Discharges

The Outfall 001 discharge to Codorus Creek included a mixture of process overflows from the Train 2 aeration tank influent flumes and the Train 2 aeration tank effluent; in addition to plant site stormwater and Train 2 final clarifier effluent. The clarifier effluent is manually sent to Outfall 001 and it is the carrying agent for sodium hypochlorite, in order to disinfect the entire mixture prior to release at Outfall 001. As standard procedure, the Outfall 001 discharge was sampled and tested hourly to confirm chlorine residual. The 001 discharge was a submerged discharge with no visible impact on the stream, which was at flood stage.

On 10/11/13 1420 hours and 1430 hours, we sampled Codorus Creek before and after Outfall 001 to test for fecal coliform at the plant lab. Upstream fecal coliform results were 11,200 est. col./100mL and downstream fecal coliform results were 11,800 col./100mL. These results indicate that the 001 discharge did not have a significant impact on the stream in terms of fecal coliform.

For this storm event, there was a 2-hour delay between the start of the Train 2 process overflows and the time that the disinfection was manually started. As a result, this normally chlorinated discharge was not disinfected for an initial two hour period.

Event	Date Stamp	Duration (hrs)	Volume (Mgal)	Remarks
001 Overflow Start	10/11/13 5:30	2.00	0.848	Non-disinfected
001 Disinfection Start	10/11/13 7:30	16.50	6.995	Disinfected
001 Discharge End	10/12/13 6:00	6.00	0.670	Disinfected
Event Total		24.50	8.513	

Outfall 002 - Plant Effluent Discharges

All Outfall 002 plant effluent discharges to Codorus Creek were comprised of disinfected plant effluent. The 002 discharge plume was visibly clearer water than the stream flow, which was at flood stage.

On 10/11/13 1420 hours, we sampled Codorus Creek before and after Outfall 002 to test for fecal coliform at the plant lab. Upstream fecal coliform results were 11,800 est. col./100mL and downstream fecal coliform results were 8,700 col./100mL. These results indicate that the 002 discharge did not have an adverse impact on the stream in terms of fecal coliform.

Corrective Measures Taken and Preventative Measures for Future Storm Events

Sand Filter Influent Box

The sand filter process overflow is a captured flow returned to the head of the plant, so operators did not place a priority on corrective measures. The sand filter influent bypass channel is equipped with "logs" (segmented stop gates) which can be incrementally removed to bypass portions of the flow around the sand filters directly to UV disinfection. By the time the sand filter process overflow was observed, the sand filter loadings were too high to pull a log segment. Once the plant flows started to recede, operators were able to remove a log segment to eliminate this overflow.

In order to prevent sand filter process overflows during future floods, we will revise the high flow SOP to remove log segments before the loadings to the filter get so high as to prevent log removal. An influent flow around 60 mgd would be a good trigger point for this preventative action.

Outfall 005 - Train 3 Final Clarifier Scum Box

During the storm event, operators shut the valves on the gravity drain pipes between the final clarifier scum pits and the Train 3 central scum box, but that corrective action did not stop the scum box overflow. Operating personnel discussed the overflow with the consulting engineer as it occurred during the storm event, but a corrective measure could not be determined at the time.

As a preventative measure, plant personnel investigated the source of the uncontrolled interconnection. Plant personnel discovered that the shutoff valve on one of the clarifier scum box drain lines is failed in the open position. Repair or replacement of this valve and floor stand will involve time to order materials and execute. In the meantime, as a temporary measure, plant personnel are scheduled to install a

temporary plug into the drain line on 12/2/2013. The temporary plug and eventual valve repair will prevent future overflows from this location.

Train 2 Tank Overflows and Outfall 001

During the storm event, corrective measures included the activation of disinfection for Outfall 001 by running sodium hypochlorite feed pumps and opening a slide gate to send a portion of the Train 2 final clarifier effluent to Outfall 001. This diverted portion of the final clarifier effluent receives the sodium hypochlorite and conveys the chlorine residual to Outfall 001.

As a preventative measure, plant personnel investigated the cause of the tank overflows and reviewed strategies for reducing or eliminating the tank overflows with the consulting engineer. The consensus opinion is that the Train 2 final clarifier effluent diversion slide gates were likely setting the hydraulic grade line that resulted in all of the Train 2 tank overflows. Accordingly, Train 2 tank overflows under future high flow conditions will be prevented or minimized by further lowering the Train 2 final clarifier effluent diversion slide gates when the hydraulic grade line in the Train 2 aeration tanks approach overflow elevation. We will revise the wet weather SOP accordingly.

A preventative measure to ensure the 001 flow is disinfected involves training the operators to initiate sodium hypochlorite feed any time that Outfall 001 is used for Train 2 flow diversion, or anytime the treatment plant tanks overflow to the storm system. We plan to reinforce this provision in the high flow SOP, and follow-with up staff training of this important provision by 12/31/2013.

A sustainable preventative measure to the high flow situation is thoughtful investment in collection system policy and projects which emphasize the removal of infiltration/inflow and identified hydraulic restrictions. We are currently developing a sewer main enlargement and replacement project in the Fireside area with portions currently budgeted for 2014 implementation. As a regional facility serving eight municipalities, it is equally important to emphasize I/I removal throughout the tributary collection systems. Accordingly, we are actively meeting with Springettsbury Township and Spring Garden Township to promote an intermunicipal initiative to remove or rehabilitate the Codorus Creek Siphon of the old East York Interceptor, which is a confirmed I/I source. Finally, to address I/I from customer facilities, in November 2013 the City developed an insert for customer bills promoting the removal of downspout and sump pump connections to household plumbing and sanitary piping.

Power Outage Status

There was no power outage at the City of York WWTP associated with this storm event.

Very truly yours,

Andrew L. Jantzer, PE
General Manager

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION
CLEAN WATER PROGRAM

December 26, 2013

York City STP
Attn: Ms. Stacey MacNeal
345 E Market St
York, PA 17403

Re: NPDES Compliance Inspection Report
York City STP
City of York, York County

To Whom it may Concern:

Following your recent inspection, I am forwarding the enclosed material for your review. I hope that it will provide you with the necessary information pertaining to my visit. Please review this material carefully, and feel free to contact me if I may be of any further service. Thank you.

Sincerely,

Austin N. Pardoe

Austin N. Pardoe
Water Quality Specialist
Clean Water Program

Enclosures

3800-FM-BPNPSM0168A 9/2012

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

NPDES COMPLIANCE INSPECTION REPORT

NPDES Permit No.	Mo/Day/Yr	Entry Time	Exit Time	Inspection Type	eFACTS Inspection ID
PA0026263	12/11/2013	~09:30		CEI	

Facility Name: York City STP	Permittee Name: York City Sewer Authority C/O Stacey R. Macneal Katherman, Heim & Perry
Physical Location/Directions: 1701 Black Bridge Road, York, PA 17402	Permit Expiration Date: 1/31/2013
Municipality: York / County: York	Permit Renewal Application Due: Renewal Received 7/30/2012

Facility Type: ■ Sewage ☐ Industrial Waste ☐ Industrial Stormwater ☐ Other:
■ Major ☐ Minor

Responsible Person: Ms. Stacey R. MacNeal Title: Recording Secretary	Certified Operator Required: ■ Yes ☐ No Certified Operator in Responsible Charge: Andrew Jantzer
Permittee Address: 345 E. Market St York, PA 17403	Client ID: 193242 Class-Subclass(es): AE 1-4 Circuit Rider: ☐Yes ■ No
Business Phone: 717-850-3708 Fax: Email:	Business Phone: 717-324-6572 Fax: Email: AJantzer@yorkcity.org

24-Hour Emergency Contact Person / Phone: Plant – 717-845-2794

VIOLATIONS: (list below) ☐ Yes ☐ No ■ Pending Sample Results

Person Interviewed:	Date:	Inspector: Austin N. Pardoe	Date: 12/11/2013
Signature: Will send copy of report.	Phone No.:	Inspector Signature: Austin N. Pardoe	Phone No.: 717-771-4466
Title:		Title: WQS	
Email:		Email: apardoe@pa.gov	

This document is official notification that a representative of the Department of Environmental Protection inspected the above facility. The findings of this inspection are shown above and on any attached pages. Any violations which were noted during the inspection are indicated. Violations may also be discovered upon examination of the results of laboratory analyses of the discharge and review of Department records.

☐ White – Regional Office ☐ Yellow – Responsible Person ☐ Pink - Inspector

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

NPDES COMPLIANCE INSPECTION REPORT

Treatment Process Units
(NPDES Permit Part B)

Water Quality Management Permit No. | All treatment units are as noted in permit: ☐ Yes ☐ No

Treatment Units	Total	On-Line	Inoperable	Comments
Mechanical Bar Screens	2	1		Ok. Use both with additional flow.
Bar Screen Bypass	2	0		Ok.
Grit Removal System	2	2		Ok.
Primary Clarifiers	8	2		Ok. # Varies with flow→want as much BOD as possible.
Treatment Trains	3	2		Train #1 "mothballed"→does not have equipment to run if wanted to.
Aeration Basins	40	24		Ok. 40 Individual aeration tanks. (5 flowpaths-each with 8). See comments for descriptions.
Secondary Clarifiers	6	5		Ok. T2 clarifiers = noticeably more suspended particulates than T3. T3 has weirs around edge of tanks vs. T2 has offset weirs. Operator states that offset weirs in T2 cause this occurrence. T3 Clarifier 3=offline.
Sand Filters	5	5		Ok. Low level tanks=backwashing. High level=filtering.
UV Units	3	1		Ok. Only channel #2 in use.
Digesters	3	2		Did not view.
GBT (gravity belt thickener)	2	1		Did not view.
Centrifuge	2	1		Did not view.

Chemical Additions: Defoamer for outfall. Sodium hypo for emergency disinfection at 001 & for cleaning sand filters. Phosphoric acid-reduces pH for ostara process. Ferric Chloride-phosphorus removal.

NPDES COMPLIANCE INSPECTION REPORT

Monitoring, Reporting and Recordkeeping
(NPDES Permit Part A)

On-site laboratory: ☒ Registered ☐ Accredited ☐ N/A ☐ Not Registered/Accredited

On-site analyses: ☒ pH ☒ DO ☒ TRC ☐ All NPDES parameters ☐ None

☒ Other(s): Temp, BOD, CBOD, Ammonia, Nitrate, Nitrite, PO4, TSS, Fecal,TKN

DEP Lab Registration/Accreditation #:67-00645 Lab Supervisor:Joe Concino

Comments:

Contract Laboratory Name: Penn State (for sludge) DEP Lab Accreditation #:

Address & Phone:

Parameters Analyzed:

Comments:

Sample Collection: Influent sampling location: after grit removal

Effluent sampling location: right after UV

Location(s) adequate for representative samples:	☒ Yes	☐ No
Parameters analyzed, sample frequencies and sample types meet permit requirements:	☒ Yes	☐ No
Samples properly preserved during collection, storage and shipping:	☒ Yes	☐ No
Sampler or sample temperature is recorded using NIST traceable thermometer:	☒ Yes	☐ No

Comments:

Composite samples: Being collected: ☒ Yes ☐ No Composites are: ☐ 8-hour ☒ 24-hour ☐ Other

Samples are: ☒ Flow Proportional ☐ Time Proportional

Sampler controlled by: ☒ Influent flow meter ☒ Effluent flow meter

Minimum aliquot volume greater than 100 ml: ☒ Yes (100-150) ☐ No

Composite sampler temperature during inspection? Influent=4°C. Did not verify effluent sampler temperature.

Comments:

Sample records: Available for inspection: ☒ Yes ☐ No Retained for at least three years: ☒ Yes ☐ No

Includes: Collector name: ☒ Yes ☐ No Collection date/time: ☒ Yes ☐ No Collection location: ☒ Yes ☐ No

Analyst name: ☒ Yes ☐ No Analysis date/time: ☒ Yes ☐ No Analysis Results: ☒ Yes ☐ No

Analytical methods & quantitation limits: ☒ Yes ☐ No Chain-of-Custody forms: ☒ Yes ☐ No

Comments: Analytical methods & quantitation limits included in S.O.P.'s (did not view). Reviewed CBOD and Fecal results for 10/11/2013. Fecal holding times met.

Bench sheets: Data is consistent with data on the supplemental: ☒ Yes ☐ No ☐ N/A Month(s)/year checked:

Comments: Checked CBOD on 1011/2013.

Field Testing: Completed within required hold time: ☒ Yes ☐ No pH, DO, TRC (did not verify)

Equipment is calibrated as required: pH: ☒ Yes (10/2013) DO: ☒ Yes (10/2013) TRC: ☒ Yes 10/11/2013

Other(s): ☐ Yes ☐ No

Calibration records maintained: ☒ Yes ☐ No

Comments:

DMR Submittal: DMRs are submitted as required: ☒ Yes ☐ No eDMR User: ☒ Yes ☐ No

DMR Supplemental Reports are submitted as required: ☒ Yes ☐ No

DMRs include all sample results collected and analyzed using approved methods: ☒ Yes ☐ No

Comments:

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

NPDES COMPLIANCE INSPECTION REPORT

Sewage Treatment Plant

Treatment Plant Design Capacity: Hydraulic (MGD) 26 MGD Organic (PPD)

High Flow Management: Plan available: ☒ Yes ☐ No ☐ N/A Plan implemented at: 20 MGD
Comments: 2nd bar screen put into service, extra tankage available is used, additional UV is turned on??????

Sanitary Sewer Overflows: Since last inspection: ☐ Yes ☒ No Reported to DEP: ☐ Yes ☐ No
Location/cause: Notified the Department when plant overflowed.

Solids Management: Disposal records available: ☒ Yes ☐ No Retained for at least five years: ☐ Yes ☐ No
Production for calendar year: unsure
Production estimated using EPA Composite Correction Approach?: ☐ Yes ☐ No Disposal within 15% of estimate: unsure
Hauler: Synagro
Disposal locations: SEE COMMENTS PAGE
Comments: Mr. Jantzer believes that Synagro may have performed EPA composite correction approach calculations.

Collection System

Chapter 94 Report: Submitted: ☒ Yes ☐ No ☐ N/A Hydraulic or Organic Overload: ☐ Yes ☒ No ☐ N/A
Comments:

Collection system: York City owns and maintains their own collection system in their own jurisdiction, but municipalities feeding into York City own and maintain their own collection systems.
Municipalities that feed into York City: W. Manchester T., Manchester T., Spring Garden T., Springettsbury T.
Maintenance done: ☒ Regularly scheduled-entire collection system ~every 2-3 years.
(York T., W. York Borough, N. York Borough, York City.)
Type of maintenance: ☒ Televised:
☒ Jetted:
☒ Root cutting:
☒ Smoke test: As needed.
☒ Sewer Shed metering:
☒ Sewers repaired/replace:

Inflow and infiltration: Collection system has excessive ☒ Inflow ☒ Infiltration
Detail I&I Detection work done since last inspection: Flow meters installed in collection system to monitor flow.
Detail I&I Removal work done since last inspection: In 2014, they are hoping to send out education brochure regarding home I&I.
Comments:

Pump Stations: Total number: 1 Inspection frequency: quarterly.
Flow measurement: ☐ Metered ☐ Estimated Other ☐
Comments: Flow measurement unknown. Everything else is gravity fed.

Certified Operators

Certified Operators match Department Records: ☐ Yes ☐ No Total Number of certified operators: 5
Comments: did not compare records with the Department's.

Available Certified Operator: Andrew Jantzer	Client ID: 193242	Class-Subclasses: A, 1-4
Available Certified Operator: Leo Hoffman	Client ID: 196708	Class-Subclasses: A, 1 (more?)
Available Certified Operator: Jack Longstreet	Client ID: 266212	Class-Subclasses: A, 1,4

☐ White – Regional Office ☐ Yellow – Responsible Person ☐ Pink - Inspector

COMMONWEALTH OF PENNSYLVANIA
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BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

NPDES COMPLIANCE INSPECTION REPORT

Flow Measurement
(NPDES Permit Part A)

Primary flow meter and recorder: Operable: ■ Yes ☐ No Properly maintained: ■ Yes ☐ No

Measuring device type: ■ Flume (influent) ☐ Weir ■ Full Pipe (Effluent) ☐ Open Channel ☐ Other:

Meter type: ■ Doppler-Effluent. ■ Ultrasonic-Influent

Meter location: Influent and Effluent

Recorder type: ☐ Totalizer ☐ Daily Chart ☐ 7-Day Chart ■ SCADA/Electronic ☐ Other:

Capable of recording maximum flows: ☐ Yes ☐ No Calibration Range: N/A

Inspection frequency: ■ Daily ☐ Weekly ☐ Other:

Calibration frequency: Every 6 months (Control Systems 21)Date of last calibration: 9/26/2013 (effluent) 9/25/2013 (influent)

Measuring device, meter and recorder included as part of flow meter calibration: ■ Yes ☐ No ☐ N/A

Influent flow is measured before all return lines: ☐ Yes ☐ No Influent flow is measured after hauled-in wastes: N/A

Effluent flow is measured after all withdraws: ■ Yes ☐ No

Comments: Flow meter can measure up to 73 MGD, but has occasionally maxes out during very high flows.

Flumes: Flow is uniform across the channel: ☐ Yes ☐ No ☐ N/A Flume is free of debris and deposits: ☐ Yes ☐ No ☐ N/A

Comments: Influent only. Did not view.

Weirs: Clean with a visible air space below the nappe: ☐ Yes ☐ No ■ N/A

Comments:

Treatment Plant
(NPDES Permit Part B)

Treatment plant bypass: Since last inspection: ■ Yes ☐ No Reported to DEP: ☐ Yes ☐ No

Location/cause: Did not discharge during this time. Shutdown UV for gate installation. Contained all flow.

Major equipment repair/replacement: Since last inspection: ☐ Yes ☐ No Date of last inspection: 11/28/2012 - CEI

Repair List: 2 WAS pumps, UV gates-all for UV influent.

Stand-by power: ☐ Emergency generator ■ Dual power feed ☐ None ■ Other:

System operable: ■ Yes ☐ No Exercise Frequency: Natural Gas "tested" during peak shaving periods. Maintenance Frequency:contracted

Comments: use digester gas and natural gas for backup power. Digester gas used all the time for own electric. (Cogen)

Alarms: Type: ☐ None ■ SCADA ☐ Auto Dialer ☐ PLC ☐ Other:

System operable: ■ Yes ☐ No Test frequency:

Alarm triggers: High Level, Power Failure

Comments: GE-computer alarm system (SCADA). **RECOMMEND** physically testing/documenting critical alarms.

Staffing schedule: ■ 24/7 Weekday hours: ___ to ___ Weekend/Holiday hours: ___ to ___

Other: Have SOP's available. Always either a licensed operator or unlicensed operator in charge present. OIC follows SOP's.

On site Logs: Logs up-to-date: ■ Yes ☐ No ☐ N/A

Daily Log contains: ☐ Visual observations ☐ Process adjustments ☐ Problems and concerns N/A

Repair log maintained: ☐ Yes ☐ No Routine maintenance log maintained: ☐ Yes ☐ No

Comments: For repairs and routine maintenance – using MP2 Data Stream

Spare parts inventory: maintained: ■ Yes ☐ No ■ Standby units available

Comments: They don't use blowers-have mixers and surface aerators. Have spare parts for major equipment. Can switch Trains if needed.

COMMONWEALTH OF PENNSYLVANIA
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BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

NPDES COMPLIANCE INSPECTION REPORT

Process Control
(NPDES Permit Part B)

Frequency of Testing	Current Testing Results
■ Settleability 30 min daily	T2 -350 T3-100 (some solids washed out from high flow)
■ Dissolved Oxygen continuous	Data goes into SCADA system. Did not view data.
■ Sludge Blanket At least 3x/day.	Did not view data.
■ Mixed Liquor Suspended Solids ■ MLVSS Obtain when collect composite samples.	10/11/2013 MLSS- T2: 1920 T3:1090 10/11/2013 MLVSS- T2:1500 T3:870
■ Microscopic exam of MLSS As needed.	
■ Color ■ Odor	Comments/observations/results: See comments section for descriptions.

☐ Other:

Other Requirements
(NPDES Permit Part C)

Special Conditions: Next submission/action: Due Date:

☐ WETT:

☐ TRE/TIE:

■ EPA Pretreatment Program ■ Annual report submitted:

■ Stormwater requirements:

☐ Permit Schedule:

■ TMDL: Selling Credits

☐ Other:

Comments:

Emergency Response/PPC Plan: on-site: ■ Yes ☐ No ☐ N/A Last updated: Updated Annually.

Flood response plan available: **RECOMMEND** locating and familiarizing if have one or creating new one if do not.

Comments: **RECOMMEND** providing all employees with flood response training and documenting who has received said training. They have 3 onsite binders with Emergency Response plan.

Compliance History

History of noncompliance: with discharge effluent limits: ☐ Yes ■ No

Recent Compliance Actions: ☐ Yes ■ No

Comments:

Legal Agreement: Consent Order and Agreement, Consent Decree or Order: ☐ Yes ■ No Date executed:

In compliance with legal agreement: ☐ Yes ☐ No

Obligations due next:

Comments:

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NPDES COMPLIANCE INSPECTION REPORT

Effluent/Receiving Water Evaluation

Outfall Number(s): 002 | **Stream Name:** Codorus Creek

DEP Collector #: 1642184
Sample Date/Time: 12/11/2013 ~14:20
Sample Location: 001. All but fecal collected from cascade water. Fecal collected from ~2" pipe over top of cascade from UV discharge.

Field Measurements:	Upstream	Outfall	Downstream	Units
Flow				MGD
pH		7.33		S.U.
Conductivity				µmhos/cm
Dissolved Oxygen		9.86		mg/L
Total Chlorine Residual				mg/L
Temperature		11.2		°C

Upstream Observations: Appeared OK-sun's glare made it difficult to effectively observe.

Outfall Observations: Effluent appeared mostly clear.

Downstream Observations: Appeared OK-sun's glare made it difficult to effectively observe.

Outfall Number(s): 001 | **Stream Name:** Codorus Creek

DEP Collector #:
Sample Date/Time:
Sample Location:

Field Measurements:	Upstream	Outfall	Downstream	Units
Flow				MGD
pH				S.U.
Conductivity				µmhos/cm
Dissolved Oxygen				mg/L
Total/Free Chlorine Residual				mg/L
Temperature				°F

Upstream Observations:

Outfall Observations: Did not view outfall.

Downstream Observations:

Outfall Number(s): | **Stream Name:**

DEP Collector #:
Sample Date/Time:
Sample Location:

Field Measurements:	Upstream	Outfall	Downstream	Units
Flow				MGD
pH				S.U.
Conductivity				µmhos/cm
Dissolved Oxygen				mg/L
Total/Free Chlorine Residual				mg/L
Temperature				°F

Upstream Observations:

Outfall Observations:

Downstream Observations:

☐ White – Regional Office ☐ Yellow – Responsible Person ☐ Pink - Inspector

NPDES COMPLIANCE INSPECTION REPORT

Comments

Performed inspection today. Met with operator Andrew Jantzer and lab supervisor Joe Concino.

Started inspection by discussing several topics including CBOD/Frito Lay correlation, alkalinity, plant overflow, flow feeding in from other municipalities, alleged sewage back-ups at 55 S. Fayette St. York, PA, MS4 information, and biosolids questions.

CBOD/Frito Lay Correlation:

-York is watching the correlation between outages at Frito Lay company and CBOD at the plant. Frito Lay discharge goes to York City STP. York believes that outages at Frito Lay correlate to a reduction in CBOD at STP and a subsequent degradation of ammonia and phosphorus removal.

-York is considering the use of methanol during Frito Lay outages.

Alkalinity:

-York believes there are varying ranges of alkalinity entering into the plant from unknown sources.

Plant Overflow:

-York determined that there was a broken valve at T3 scum pit, which allowed water from T3 clarifier to overwhelm scum pit.

-Valve has been fixed.

-York STP has gates at T2 clarifiers that can be opened to allow more flow to be re-directed to the permitted bypass (001). When gates are opened, some of the flow bypasses the screw pumps, sand filters, and UV system, and instead becomes treated with chlorine and then released.

-York is planning to open these gates further during high flows to also prevent plant overflows.

-Working on changing SOP's to reflect this change.

Flow from other Municipalities:

-Discussed the possibility of performing a flow-needs study of 8 feeding municipalities' interceptors.

-Mr. Jantzer said he recently met with feeding municipalities and discussed I&I issues.

-York is working on preventing infiltration via the removal of an inverted siphon, which allows sewage flow to pass underneath a stream.

-Mr. Jantzer also met with the York City Mayor to request additional funds to use toward the collection system.

-Discussed claims of insufficient capacity at York STP to receive flow from feeding municipalities, and causing some feeding municipalities to have to pump sewage out of manholes into the stream during high rain events.

-Mr. Jantzer stated that the ultimate resolution is to perform the aforementioned flow-needs study.

55 South Fayette Street:

-I raised concerns about sewage allegedly backing up at this property out of an onsite dumping pit during high rain events.

-Mr. Jantzer stated that this address/facility is in the W. York Borough and is not part of York City's collection system.

-Mr. Jantzer stated that the ultimate resolution for this issue is also to perform the aforementioned flow-needs study.

-Interim solution is for York City to contact appropriate municipality of associated collection system and/or working with York's MIPP (Municipal Industrial Pretreatment Program).

NPDES COMPLIANCE INSPECTION REPORT

Comments

MS4 Information:

-discussed spill of driveway sealant that occurred on 12/5/2013. **RECOMMENDED** improving MS4 plan of action in responding to spills or other pollution events occurring within or discharging from their collection system.

-**RECOMMENDED** York to ensure maintenance of all necessary MS4 paperwork.

Biosolids Questions:

1.What current data do you have to show you meet the land application requirements for Pollutants, Pathogen Reduction , and Vector Attraction Reduction?

-Perform bi-monthly evaluations via data from the SCADA historian system, and results of bi-monthly biosolids analyses performed by Penn State. On bi-monthly basis, a report is sent to Synagro of plant's bimonthly QA/QC evaluations and the report from Penn State.

-Bimonthly analysis of dewatered sludge by Penn State is for EPA 503/DEP PAG-08

2.Are you meeting your requirement limits?

-Yes. Checked on bi-monthly basis.

3.Are your meters calibrated?

-Yes. Flow meter is done at least annually. pH taken care of by Penn State or Cynagro.

4. Were biosolids applied this year? To what farms, do you have records?

See farms below. Records completed by Synagro.

-Rutt, Ken & Phil-Lanc Co
-Troyer, Steve-York Co
-Koepper, Joe-York Co
-Ailes, Joseph-York Co
-Johnston, Harry-Fulton Co
-Bashore, Ricki-Lebanon Co
-Martin, Jeremy-Franklin Co
-Wilson, Donald-York Co
-Crowl, Ellis-York Co
-Stambauch, Butch-York Co
-Fletcher, Harry-Adams Co
-Mowrer, Jeff-Perry Co
-Leib, Jerry-York Co
-Hoffman, Timothy J.-York Co
-Spahr, Lloyd-Adams Co
-McGilluray, Fred-Cumberland Co
-Shearer, Joseph-Franklin Co

☐ White – Regional Office ☐ Yellow – Responsible Person ☐ Pink - Inspector

NPDES COMPLIANCE INSPECTION REPORT

Comments

Biosolids (continued):

5. How were the application rates calculated?
   -via Synagro.
6. Are actual application rates at or below calculated rates?
   -Yes
7. Are your biosolids stored prior to land application? Where?
   -Yes. In completely enclosed bin onsite.
8. How are grit and screenings disposed?
   -Modern Landfill
9. How and how often is %TS measured of the final biosolids?
   -bi-monthly-Penn State

-~12:30-13:00-took lunch break.

-~13:00-Met with Mr. Jantzer and Joe Concino for lab-related questions and paperwork review.

-Observed documentation of a composite sample not completed by the end of the day on 11/30/2013.

-York representatives stated that there was a scheduling conflict and an internal rule that was broken, which led to the sample not getting completed. The internal rule is that employees must stay onsite until they are relieved by the next person coming on shift. This rule was not followed.

-Composite sampling that was not finished by midnight on 11/30/13 was re-initiated on 12/1/13 at 16:10 by operator Chhoeuth Yeng.

-~14:20-Collected samples

-~14:40-Began plant walk-through:

-Influent Composite Sampler=4°C.

-~14:45-Influent Flow=13.66 MGD.

-T2 Flowpath 1=offline

-T2 Flowpath 2=online. Med-choc brown. Good earthy odor.

-Defoamer-actively dripping into discharge channel after UV.

-T3 Flowpath 1=offline. Flowpaths #2 & #3=online→ Med-choc brown. Good earthy odor.