

Application Type Renewal  
 Facility Type Industrial  
 Major / Minor Minor

**NPDES PERMIT FACT SHEET  
 INDIVIDUAL INDUSTRIAL WASTE (IW)  
 AND IW STORMWATER**

Application No. PA0083941  
 APS ID 278373  
 Authorization ID 1279790

**Applicant and Facility Information**

Applicant Name	<u>Community Refuse Service LLC</u>	Facility Name	<u>Cumberland County Landfill</u>
Applicant Address	<u>620 Newville Road</u> <u>Newburg, PA 17240</u>	Facility Address	<u>620 Newville Road</u> <u>Newburg, PA 17240</u>
Applicant Contact	<u>Joseph Santangelo</u>	Facility Contact	<u>Joseph Santangelo</u>
Applicant Phone	<u>(724) 892-2199</u>	Facility Phone	<u>(724) 892-2199</u>
Client ID	<u>77240</u>	Site ID	<u>254520</u>
SIC Code	<u>4953</u>	Municipality	<u>Hopewell Township</u>
SIC Description	<u>Trans. &amp; Utilities - Refuse Systems</u>	County	<u>Cumberland</u>
Date Application Received	<u>July 2, 2019</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>July 10, 2019</u>	If No, Reason	<u></u>
Purpose of Application	<u>NPDES Renewal.</u>		

**Summary of Review**

Community Refuse Service LLC (CRS) has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its NPDES permit. The permit was last reissued on December 11, 2014 and became effective on January 1, 2015. During the permit term, the permit was amended on March 16, 2018 to reflect a change in ownership from Community Refuse Service Inc. to Community Refuse Service LLC. The permit expired on December 31, 2019 but the terms and conditions of the permit have been extended since that time.

Based on the review, it is recommended that the permit be drafted.

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Approve	Deny	Signatures	Date
X		<i>Jinsu Kim</i> Jinsu Kim / Environmental Engineering Specialist	September 3, 2020
		Daniel W. Martin, P.E. / Environmental Engineer Manager	
		Maria D. Bebenek, P.E. / Program Manger	

**Discharge, Receiving Waters and Water Supply Information**

Outfall No.	001	Design Flow (MGD)	0.1
Latitude	40° 8' 46"	Longitude	-77° 30' 37"
Quad Name	Newburg	Quad Code	1725
Wastewater Description: IW Process Effluent with ELG			
Receiving Waters	Conodoguinet Creek (WWF, MF)	Stream Code	10194
NHD Com ID	56408283	RMI	65.4
Drainage Area	191 sq.mi.	Yield (cfs/mi <sup>2</sup> )	0.084
Q <sub>7-10</sub> Flow (cfs)	16.1	Q <sub>7-10</sub> Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	7-B	Chapter 93 Class.	WWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Organic Enrichment / Low Dissolved Oxygen		
Source(s) of Impairment	Unknown		
TMDL Status	Name		
Nearest Downstream Public Water Supply Intake	Carlisle Borough		
PWS Waters	Conodoguinet Creek	Flow at Intake (cfs)	62
PWS RMI	35.95	Distance from Outfall (mi)	29.45

**Drainage Area**

The discharge is to Conodoguinet Creek at RM 65.4. A drainage area upstream of the point of discharge is estimated to be 191 sq.mi. using USGS StreamStats available at <https://streamstats.usgs.gov/ss/>.

**Streamflow**

USGS StreamStats produced a Q<sub>7-10</sub> flow of 16.1 cfs at the point of discharge, resulting in a low flow yield of 16.1 cfs / 191 sq.mi. = 0.084 cfs/sq.mi.

**Conodoguinet Creek**

Under 25 Pa Code §93.90, Conodoguinet Creek from PA 997 at Roxbury to Mouth is designated as warm water fishes and supports migratory fishes. Conodoguinet Creek is a tributary of Susquehanna River which is also designated as warm water fishes. No special protection water is therefore impacted by this discharge. DEP's latest integrated water quality report prepared in 2018 shows that sections of the Conodoguinet Creek near the discharge location is impaired for organic enrichment and low dissolved oxygen as a result of unknown sources. This impairment was identified as Category 5 by DEP in 2018 which requires the development of a Total Maximum Daily Load (TMDL). The TMDL development date is not yet defined as of the date of this fact sheet.

**Public Water Supply Intake**

The fact sheet prepared for the last permit renewal indicates that the nearest downstream public water supply intake is Carlisle Borough located on the Conodoguinet Creek approximately 30 miles from the discharge. Given the distance and nature, the discharge is not expected to impact the water supply.

Treatment Facility Summary				
<b>Treatment Facility Name:</b> Cumberland County Landfill				
<b>WQM Permit No.</b>	<b>Issuance Date</b>			
2173201	02/25/2020			
<b>Waste Type</b>	<b>Degree of Treatment</b>	<b>Process Type</b>	<b>Disinfection</b>	<b>Avg Annual Flow (MGD)</b>
Industrial	Tertiary	Chemical/Biological IW	No Disinfection	0.10
<b>Hydraulic Capacity (MGD)</b>	<b>Organic Capacity (lbs/day)</b>	<b>Load Status</b>	<b>Biosolids Treatment</b>	<b>Biosolids Use/Disposal</b>
0.15	N/A	Not Overloaded	N/A	N/A

CRS, a subsidiary of Advanced Disposal Services, Inc., owns and operates the Cumberland County Landfill located in Hopewell and North Newtown Townships, Cumberland County. Under a standard industrial classification code 4953, CRS receives municipal solid waste and approved residual waste. The site consists of landfill areas, maintenance building, onsite wastewater treatment plant, stormwater basins, and storage tank areas.

Leachate generated from this landfill is treated by an onsite 0.15 MGD wastewater treatment plant consisting of equalization tanks (2), metal precipitation tanks (3), clarifier, Moving Bed Biofilm Reactor (MBBR), gravity sand filter, and an outfall structure. Recently, CRS replaced two (2) existing MBBRs with one larger sized MBBR. The existing MBBRs will still be in used for further polishing. The discharge of treated leachate from this treatment plant is to Conodoguinet Creek via Outfall 001. According to the previous fact sheet, the facility is also designed to receive 0.04 MGD of contaminated groundwater to remove arsenic in addition to leachate pollutants. The renewal application also pointed out Outfall 001 receives groundwater as well as process wastewater.

As shown below, CRS also utilizes seventeen (17) outfalls receiving stormwater drained throughout the site:

Outfall No.	Area Drained (acres)	Latitude	Longitude	Description
002	34.94	40°08'18"	77°30'21"	Hopewell area
003	27.93	40°08'26"	77°30'15"	Hopewell area
004	19.74	40°08'13"	77°29'57"	Maintenance area
005	66.36	40°08'47"	77°30'23"	Service road, scales
006	5.96	40°08'42"	77°30'28"	Newton area
007	5.42	40°08'33"	77°30'14"	IWTP area
008	17.94	40°08'54"	77°30'2"	Newton area
009	5.39	40°08'35"	77°30'06"	Martin borrow pit
010	15.38	40°08'26"	77°30'1"	Martin borrow pit
011	31.24	40°08'13"	77°30'28"	Snyder borrow pit
012	23.36	40°08'18"	77°30'29"	Snyder borrow pit
013	5.4	40°08'21"	77°30'25"	Snyder borrow pit
014	30.51	40°08'29"	77°30'27"	Snyder borrow pit
015	19	40°08'38"	77°30'29"	Snyder borrow pit
016	19.92	40°07'26"	77°30'27"	Hopewell expansion
017	24.57	40°07'26"	77°30'3"	Hopewell expansion
018	21.90	40°08'11"	77°29'58"	Hopewell expansion

Stormwater from these outfalls is discharged to UNT of Conodoguinet Creek.

**Compliance History**

**Summary of DMRs:** A summary of past 12-month DMR data is presented on the next page.

**Summary of Inspections:** 01/13/2019: Mike Benham, DEP Water Quality Specialist, conducted a routine inspection and noted that the effluent was clear but had an orange tint similar to the tint observed on the leachate treatment line. No violation was noted at the time of inspection.  
04/12/2018: Pat Bowen, former DEP Water Quality Specialist, conducted a routine inspection and noted that effluent appeared clear. No violation was noted at the time of inspection.

**Other Comments:** Since the last permit reissuance, the facility has had a number of effluent violations (see table below):

Date	Parameter	Results	Limits	Units	SBC
Jun-15	NH3-N	24.7	13.8	mg/L	Daily Maximum
Jun-15	NH3-N	9.8	6.9	mg/L	Average Monthly
Sep-15	NH3-N	< 11.15	8.6	lbs/day	Average Monthly
Sep-15	NH3-N	21.11	17	lbs/day	Daily Maximum
Sep-15	NH3-N	< 32.8	6.9	mg/L	Average Monthly
Sep-15	NH3-N	72.8	13.8	mg/L	Daily Maximum
Apr-16	Arsenic, Total	0.11	0.1	mg/L	Average Monthly
Jul-16	NH3-N	16.6	13.8	mg/L	Daily Maximum
Jun-18	NH3-N	13.9	13.8	mg/L	Daily Maximum
Sep-18	Fecal Coliform	207	200	No./100 ml	Average Monthly
Jan-19	NH3-N	28	14	mg/L	Average Monthly
Jan-19	NH3-N	56.3	28	mg/L	Daily Maximum
Jan-19	NH3-N	29.03	17	lbs/day	Average Monthly
Jan-19	NH3-N	72.27	35	lbs/day	Daily Maximum
May-19	NH3-N	10.81	6.9	mg/L	Average Monthly
May-19	NH3-N	20	13.8	mg/L	Daily Maximum
Jun-19	NH3-N	103	13.8	mg/L	Daily Maximum
Jun-19	Fecal Coliform	1170	1000	No./100 ml	IMAX
Jun-19	NH3-N	26.44	8.6	lbs/day	Average Monthly
Jun-19	NH3-N	94.53	17	lbs/day	Daily Maximum
Jun-19	NH3-N	30.62	6.9	mg/L	Average Monthly
Jul-19	Fecal Coliform	3760	1000	No./100 ml	IMAX
Aug-19	Fecal Coliform	3300	1000	No./100 ml	IMAX
Jan-20	Total Phosphorus	6.18	5	lbs/day	Daily Maximum
Jan-20	Total Phosphorus	4.74	4	mg/L	Daily Maximum
Mar-20	TSS	41.4	32	mg/L	Average Monthly
Mar-20	TSS	74	64	mg/L	Daily Maximum

DEP's database revealed that there is no open violation associated with this permittee or facility.

Effluent Data

DMR Data for Outfall 001 (from August 1, 2019 to July 31, 2020)

Parameter	JUL-20	JUN-20	MAY-20	APR-20	MAR-20	FEB-20	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19
Flow (MGD) Average Monthly	0.06993 0	0.08914 3	0.12046 3	0.11075 5	0.06724 5	0.05574 1	0.09515 1	0.04747	0.00494 4	0.04520 4	0.04372 0	0.08260
Flow (MGD) Daily Maximum	0.13152	0.12197	0.14141	0.14050	0.11433	0.08919	0.18858	0.06466	0.06551	0.07395	0.06758	0.10684
pH (S.U.) Daily Minimum	7.82	8.00	7.76	7.74	6.63	6.05	6.64	6.71	6.62	6.36	6.80	6.36
pH (S.U.) Daily Maximum	8.83	8.78	8.52	8.27	8.36	7.51	7.60	8.10	7.68	7.86	8.01	7.78
DO (mg/L) Daily Minimum	5.07	5.04	5.01	5.03	5.07	5.08	5.41	5.54	5.08	5.0	5.1	5.1
TRC (mg/L) Average Monthly	0.376	0.407	0.426	0.421	0.419	0.418	0.421	0.43	0.442	0.441	0.456	0.422
TRC (mg/L) Instantaneous Maximum	0.48	0.44	0.49	0.49	0.49	0.49	0.49	0.49	0.50	0.49	0.50	0.49
CBOD5 (lbs/day) Average Monthly	5.3	7.6	6.11	2.73	3.79	< 1.31	< 11.59	2.75	0.79	< 0.79	0.81	< 1.45
CBOD5 (lbs/day) Daily Maximum	12.13	15.53	8.05	4.08	7.87	2.06	43.01	4.27	1.77	1.53	1.9	< 2.32
CBOD5 (mg/L) Average Monthly	7.4	11	6.25	2.8	6.25	< 2.88	< 10.9	7.25	2.5	< 2.2	2	< 2.25
CBOD5 (mg/L) Daily Maximum	21	20	9	4	12	4	33	12.0	5	4	4	< 3.0
TSS (lbs/day) Average Monthly	13.5	13.51	14.36	16.54	24.14	5.5	19.6	8.83	3.54	2.72	3.74	7.06
TSS (lbs/day) Daily Maximum	35.1	19.49	18.11	26.52	48.53	9.77	44.31	17.95	6.73	3.95	6.46	11.24
TSS (mg/L) Average Monthly	18.6	19	15	16.4	41.4	11.5	24.5	22.75	11.75	7.8	9.75	10.75
TSS (mg/L) Daily Maximum	32	24	21	26	74	19	41	42.0	19	13	18	16.0
Total Dissolved Solids (lbs/day) Average Monthly	1884	2064	4289	3223	2960	778	3247	1365	939	663	750	1639
Total Dissolved Solids (lbs/day) Daily Maximum	3706	2720	5970	6059	4686	1774	7949	2774	2214	985	1145	2222

**NPDES Permit Fact Sheet  
Cumberland County Landfill**

**NPDES Permit No. PA0083941**

<b>Parameter</b>	<b>JUL-20</b>	<b>JUN-20</b>	<b>MAY-20</b>	<b>APR-20</b>	<b>MAR-20</b>	<b>FEB-20</b>	<b>JAN-20</b>	<b>DEC-19</b>	<b>NOV-19</b>	<b>OCT-19</b>	<b>SEP-19</b>	<b>AUG-19</b>
Total Dissolved Solids (mg/L) Average Monthly	2861	3053	4313	3194	5012	1612	3784	3533	3026	1906	1975	2530
Total Dissolved Solids (mg/L) Daily Maximum	6710	3430	5190	5940	9480	3450	6100	6490	6250	3240	3190	3070
Oil and Grease (lbs/day) Average Monthly	< 1.03	1.32	< 1.35	1.81	1.16	< 1.0	0.62	< 0.54	0.48	0.59	< 1.62	< 2.14
Oil and Grease (lbs/day) Daily Maximum	< 1.54	1.55	< 1.48	2.1	1.31	1.28	0.8	< 0.6	0.6	0.72	2.85	< 3.51
Oil and Grease (mg/L) Average Monthly	< 1.4	2	< 1.4	2	2	< 1.7	1	< 1.4	1.7	1.8	< 3.7	< 3.2
Oil and Grease (mg/L) Daily Maximum	< 1.4	2	< 1.4	2	2	2	1	< 1.4	2	2	6	< 5
Fecal Coliform (No./100 ml) Average Monthly	< 6	< 8.9	< 10.3	< 5.7	< 49.1	< 23.9	< 96.7	< 47.5	569.8	< 113.8	< 8.5	< 191.9
Fecal Coliform (No./100 ml) Instantaneous Maximum	15	50	30	10	1940	3240	2600	3600	6000	2380	530	3300
Nitrate-Nitrite (lbs/day) Average Monthly	0.2	91.3	304.5	159	218	57.3	94.7	224.8	8.6	76.9	47.2	155.3
Nitrate-Nitrite (mg/L) Average Monthly	0.6	168	319.5	210	432	89.8	213	526	28.5	253	99.4	221
Total Nitrogen (lbs/day) Average Monthly	< 0.4	108	< 323.8	< 177.9	< 230.6	62.1	< 99.2	253.4	11.4	89.6	50.4	< 169.3
Total Nitrogen (mg/L) Average Monthly	< 1.09	198.6	< 340	< 235	< 457	97.3	< 223	592.7	37.7	294.6	106.2	< 241
Ammonia (lbs/day) Average Monthly	< 0.36	1.03	2.99	< 0.21	0.4	1.24	4.44	3.95	0.52	1.83	1.55	0.47
Ammonia (lbs/day) Daily Maximum	1.24	2.41	5.19	0.35	1.02	3.90	7.14	5.94	0.96	3.14	2.29	0.89
Ammonia (mg/L) Average Monthly	< 0.44	1.74	3.31	< 0.22	0.72	2.62	6.09	10.45	1.82	5.08	4.12	0.83
Ammonia (mg/L) Daily Maximum	1.13	4.43	5.95	3	2.0	7.6	9.8	13.9	3.8	8.8	5.8	1.63
TKN (lbs/day) Average Monthly	< 0.18	16.64	< 19.38	< 18.93	< 12.62	4.79	< 4.45	28.51	2.78	12.65	3.23	< 14.05
TKN (mg/L) Average Monthly	< 0.5	30.6	< 20.5	< 25	< 25	7.5	< 10	66.7	9.2	41.6	6.8	< 20

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Total Phosphorus (lbs/day) Average Monthly	0.77	0.882	0.78	0.794	1.022	0.191	1.621	0.34	0.164	0.16	0.191	0.438
Total Phosphorus (lbs/day) Daily Maximum	1.67	1.21	1.53	1.27	1.41	0.44	6.18	0.72	0.31	0.27	0.28	0.64
Total Phosphorus (mg/L) Average Monthly	1.09	1.29	0.75	0.8	1.77	0.41	1.74	0.88	0.55	0.46	0.49	0.67
Total Phosphorus (mg/L) Daily Maximum	1.84	1.37	1.33	1.24	2.86	0.85	4.74	1.68	0.93	0.88	0.77	0.83
Total Aluminum (lbs/day) Average Monthly	< 0.185	0.439	0.526	1.139	1.357	0.622	1.388	0.763	0.034	0.239	0.123	0.657
Total Aluminum (lbs/day) Daily Maximum	0.35	0.50	0.53	1.67	1.71	0.67	2.33	0.90	0.04	0.33	0.19	0.98
Total Aluminum (mg/L) Average Monthly	< 0.185	0.67	0.55	1.195	2.3	1.1	1.95	1.95	0.125	0.75	0.3	1.0
Total Aluminum (mg/L) Daily Maximum	0.32	0.70	0.60	1.59	2.6	1.3	2.90	2.10	0.15	1.10	0.40	1.4
Total Arsenic (lbs/day) Average Monthly	0.037	0.029	0.05	0.045	0.038	0.014	0.046	0.02	0.018	< 0.008	< 0.01	0.023
Total Arsenic (lbs/day) Daily Maximum	0.06	0.04	0.08	0.07	0.05	0.02	0.13	0.04	0.02	0.02	0.01	0.04
Total Arsenic (mg/L) Average Monthly	0.062	0.043	0.05	0.046	0.068	0.04	0.05	0.05	0.06	< 0.02	< 0.03	0.04
Total Arsenic (mg/L) Daily Maximum	0.11	0.05	0.07	0.06	0.10	0.05	0.10	0.10	0.08	0.05	0.04	0.05
Total Barium (lbs/day) Average Monthly	0.032	0.035	0.09	0.09	0.072	0.027	0.121	0.04	0.023	0.024	0.027	0.06
Total Barium (lbs/day) Daily Maximum	0.05	0.05	0.12	0.15	0.09	0.04	0.34	0.07	0.05	0.03	0.04	0.09
Total Barium (mg/L) Average Monthly	0.052	0.053	0.09	0.09	0.123	0.06	0.136	0.105	0.076	0.068	0.073	0.093
Total Barium (mg/L) Daily Maximum	0.07	0.06	0.12	0.14	0.15	0.08	0.26	0.16	0.13	0.11	0.09	0.11
Total Iron (lbs/day) Average Monthly	0.676	0.576	0.835	1.2	0.847	0.381	0.87	0.672	0.17	0.332	0.326	0.426
Total Iron (lbs/day) Daily Maximum	0.94	0.67	1.0	1.65	0.85	0.47	1.25	0.76	0.22	0.36	0.34	0.56

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Total Iron (mg/L) Average Monthly	0.985	0.875	0.89	1.28	1.485	0.685	1.33	1.725	0.595	1.015	0.93	0.665
Total Iron (mg/L) Daily Maximum	1.11	0.89	1.15	1.57	1.68	0.91	1.55	1.78	0.73	1.19	1.20	0.79
Sulfate (lbs/day) Average Monthly	111.3	104.7	148.4	156.6	119.5	72.3	141.1	72.3	51.3	56.2	63.5	108.7
Sulfate (lbs/day) Daily Maximum	218.3	135.5	174.8	188.1	154.4	129	248.9	85.5	65	64.9	85	134.7
Sulfate (mg/L) Average Monthly	178.2	152.5	150.5	167.4	191.5	165.5	189.4	195	178	158.6	172.5	173.5
Sulfate (mg/L) Daily Maximum	199	164	155	179	233	202	193	216	215	180	180	182
Total Zinc (lbs/day) Average Monthly	0.0212	0.0185	0.0237	0.0139	0.0424	0.0135	0.0392	0.0361	0.0022	0.0142	0.0147	0.0321
Total Zinc (lbs/day) Daily Maximum	0.0406	0.0217	0.0262	0.0151	0.0454	0.0206	0.0562	0.0513	0.003	0.0213	0.0237	0.0422
Total Zinc (mg/L) Average Monthly	0.021	0.028	0.025	0.016	0.075	0.025	0.06	0.09	0.008	0.045	0.035	0.05
Total Zinc (mg/L) Daily Maximum	0.037	0.028	0.03	0.02	0.09	0.04	0.07	0.12	0.01	0.07	0.05	0.06
Phenol (lbs/day) Average Monthly	< 0.0037	< 0.0033	< 0.0049	< 0.0045	< 0.0029	< 0.0029	< 0.0031	< 0.0019	< 0.0014	< 0.0017	< 0.0019	< 0.0049
Phenol (lbs/day) Daily Maximum	< 0.0055	< 0.0039	< 0.0053	< 0.0053	< 0.0033	< 0.0032	< 0.004	< 0.0021	< 0.0015	< 0.0018	< 0.0024	< 0.007
Phenol (mg/L) Average Monthly	< 0.005	< 0.005	< 0.0051	< 0.005	< 0.0051	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.010
Phenol (mg/L) Daily Maximum	< 0.005	< 0.005	< 0.0052	< 0.005	< 0.0051	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0051	< 0.0051	< 0.010
a-Terpineol (lbs/day) Average Monthly	< 0.0037	< 0.0033	< 0.0049	< 0.0045	< 0.0029	< 0.0029	< 0.0031	< 0.0019	< 0.0014	< 0.0017	< 0.0019	< 0.0049
a-Terpineol (lbs/day) Daily Maximum	< 0.0055	< 0.0039	< 0.0053	< 0.0053	< 0.0033	< 0.0032	< 0.004	< 0.0021	< 0.0015	< 0.0018	< 0.0024	< 0.007
a-Terpineol (mg/L) Average Monthly	< 0.005	< 0.005	< 0.0051	< 0.005	< 0.0051	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.010
a-Terpineol (mg/L) Daily Maximum	< 0.005	< 0.005	< 0.0052	< 0.005	< 0.0051	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0051	< 0.0051	< 0.010
Benzoic Acid (lbs/day) Average Monthly	< 0.00732	< 0.0066	< 0.00966	< 0.00904	< 0.0058	< 0.00576	< 0.00624	< 0.00388	< 0.0028	< 0.00332	< 0.00379	< 0.00977
Benzoic Acid (lbs/day) Daily Maximum	< 0.011	< 0.0078	< 0.0106	< 0.0105	< 0.0066	< 0.0064	< 0.008	< 0.0043	< 0.003	< 0.0036	< 0.0047	< 0.0141
Benzoic Acid (mg/L) Average Monthly	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.015



**NPDES Permit Fact Sheet  
Cumberland County Landfill**

**NPDES Permit No. PA0083941**

<b>Parameter</b>	<b>JUL-20</b>	<b>JUN-20</b>	<b>MAY-20</b>	<b>APR-20</b>	<b>MAR-20</b>	<b>FEB-20</b>	<b>JAN-20</b>	<b>DEC-19</b>	<b>NOV-19</b>	<b>OCT-19</b>	<b>SEP-19</b>	<b>AUG-19</b>
Benzoic Acid (mg/L) Daily Maximum	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.020
Chloride (lbs/day) Average Monthly	409.5	384.1	789.7	631.7	705.2	151.7	738.5	326.6	198	155.9	178.5	367.8
Chloride (lbs/day) Daily Maximum	917	542	1101	1204	1058	335	1877	628	404	300	299	531
Chloride (mg/L) Average Monthly	622	563	793	625	1226	315	849	852	655	456	467	564
Chloride (mg/L) Daily Maximum	1660	614	957	1180	2140	651	1440	1470	1140	987	832	686
Bromide (lbs/day) Average Monthly	< 4.178	3.797	8.357	6.303	7.868	< 1.904	7.32	3.166	1.971	1.797	1.884	4.376
Bromide (lbs/day) Daily Maximum	9.33	5.32	12.42	12.75	11.96	4.47	18.24	5.77	3.97	3.38	3.02	6.32
Bromide (mg/L) Average Monthly	< 6.5	5.53	8.38	6.18	13.8	< 3.83	8.62	8.3	6.58	5.26	4.9	6.7
Bromide (mg/L) Daily Maximum	16.9	6.7	10.8	12.5	24.2	8.7	14.0	13.5	13.1	11.1	8.4	9.0
Chlorodibromo- methane (lbs/day) Average Monthly	< 0.0008	< 0.0003	< 0.0004	< 0.0004	< 0.0003	< 0.0002	< 0.0004	< 0.0016	< 0.0012	0.0005	0.0005	0.0014
Chlorodibromo- methane (lbs/day) Daily Maximum	0.0032	< 0.0004	< 0.0005	< 0.0005	< 0.0004	< 0.0003	0.0005	0.0055	0.0039	0.0009	0.0009	0.0023
Chlorodibromo- methane (mg/L) Average Monthly	< 0.0015	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0006	< 0.0039	< 0.0038	0.0013	0.0014	0.0021
Chlorodibromo- methane (mg/L) Daily Maximum	0.0058	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	0.001	0.0129	0.013	0.002	0.002	0.003
p-Cresol (lbs/day) Average Monthly	< 0.0037	< 0.0033	< 0.0049	< 0.0045	< 0.0029	< 0.0029	< 0.0031	< 0.0019	< 0.0014	< 0.0017	< 0.0019	< 0.0049
p-Cresol (lbs/day) Daily Maximum	< 0.0055	< 0.0039	< 0.0053	< 0.0053	< 0.0033	< 0.0032	< 0.004	< 0.0021	< 0.0015	< 0.0018	< 0.0024	< 0.007
p-Cresol (mg/L) Average Monthly	< 0.005	< 0.005	< 0.0051	< 0.005	< 0.0051	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.010
p-Cresol (mg/L) Daily Maximum	< 0.005	< 0.005	< 0.0051	< 0.005	< 0.0051	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0051	< 0.0051	< 0.010

Stormwater Sample Results:

June 2019

Outfalls	Concentrations, mg/L														
	pH (S.U.)	Total Dissolved Solids	Total Arsenic	Total Barium	Total Cadmium	Total Chromium	Total Cyanide	Total Iron	Total Lead	Dissolved Magnesium	Total Magnesium	Total Mercury	Total Selenium	Total Silver	TOC
003	8.09	212	< 0.02	0.18	< 0.002	0.02	< 0.02	32.6	0.02	4.0	11.2	< 0.0002	< 0.02	< 0.005	3.3
004	7.44	270	< 0.02	0.07	< 0.002	< 0.01	< 0.02	9.75	< 0.02	12.5	14.5	< 0.0002	< 0.02	< 0.005	3.4
005	7.68	226	< 0.02	0.08	< 0.002	< 0.01	< 0.02	0.68	< 0.02	8.1	8.2	< 0.0002	< 0.02	< 0.005	9.5
006	8.18	260	< 0.02	0.31	< 0.002	0.05	< 0.02	60	< 0.02	0.07	20.7	< 0.0002	< 0.02	< 0.005	6.8
007	7.98	231	< 0.02	0.24	< 0.002	< 0.03	< 0.02	30.2	0.04	4.8	14.3	< 0.0002	< 0.02	< 0.005	7.2
009	7.32	124	< 0.02	0.03	< 0.002	< 0.01	< 0.02	1.48	< 0.02	7.7	7.9	< 0.0002	< 0.02	< 0.005	6.2
011	7.58	238	< 0.02	0.19	< 0.002	0.02	< 0.02	27.5	0.02	6.1	11.3	< 0.0002	< 0.02	< 0.005	4.6
014	6.89	412	< 0.02	0.05	< 0.002	< 0.01	< 0.02	3.18	< 0.02	36.0	37.4	< 0.0002	< 0.02	0.005	1.4

December 2019

Outfalls	Concentrations, mg/L														
	pH (S.U.)	Total Dissolved Solids	Total Arsenic	Total Barium	Total Cadmium	Total Chromium	Total Cyanide	Total Iron	Total Lead	Dissolved Magnesium	Total Magnesium	Total Mercury	Total Selenium	Total Silver	TOC
004	7.28	224	< 0.02	0.13	< 0.002	< 0.01	< 0.02	7.26	< 0.02	8.6	10.6	< 0.0002	< 0.02	< 0.005	8.0
006	8.23	540	< 0.02	0.4	< 0.002	0.02	< 0.02	23.3	0.08	4.2	14.2	0.0004	< 0.02	< 0.005	10.3
010	7.55	328	< 0.02	0.03	< 0.002	< 0.01	< 0.02	1.15	< 0.02	30.8	31.3	< 0.0002	< 0.02	< 0.005	15.8
014	4.78	1000	< 0.02	0.04	< 0.002	< 0.01	< 0.02	0.36	< 0.02	113	111	< 0.0002	< 0.02	< 0.005	1.6
016	8.02	250	< 0.02	0.02	< 0.002	< 0.01	< 0.02	0.25	< 0.02	14.9	14.0	< 0.0002	< 0.02	< 0.005	13.0

**Existing Effluent Limits and Monitoring Requirements**

The tables below show effluent limits and monitoring requirements specified in the current permit:

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
CBOD5	43	87	XXX	35	70	87	1/week	24-Hr Composite
Total Suspended Solids	40	80	XXX	32	64	80	1/week	24-Hr Composite
Total Dissolved Solids	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Oil and Grease	Report	Report	XXX	Report	Report	XXX	2/month	Grab
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200	XXX	1,000	1/week	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000	XXX	10,000	1/week	Grab
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/month	Calculation
Ammonia-Nitrogen May 1 - Oct 31	8.6	17	XXX	6.9	13.8	17	1/week	24-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	17	35	XXX	14	28	35	1/week	24-Hr Composite
Total Kjeldahl Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Phosphorus	2.5	5.0	XXX	2.0	4.0	5.0	1/week	24-Hr Composite
Total Aluminum	Report	Report	XXX	Report	Report	XXX	2/month	24-Hr Composite

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Total Arsenic	Report	Report	XXX	0.10	0.20	0.25	1/week	24-Hr Composite
Total Barium	Report	Report	XXX	0.30	0.60	0.75	1/week	24-Hr Composite
Total Iron	Report	Report	XXX	Report	Report	XXX	2/month	24-Hr Composite
Sulfate	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Total Zinc	Report	Report	XXX	0.11	0.20	0.27	2/month	24-Hr Composite
Phenol	Report	Report	XXX	0.015	0.026	0.038	2/month	24-Hr Composite
a-Terpineol	Report	Report	XXX	0.016	0.033	0.040	2/month	24-Hr Composite
Benzoic Acid	Report	Report	XXX	0.071	0.120	0.178	2/month	24-Hr Composite
Chloride	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Bromide	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Chlorodibromomethane	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
p-Cresol	Report	Report	XXX	0.014	0.025	0.035	2/month	24-Hr Composite

Semi-annual stormwater samples to be collected at Outfall nos. 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014, 015, 016, 017, and 018 for the following parameters: pH, Total Dissolved Solids, Total Arsenic, Total Barium, Total Cadmium, Total Chromium, Total Cyanide, Total Iron, Total Lead, Dissolved Magnesium, Total Magnesium, Total Mercury, Total Selenium, Total Silver, and Total Organic Carbon.

**Development of Effluent Limitations and Monitoring Requirements**

Outfall No. 001 Design Flow (MGD) .1  
 Latitude 40° 8' 46.00" Longitude -77° 30' 37.00"  
 Wastewater Description: IW Process Effluent with ELG

**Technology-Based Limitations**

Given the type of industrial activities performed at the site, the facility is subject to federal effluent limitations and guidelines (ELGs) found in 40 CFR Part 445 Subpart B – ELGs for RCRA Subtitle D Non-Hazardous Waste Landfill. The effluent limitations are listed under this ELG (40 CFR §445.21) as follows:

Regulated parameter	Concentrations (mg/L)	
	Maximum Daily	Maximum Monthly Avg.
BOD	140	37
TSS	88	27
Ammonia (as N)	10	4.9
α-Terpineol	0.033	0.016
Benzoic acid	0.12	0.071
p-Cresol	0.025	0.014
Phenol	0.026	0.015
Zinc	0.20	0.11
pH (SU)	6.0 – 9.0	6.0-9.0

The current permit includes average monthly effluent limits (AML) of 35 mg/L and 32 mg/L for CBOD5 and TSS. This is clearly different from the federal EGLs. These limits were developed using a best professional judgement (BPJ). More details will be discussed in BPJ Limitations Section of this fact sheet.

Also, DEP previously assigned effluent limits for Total Barium and Total Arsenic as BAT technology-based effluent limits derived from DEP’s technical guidance for landfill leachate.

Since liquid chlorine (Sodium hypochlorite) for disinfection, the facility is subject to the BAT average monthly Total Residual Chlorine effluent standard of 0.5 mg/L under 25 Pa Code §92a.48(b).

The more stringent of these standards will be written in the permit unless more stringent requirements are needed based on the BPJ analysis and water quality analysis.

**Water Quality-Based Limitations**

CBOD5, NH3-N and Dissolved Oxygen

WQM 7.0 is a water quality model designed to assist DEP to determine appropriate permit requirements for CBOD5, NH3-N and DO. DEP’s guidance no. 391-2000-007 provides details on the technical methods implemented in WQM 7.0. The model output indicates that no WQBELs for CBOD5 is needed and the existing WQBELs for NH3-N are still protective of water quality. No changes are therefore recommended.

Total Residual Chlorine

DEP’s TRC\_CALC worksheet has been utilized and does not recommend any more stringent effluent limit and also recommends an instantaneous maximum effluent limit of 1.6 mg/L. As a result, the permit will continue to include a monthly average effluent limit of 0.5 mg/L and instantaneous maximum effluent limit of 1.6 mg/L.

Toxics

- Existing Pollutants (Effluent Limits)

The current permit includes effluent limits for the following toxic pollutants:

Pollutants	Avg. Monthly (mg/L)	Basis
Total Arsenic	0.1	BAT/BPJ
Total Barium	0.3	BAT/BPJ
Total Zinc	0.11	ELG

Phenol	0.015	ELG
a-Terpineol	0.016	ELG
Benzoic Acid	0.071	ELG
p-Cresol	0.014	ELG

As no water quality criteria are available for a-Terpineol, Benzoic Acid, and p-Cresol, PENTOXSD modeling has been utilized for all other pollutants. The model output shows that existing effluent limits are still adequate. No change is therefore recommended.

2) Existing Pollutants (Monitoring-Only Requirements)

The current permit includes monitoring-only requirements for Chlorodibromomethane, Bromide, Chloride, Sulfate, Total Iron, Total Aluminum, and Total Dissolved Solids. As enough data (daily maximum) have been obtained since the last permit renewal, DEP's TOXCONC worksheet has been utilized to obtain the statistical average monthly value with the daily Coefficient of Variation. The following results have been determined during this water quality analysis:

Pollutants	TOXCONC		PENTOXSD	Toxics Screening Analysis
	Avg. Monthly Effluent Concentration (mg/L)	Daily Coefficient of Variation	Most Stringent WQBEL (mg/L)	Permit Recommendation
Total Aluminum	1.4374086	1.2689487	20443.58	No Limits/Monitoring
Chlorodibromomethane	0.01448	1.8554208	0.218334	No Limits/Monitoring
Total Iron	2.4273771	0.5951199	157.6086	No Limits/Monitoring

Based on this, it is recommended that the existing monitoring requirements for Total Aluminum, Chlorodibromomethane, and Total Iron be removed from the permit as the ample datasets demonstrate that no reasonable potential has been identified for these pollutants. It is noteworthy that the monitoring requirements for Total Dissolved Solids and its constituents (Bromide, Chloride, and Sulfate) were developed based on the guidance established by DEP Central Office. More details will be discussed in the Other Considerations Section for these pollutants.

3) New Pollutants

DEP's Toxics Screening Analysis worksheet and PENTOXSD model recommend a routine monitoring-only requirement for Total Copper and numerical effluent limits for n-Nitrosodimethylamine based on the maximum concentrations reported in the renewal application. It is unclear the source of n-Nitrosodimethylamine but the effluent concentration (1.4 µg/L) reported in the renewal application appears to exceed the most stringent water quality criterion (0.00069 µg/L) and the recommended effluent limit (0.377 µg/L) from PENTOXSD. As the facility may not be able to achieve compliance with this recommended effluent limit, a compliance schedule is recommended. This approach is supported by 40 CFR §122.47(a)(2). This compliance schedule will require the facility to conduct a Toxics Reduction Evaluation (TRE) study for the first three years following the reissuance of the permit. DEP's standard TRE condition will be included in Part C of the permit. The monitoring-only requirement will be included for the first three years and then concentration based effluent limits recommended by PENTOXSD (0.377 µg/L average monthly & 0.588 µg/L daily maximum) along with mass load effluent limits will be included in the permit in accordance with 40 CFR §122.44(d). In addition, these recommended WQBELs are far below the current DEP's target Quantitation Limit of 5.0 ug/L. As a result, standard Part C condition will be included in the permit that allows the permittee to comply with the Quantitation Limit in lieu of the actual WQBEL.

**Best Professional Judgment (BPJ) Limitations**

CBOD5, TSS, and NH3-N

The current permit includes average monthly effluent limits (AML) of 35 mg/L, 32 mg/L, and 6.9 mg/L for CBOD5, TSS and NH3-N respectively. Apparently, these limits were developed using a best professional judgement (BPJ) as the previous fact sheet documented the following rationale:

*The ELGs are not applicable to contaminated groundwater discharges per 40CFR445.1(d) however, the supplementary information with the regulation states that where contaminated groundwater is dilute, EPA is concerned that the groundwater may be used as a dilution flow. In cases where leachate and contaminated groundwater are co-mingled, decisions regarding the appropriate discharge limits will be left to the judgment of the permit writer. Where groundwater is dilute, a flow-weighted building block approach may be used. The groundwater limits based on the previous limits*

from 11/96 and the ELG limits for the leachate portion were mass balanced to determine the revised limits in the previous renewal. Mass loading limits for conventional pollutants are listed. Mass reporting requirement for the other parameters are listed on the basis of being technology concentration limits or monitoring for information and not WQBELs. For the maximum daily limit, we will apply the more stringent of limits using our 2x multiplier or the mass balanced limits.

ELG 40CFR445.21 lists BOD instead of BOD<sub>5</sub> however 40CFR445.11, 40CFR445.12 and 40CFR445.22 list BOD as BOD<sub>5</sub> so this is apparently an error and BOD will be considered to be BOD<sub>5</sub>. EPA 40CFR133.102 lists secondary treatment as 30 mg/l for BOD<sub>5</sub> and as 25 mg/l for CBOD<sub>5</sub> acknowledging the difference between CBOD<sub>5</sub> and BOD<sub>5</sub> of 5 mg/l at this range. Thus, since our permit is written as CBOD<sub>5</sub> and this is in the range of secondary treatment, the ELG of 37 will be reduced by 5 mg/l to 32 mg/l for mass balancing.

Parameter	Current Limit	BAT Limit	Revised AML	Revised Daily Max.
CBOD <sub>5</sub>	40	32	35	70
TSS	40	27	32	64
NH3-N (summer/winter)	10/30	4.9	6.9/14.9(6.9/14)	14/28

This is a reasonable approach and has been implemented since 2003. No changes to these existing permit requirements.

#### Fecal Coliform

The permit contains effluent limits for Fecal Coliform that are consistent with the state secondary treatment standards found in 25 Pa Code §92a.47. Although the previous fact sheet did not explicitly discuss the basis of this permit requirement, it appears the limits were developed based on the BPJ as this is a wastewater treatment plant received leachate generated from a municipal waste landfill. The sample results provided in the application as well as past DMRs also demonstrate that fecal coliform is present in the effluent. In the opinion of DEP, effluent limits are still needed for water quality protection. No change is recommended.

#### Total Phosphorus

Previously, an average monthly Total Phosphorus limit of 2.0 mg/L was established in the NPDES permit since the loading from this facility exceeded or has potential to exceed DEP's recommended contribution rate of 0.25% of the total loading for the Conodoguinet Creek watershed. This requirement will remain unchanged in the draft permit per federal anti-backsliding regulation found in 40 CFR § 122.44(l)(1).

### Other Considerations

#### Flow Monitoring

The requirement to monitor the volume of effluent will remain in the draft permit per 40 CFR § 122.44(i)(1)(ii).

#### Oil and Grease

The current permit requires monitoring of Oil and Grease. This was relaxed from the effluent limit of 15 mg/L as past DMR show the effluent level of less than 4 mg/L. Recent DMR data revealed that Oil and Grease has been consistently non-detected. The existing monitoring requirement will therefore be removed from the permit.

#### Chesapeake Bay TMDL & TN/TP SOP Monitoring Requirement

The discharge is located within the Chesapeake Bay watershed and is considered under the Supplement to Phase III Watershed Implementation Plan (WIP) a non-significant IW facility that is not exceeding 75 lbs/day TN or 25 lbs/day TP. A review of past DMRs revealed that the discharge level of TN varies with a high fluctuation. The median of both TN and TP was 33.65 lbs/day and 0.1405 lbs/day, respectively based on the DMR between June 2015 through April 2020. The Supplement to Phase III WIP continues to recommend a monthly monitoring of TN and TP for landfill leachates. No changes are therefore recommended.

#### Total Dissolved Solids

TDS and its associated solids including Bromide, Chloride, and Sulfate have become statewide pollutants of concern. The requirement to monitor these pollutants must be considered under the criteria specified in 25 Pa. Code § 95.10 and the following January 23, 2014 DEP Central Office Directive:

*For point source discharges and upon issuance or reissuance of an individual NPDES permit:*

*-Where the concentration of TDS in the discharge exceeds 1,000 mg/L, or the net TDS load from a discharge exceeds 20,000 lbs/day, and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor*

*and report for TDS, sulfate, chloride, and bromide. Discharges of 0.1 MGD or less should monitor and report for TDS, sulfate, chloride, and bromide if the concentration of TDS in the discharge exceeds 5,000 mg/L.*

*- Where the concentration of bromide in a discharge exceeds 1 mg/L and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for bromide. Discharges of 0.1 MGD or less should monitor and report for bromide if the concentration of bromide in the discharge exceeds 10 mg/L.*

*-Where the concentration of 1,4-dioxane (CAS 123-91-1) in a discharge exceeds 10 µg/L and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for 1,4-dioxane. Discharges of 0.1 MGD or less should monitor and report for 1,4-dioxane if the concentration of 1,4-dioxane in the discharge exceeds 100 µg/L.*

Past DMR data demonstrated that the facility has been consistently discharging more than 1,000 mg/L of TDS. The requirement to monitor for TDS and its constituents are still recommended.

#### Monitoring Frequency and Sample Type

Unless stated otherwise in this fact sheet, all existing monitoring frequencies and sample types will remain unchanged in the permit and are consistent with recommended requirements specified in DEP's technical guidance no. 362-0400-001.

#### Class A Wild Trout Fishery

A Class A Wild Trout Fishery is not impacted by this discharge.

#### Anti-Degradation Requirements

Unless stated otherwise in this fact sheet, all permit requirements proposed in this fact sheet are at least as stringent as permit requirements specified in the existing permit renewal in accordance with 40 CFR §122.44(l)(1).



**Development of Effluent Limitations and Monitoring Requirements**

PERMIT REQUIREMENTS FOR STORMWATER OUTFALLS

As mentioned earlier, CRS also utilizes seventeen (17) outfalls receiving stormwater drained throughout the site.

Outfall No.	Area Drained (acres)	Latitude	Longitude	Description
002	34.94	40°08'18"	77°30'21"	Hopewell area
003	27.93	40°08'26"	77°30'15"	Hopewell area
004	19.74	40°08'13"	77°29'57"	Maintenance area
005	66.36	40°08'47"	77°30'23"	Service road, scales
006	5.96	40°08'42"	77°30'28"	Newton area
007	5.42	40°08'33"	77°30'14"	IWTP area
008	17.94	40°08'54"	77°30'2"	Newton area
009	5.39	40°08'35"	77°30'06"	Martin borrow pit
010	15.38	40°08'26"	77°30'1"	Martin borrow pit
011	31.24	40°08'13"	77°30'28"	Snyder borrow pit
012	23.36	40°08'18"	77°30'29"	Snyder borrow pit
013	5.4	40°08'21"	77°30'25"	Snyder borrow pit
014	30.51	40°08'29"	77°30'27"	Snyder borrow pit
015	19	40°08'38"	77°30'29"	Snyder borrow pit
016	19.92	40°07'26"	77°30'27"	Hopewell expansion
017	24.57	40°07'26"	77°30'3"	Hopewell expansion
018	21.90	40°08'11"	77°29'58"	Hopewell expansion

The permit currently requires semi-annual sampling of pH, Total Dissolved Solids, Total Arsenic, Total Barium, Total Cadmium, Total Chromium, Total Cyanide, Total Iron, Total Lead, Dissolved Magnesium, Total Magnesium, Total Mercury, Total Selenium, Total Silver, and Total Organic Carbon. In general, DEP uses DEP's NPDES PAG-03 General Permit for Industrial Stormwater as guidance to develop stormwater monitoring requirements for the individual IW permit. The latest PAG-03 permit (Appendix A) requires sampling of pH, TSS, COD, Ammonia-Nitrogen, Total Arsenic, Total Cadmium, Total Cyanide, Total Lead, Total Mercury, Total Selenium, and Total Silver. The difference between this PAG-03 requirement and the requirement placed in the current permit is that the current requirement additionally requires TDS, Total Barium, Total Chromium, Total Iron, Dissolved Magnesium, Total Magnesium, and Total Organic Carbon. Past DMR data show that these pollutants have been consistently detected in effluents from these outfalls. The requirement to monitor these pollutants are still recommended. In addition, because PAG-03 permit now requires ammonia-nitrogen and COD, they will also be part of the stormwater pollutants.

As some of these outfalls are determined to discharge substantially identical effluents, the current permit allows the permittee to select one of these outfalls in the same group to be sampled and reported as representative for that group. The following group was determined during the previous review:

<u>Outfalls</u>	<u>Bases</u>
002, 003	Similar areas of Hopewell landfill area
004	Separate due to maintenance and parking area
006	Separate due to draining the service road and scales
005, 008	Similar Newton landfill areas
007	Separate due to IWTP drainage area
009, 010	Martin borrow pit
011 through 015	Snyder borrow pit
016, 017, 018	Future Hopewell expansion

Since no site change was made since the last permit reissuance, it is still acceptable to apply this condition in the upcoming permit renewal along with standard Part C condition.

**Proposed Effluent Limitations and Monitoring Requirements**

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

**Outfall 001, Effective Period: Permit Effective Date through Permit Effective Date +36 months.**

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
CBOD5	43	87	XXX	35	70	87	1/week	24-Hr Composite
TSS	40	80	XXX	32	64	80	1/week	24-Hr Composite
Total Dissolved Solids	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Fecal Coliform Oct 1 - Apr 30	XXX	XXX	XXX	2000	XXX	10000	1/week	Grab
Fecal Coliform May 1 - Sep 30	XXX	XXX	XXX	200	XXX	1000	1/week	Grab
Nitrate-Nitrite	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/month	Calculation
Ammonia Nov 1 - Apr 30	17	35	XXX	14	28	35	1/week	24-Hr Composite
Ammonia May 1 - Oct 31	8.6	17	XXX	6.9	13.8	17	1/week	24-Hr Composite
TKN	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Phosphorus	2.5	5.0	XXX	2.0	4.0	5	1/week	24-Hr Composite

Outfall 001 , Continued (from Permit Effective Date through Permit Effective Date +36 months )

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Total Arsenic	Report	Report	XXX	0.10	0.20	0.25	1/week	24-Hr Composite
Total Barium	Report	Report	XXX	0.30	0.60	0.75	1/week	24-Hr Composite
Sulfate	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Total Zinc	Report	Report	XXX	0.11	0.20	0.27	2/month	24-Hr Composite
Phenol	Report	Report	XXX	0.015	0.026	0.038	2/month	24-Hr Composite
a-Terpineol	Report	Report	XXX	0.016	0.033	0.04	2/month	24-Hr Composite
Benzoic Acid	Report	Report	XXX	0.071	0.120	0.178	2/month	24-Hr Composite
Chloride	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Bromide	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
p-Cresol	Report	Report	XXX	0.014	0.025	0.035	2/month	24-Hr Composite
Total Copper	Report	Report	XXX	Report	Report	XXX	2/month	24-Hr Composite
n-Nitrosodimethylamine	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite

**Proposed Effluent Limitations and Monitoring Requirements**

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

**Outfall 001, Effective Period: Permit Effective Date + 36month through Permit Expiration Date.**

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
CBOD5	43	87	XXX	35	70	87	1/week	24-Hr Composite
TSS	40	80	XXX	32	64	80	1/week	24-Hr Composite
Total Dissolved Solids	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Fecal Coliform Oct 1 - Apr 30	XXX	XXX	XXX	2000	XXX	10000	1/week	Grab
Fecal Coliform May 1 - Sep 30	XXX	XXX	XXX	200	XXX	1000	1/week	Grab
Nitrate-Nitrite	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/month	Calculation
Ammonia Nov 1 - Apr 30	17	35	XXX	14	28	35	1/week	24-Hr Composite
Ammonia May 1 - Oct 31	8.6	17	XXX	6.9	13.8	17	1/week	24-Hr Composite
TKN	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Phosphorus	2.5	5.0	XXX	2.0	4.0	5	1/week	24-Hr Composite

Outfall 001 , Continued (from Permit Effective Date +36month through Permit Expiration Date )

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Total Arsenic	Report	Report	XXX	0.10	0.20	0.25	1/week	24-Hr Composite
Total Barium	Report	Report	XXX	0.30	0.60	0.75	1/week	24-Hr Composite
Sulfate	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Total Zinc	Report	Report	XXX	0.11	0.20	0.27	2/month	24-Hr Composite
Phenol	Report	Report	XXX	0.015	0.026	0.038	2/month	24-Hr Composite
a-Terpineol	Report	Report	XXX	0.016	0.033	0.04	2/month	24-Hr Composite
Benzoic Acid	Report	Report	XXX	0.071	0.120	0.178	2/month	24-Hr Composite
Chloride	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Bromide	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
p-Cresol	Report	Report	XXX	0.014	0.025	0.035	2/month	24-Hr Composite
Total Copper	Report	Report	XXX	Report	Report	XXX	2/month	24-Hr Composite
n-Nitrosodimethylamine	0.0003	0.0005	XXX	0.000377	0.000588	XXX	1/week	24-Hr Composite

**Proposed Effluent Limitations and Monitoring Requirements**

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

**Outfalls 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014, 015, 016, 017, and 018, Effective Period: Permit Effective Date through Permit Expiration Date.**

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)			Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type	
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum			Instant. Maximum
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Dissolved Solids	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Arsenic	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Barium	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Cadmium	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Chromium	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Cyanide	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Iron	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Lead	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Dissolved Magnesium	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Magnesium	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Mercury	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Selenium	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Silver	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Organic Carbon	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Ammonia-Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
COD	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Tools and References Used to Develop Permit	
<input type="checkbox"/>	WQM for Windows Model (see Attachment [redacted])
<input type="checkbox"/>	PENTOXSD for Windows Model (see Attachment [redacted])
<input type="checkbox"/>	TRC Model Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	Temperature Model Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	Toxics Screening Analysis Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
<input type="checkbox"/>	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
<input type="checkbox"/>	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
<input type="checkbox"/>	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
<input type="checkbox"/>	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
<input type="checkbox"/>	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
<input type="checkbox"/>	Pennsylvania CSO Policy, 385-2000-011, 9/08.
<input type="checkbox"/>	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
<input type="checkbox"/>	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
<input type="checkbox"/>	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
<input type="checkbox"/>	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
<input type="checkbox"/>	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
<input type="checkbox"/>	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
<input type="checkbox"/>	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
<input type="checkbox"/>	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
<input type="checkbox"/>	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
<input type="checkbox"/>	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
<input type="checkbox"/>	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
<input type="checkbox"/>	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
<input type="checkbox"/>	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
<input type="checkbox"/>	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
<input type="checkbox"/>	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
<input type="checkbox"/>	Design Stream Flows, 391-2000-023, 9/98.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
<input type="checkbox"/>	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
<input type="checkbox"/>	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
<input type="checkbox"/>	SOP: [redacted]
<input type="checkbox"/>	Other: [redacted]

Attachments

1. Data



Stormwater.xlsx



Nutrient.xlsx

2. Stream Data



StreamStats Node  
2.pdf



StreamStats.pdf

3. WQM Modeling



rptModelSpecs.pdf



rptHydro.pdf



rptEffLimits.pdf



rptDOSim.pdf



rptAnalyze.pdf



rpt\_WLA.pdf

4. PENTOXSD Modeling



rptWLA.pdf



rptHydro.pdf



rptGeneral.pdf



frmResults.pdf