pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0028720**
Facility Type	**Municipal**	APS ID	**326511**
Major / Minor	**Minor**	Authorization ID	**999541**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Berks County Region Airport Authority**	Facility Name	**Reading Region Airport**
Applicant Address	2385 Bernville Road	Facility Address	2501 Bernville Road
	Reading, PA 19605-9400		Reading, PA 19605
Applicant Contact	Terry Sroka	Facility Contact	Terry Sroka
Applicant Phone	(610) 372-4666	Facility Phone	(610) 372-4666
Client ID	87485	Site ID	253636
Ch 94 Load Status	Not Overloaded	Municipality	Bern Township
Connection Status	No Limitations	County	Berks
Date Application Received	October 23, 2013	EPA Waived?	Yes
Date Application Accepted	October 31, 2013	If No, Reason	

Purpose of Application: This is an application for NPDES renewal.

Approve	Deny	Signatures	Date
X		Nicholas Hong, P.E. / Environmental Engineer Nick Hong (via electronic signature)	December 9, 2021
x		Daniel W. Martin, P.E. / Environmental Engineer Manager Maria D. Bebenek for Daniel W. Martin	December 15, 2021
x		Maria D. Bebenek, P.E. / Environmental Program Manager Maria D. Bebenek	December 15, 2021

Summary of Review

The application submitted by the applicant requests a NPDES renewal permit for the Reading Regional Airport Authority located at 2501 Bernville Road, Reading, PA 19605 in Berks County, municipality of Bern Township. The existing permit became effective on June 1, 2009 and expired on May 31, 2014. The application for renewal was received by DEP Southcentral Regional Office (SCRO) on October 31, 2013. A revised application was received on May 24, 2018.

The purpose of this Fact Sheet is to present the basis of information used for establishing the proposed NPDES permit effluent limitations. The Fact Sheet includes a description of the facility, a description of the facility's receiving waters, a description of the facility's receiving waters attainment/non-attainment assessment status, and a description of any changes to the proposed monitoring/sampling frequency. Section 6 provides the justification for the proposed NPDES effluent limits derived from technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), total maximum daily loading (TMDL), antidegradation, anti-backsliding, and/or whole effluent toxicity (WET). A brief summary of the outlined descriptions has been included in the Summary of Review section.

The subject facility is a 0.42 MGD annual average design flow treatment facility. As of the revised/updated application submitted in May 2018, the applicant did not anticipate any proposed upgrades to the treatment facility in the next five years. The NPDES application has been processed as a Minor Sewage Facility due to the type of sewage and the design flow rate for the facility. The applicant disclosed the Act 14 via the Act 67, 68, and 127 requirements to Berks County Planning Commission and Bern Township and the notice was received by the parties on July 23, 2013. A planning approval letter was not necessary as the facility is neither new or expanding.

Utilizing the DEP's web-based Emap-PA information system, the receiving waters has been determined to be the Schuylkill River. The sequence of receiving streams that the Schuylkill River discharges into are the Delaware River which eventually drains into the Delaware Bay. The receiving water has protected water usage for warm water fishes (WWF) and migratory fishes (MF). No Class A Wild Trout fisheries are impacted by this discharge. The absence of high quality and/or exceptional value surface waters removes the need for an additional evaluation of anti-degradation requirements.

The Schuylkill River is a Category 2 and 4a stream listed in the 2020 Integrated List of All Waters (formerly 303d Listed Streams). This stream is an attaining stream that supports aquatic life, recreational uses, and potable water supply. The receiving stream is also impaired for fish consumption due to PCBs from an unknown source. The receiving waters is subject to the Schuylkill River PCB total maximum daily load (TMDL) plan to improve water quality in the subject facility's watershed.

The existing permit and proposed permit differ as follows:

- **Adjustment to permit limit for TDS due to typographical error in existing permit**
- **Due to EPA triennial, E- Coli shall be monitored**
- **Monitoring for stormwater parameters on a 2x/yr basis**

Sludge use and disposal description and location(s): Sewage Sludge/Biosolids is disposed at the Exeter Township in Berks County under DEP Permit No. PA0026972 and/or Lehigh County Authority WWTP in Lehigh County under DEP Permit No. PAS902202

The proposed permit will expire five (5) years from the effective date.

Based on the review in this report, 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.

Any additional information or public review of documents associated with the discharge or facility may be available at PA DEP Southcentral Regional Office (SCRO), 909 Elmerton Avenue, Harrisburg, PA 17110. To make an appointment for file review, contact the SCRO File Review Coordinator at 717.705.4700.

1.0 Applicant

1.1 General Information

This fact sheet summarizes PA Department of Environmental Protection's review for the NPDES renewal for the following subject facility.

Facility Name: Reading Regional Airport Authority

NPDES Permit # PA0028720

Physical Address: 2501 Bernville Road
Reading, PA 19605

Mailing Address: 2501 Bernville Road
Reading, PA 19605

Contact: Terry Sroka
Manager
tsroka@readingairport.org

Consultant: Christina Crawford, PE/MBA
Spotts, Stevens, and McCoy
christina.crawford@ssmgroup.com

1.2 Permit History

Description of Facility

On February 10, 2017, DEP issued a letter to the facility informing that DEP no longer considers the storm sewer system within the facility's jurisdiction to be a regulated small MS4. As a result, DEP does not expect a submittal for NOI or permit application for stormwater.

Reading Regional Airport Authority (RRAA) reportedly sold a 154-acre track of land to Berks County Industrial Development Authority (BCIDA). The parcel of land included the original stormwater outfalls 002, 003, and 004. RRAA continues to hold the parcel that includes stormwater outfalls 005, 006, 007, and 008.

In prior issued NPDES permits, the facility was categorized as Sewage- Non-public. This has been corrected to Sewage-Public. By regulatory definition, an authority is public. The facility is also considered municipal. This seems appropriate since wastewater contributions prior to around 2006 did not include St. Joseph Hospital and Bern Township.

Sources of Water

The facility receives wastewater contributions from the locations summarized in the table.

Tributary Information	
Municipalities Served	**Flow Contribution**
Airport and the Airport Industrial Park	27%
Saint Joseph Medical Center	47%
Bern Township	26%
Total	**100%**

DRBC Docket

On June 12, 2019, the Delaware River Basin Commission, issued Docket No D-1986-038 CP-4 for the Reading Regional Airport Authority. The docket was issued for the renewal of the existing WWTP and its discharge in conjunction with the PA DEP NPDES permit.

Section 3.10.4D.2. of the Commission's *Water Quality Regulations* (*WQR*) establishes the basin-wide total dissolved solids (TDS) effluent standard as 1,000 mg/l. A variance to the Commission's TDS effluent limit was approved on an average monthly and instantaneous maximum basis of 2,605 mg/l and 5,210 mg/l, respectively.

The docket expires on June 30, 2025.

Permit submittal included the following information.

- NPDES Application
- Flow Diagrams
- Influent Sample Data
- Effluent Sample Data

2.0 Treatment Facility Summary

2.1.1 Site location

The physical address for the facility is 2501 Bernville Road, Reading, PA 19605. A topographical and an aerial photograph of the facility are depicted as Figure 1 and Figure 2.

Figure 1: Topographical map of the subject facility

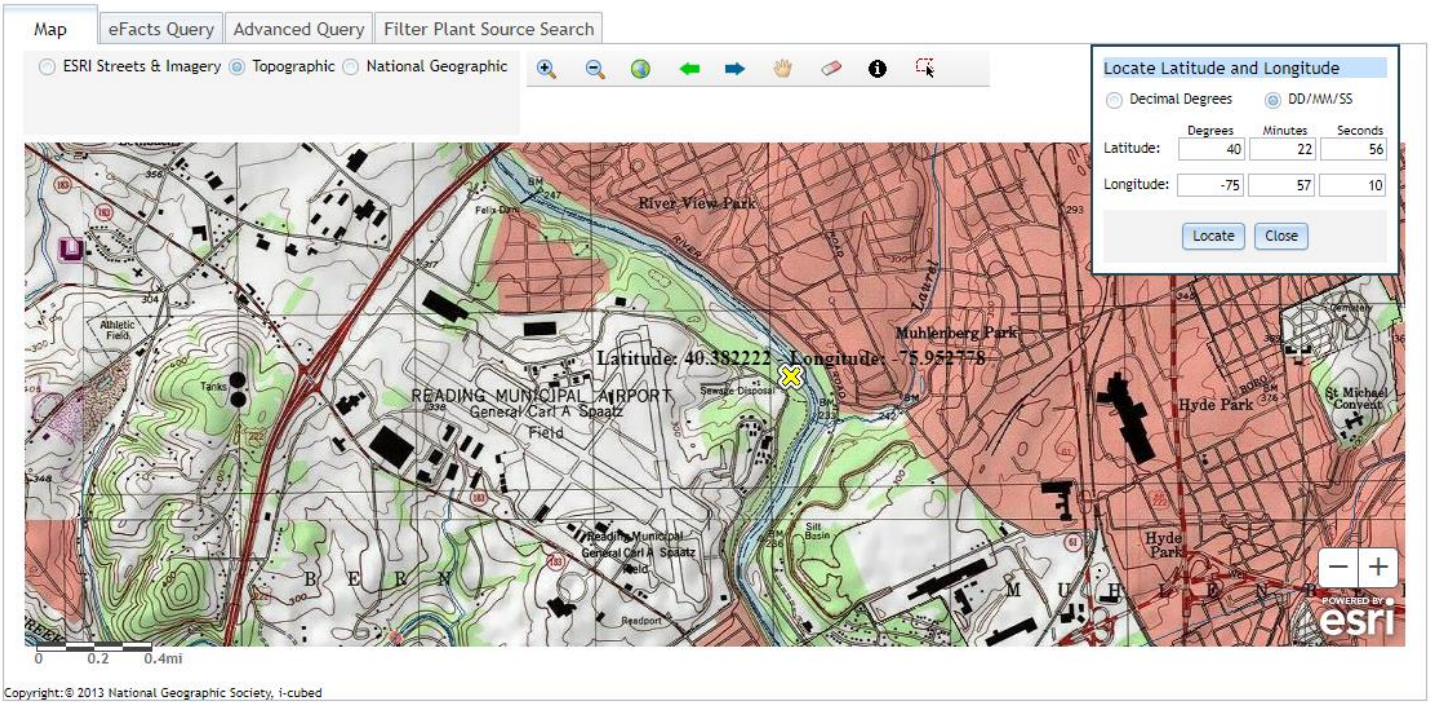
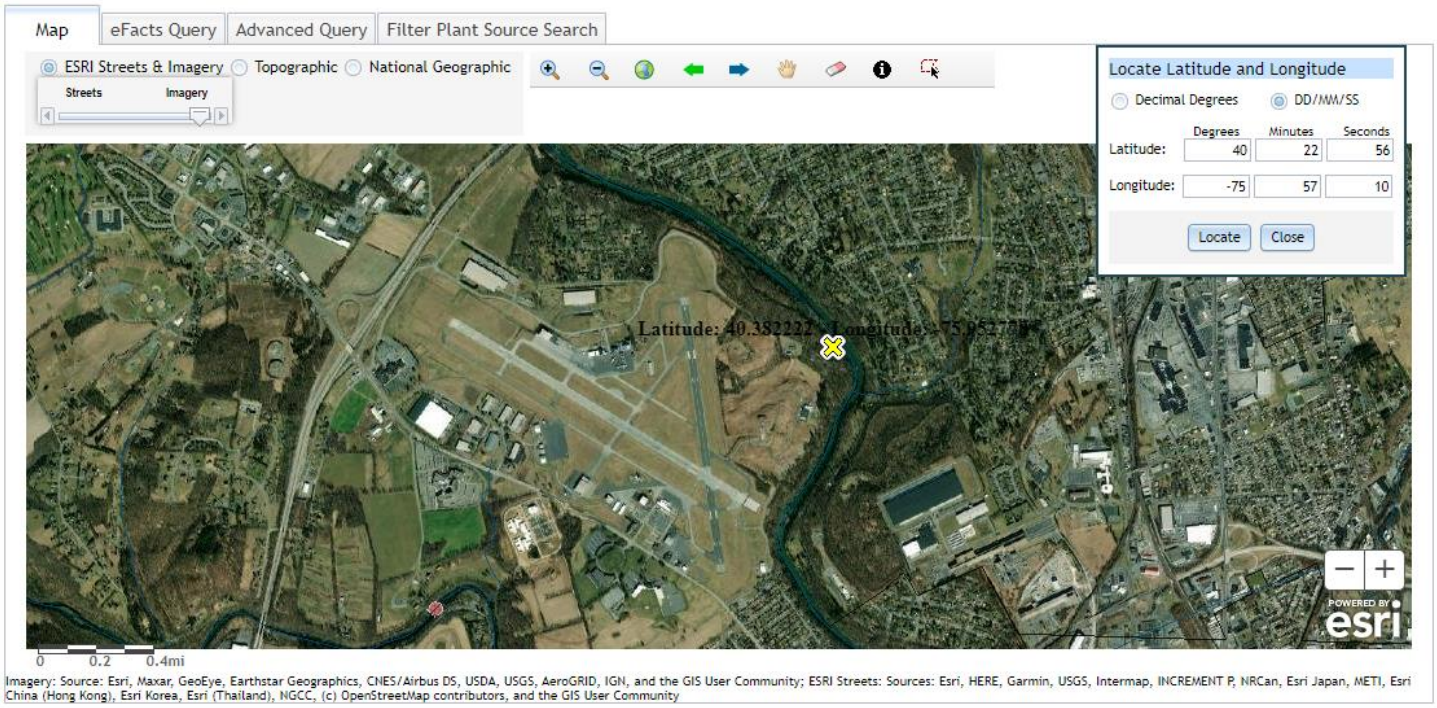


Figure 2: Aerial Photograph of the subject facility



2.1.2 Sources of Wastewater/Stormwater

The NPDES application notes that there is one industrial user. Industrial Metal Plating discharges approximately 0.0204 MGD. The facility uses a pretreatment system that processes wastewater from their metal finishing process. The facility is not a significant industrial user.

The table summarizes the facility's industrial/commercial users.

RRAA SEWER TENANTS - AVERAGE DAILY USAGE

RRAA SEWER TENANTS

Meter Location	Company	Business Type	2017 Qtr 1 Usage	2017 Qtr 2 Usage	2017 Qtr 3 Usage	2017 Qtr 4 Usage	ANNUAL TOTAL	AVERAGE GALLONS USED PER DAY
TERM	READING AIRPORT	AVIATION	5,000	3,000	7,000	4,000	19,000	52.05
ARFF	READING AIRPORT	EMERGENCY SERVICES	7,170	12,650	900	7,000	27,720	75.95
SHOP	READING AIRPORT	MAINTENANCE	8,650	23,910	18,010	13,440	64,010	175.37
STP	READING AIRPORT	SEWAGE TREATMENT	196,300	251,500	303,000	186,100	936,900	2,566.85
Hgr 406	GALIYANO ASSOC	OFFICE	4,780	4,630	3,920	2,970	16,300	44.66
Hgr 515	ATLANTIC COAST AIRCRAFT SVC	AVIATION	15,600	17,400	12,200	15,500	60,700	166.30
	BARCO INC	MANUFACTURING	15,000	13,300	10,900	18,500	57,700	158.08
	BURGOE REALTY	WAREHOUSING	14,100	12,500	10,500	10,300	47,400	129.86
	BURGOE REALTY	WAREHOUSING	39,100	24,900	24,300	21,200	109,500	300.00
	BURGOE REALTY	WAREHOUSING	266,300	240,000	382,700	369,500	1,280,500	3,508.22
Bldg 207	CIVIL AIR PATROL	OFFICE	710	2,920	810	810	5,250	14.38
Tower	FAA AIRWAYS FACILITIES	AVIATION	21,016	28,144	16,767	22,683	88,610	242.77
G&T	G & T INDUSTRIES	WAREHOUSING	71,760	63,600	66,330	65,260	266,950	731.37
	KLINGER'S AT THE AIRPORT	RESTAURANT	84,000	59,100	63,700	59,800	266,600	730.41
	HOLIDAY INN EXPRESS	HOTEL	705,500	700,700	804,400	629,300	2,839,900	7,780.55
Landis	INDCOR PROPERTIES INC.	OFFICE	5,100	13,600	25,000	15,300	59,000	161.64
	INDUSTRIAL METAL PLATING	MANUFACTURING	2,159,500	1,698,600	1,858,300	1,729,500	7,445,900	20,399.73
Bldg 206	MID ATLANTIC AIR MUSEUM	AVIATION	2,710	11,760	26,840	2,170	43,480	119.12
Bldg 205	MID ATLANTIC AIR MUSEUM	AVIATION	5,180	6,720	5,130	5,200	22,230	60.90
Hgr 514	PENN NATNL GAMING (RDG NORTHERN)	AVIATION	1,600	1,500	1,800	35,200	40,100	109.86
meter 2	PHILLIPS VAN HEUSEN	MANUFACTURING	27,000	27,000	26,000	30,000	110,000	301.37
meter 1	PHILLIPS VAN HEUSEN	MANUFACTURING	123,620	77,810	85,090	93,790	380,310	1,041.95
Bldg 404	READING AERO CLUB	AVIATION	870	1,410	1,120	1,190	4,590	12.58
Hgr 401	READING JET CENTER	AVIATION	30	10	-	-	40	0.11
Hgr 402	READING JET CENTER	AVIATION	2,660	2,190	2,330	1,650	8,830	24.19
Hgr 407	READING JET CENTER	AVIATION	9,040	9,100	11,330	9,990	39,460	108.11
Bldg 203-A	READING JET CTR (AFS OR R.A.C.)	AVIATION	1,350	1,880	2,205	1,687	7,122	19.51
Hgr 3	READING JET CTR (AFS OR R.A.C.)	AVIATION	2,720	2,940	1,030	1,150	7,840	21.48
Bldg 203	READING JET CTR (AFS OR R.A.C.)	AVIATION	5,210	8,870	15,530	8,500	38,110	104.41
Bldg 233	READING POLICE DEPARTMENT	POLICE	1,370	1,940	2,130	1,900	7,340	20.11
Bldg 238	READING POLICE DEPARTMENT	POLICE	390	730	1,030	620	2,770	7.59
Bldg 130	RON MACHINE	MANUFACTURING	1,740	1,340	1,110	1,000	5,190	14.22
Prologis	SUPPLY ONE PLASTICS	MANUFACTURING	5,605	6,315	5,060	7,390	24,370	66.77
Prologis	SUPPLY ONE PLASTICS	MANUFACTURING	21,680	23,410	20,460	17,840	83,390	228.47
XO Comm	INDCOR PROPS/FORMERLY X O COMMUNICATIONS	COMMUNICATIONS	13,200	10,200	11,300	14,300	49,000	134.25
	DIRECT LINK	OFFICE	2,133,800	2,381,900	2,836,400	2,259,000	9,613,100	26,337.26
	ST. JOSEPH'S MEDICAL CENTER	HOSPITAL	3,354,380	3,658,180	3,877,210	4,142,140	15,031,910	41,183.32
	BTMA (METER 1)	COMMERCIAL/RESIDENTIAL	1,400,400	1,002,000	948,200	743,900	4,094,500	11,217.81
	BTMA (METER 2)	COMMERCIAL/RESIDENTIAL	1,526,900	1,146,500	1,052,900	1,321,400	5,047,700	13,829.32
	RRAA (STP)	AVIATION	2,670,420	4,616,020	5,644,190	4,829,260	17,759,890	48,657.23

RRAA TENANTS	6,001,361	5,747,479	6,666,532	5,663,740	24,079,212
ST JOE'S/BTMA/RRAA	8,952,100	10,422,700	11,522,500	11,036,700	41,934,000

The facility has the following outfall information for stormwater.

Outfall No.	002	**Design Flow (MGD)**	0
Latitude	40º 22' 32.09"	**Longitude**	-75º 57' 21.91"
Wastewater Description:	Stormwater; Some deicing activities.		

Outfall No.	003	**Design Flow (MGD)**	0
Latitude	40º 22' 47.77"	**Longitude**	-75º 57' 36.04"
Wastewater Description:	Stormwater; Runways and taxiways, turf, etc. Some deicing activities.		

Outfall No.	004	**Design Flow (MGD)**	0
Latitude	40º 22' 59.61"	**Longitude**	-75º 57' 34.97"
Wastewater Description:	Stormwater; Runways and taxiways, turf, etc. Some deicing activities.		

Outfall No.	005	**Design Flow (MGD)**	0
Latitude	40º 23' 8.85"	**Longitude**	-75º 57' 58.68"
Wastewater Description:	Stormwater; The drainage area is approximately 343.84 acres. The stormwater originates from runways and taxiways, light manufacturing, auto parking lot, aircraft hanger, aircraft parking apron, aboveground fuel storage tanks, wooded area, and turf. Some deicing activities.		

Outfall No.	006	**Design Flow (MGD)**	0
Latitude	40º 22' 33.16"	**Longitude**	-75º 58' 32.84"
Wastewater Description:	Stormwater; The drainage area is approximately 102.46 acres. The stormwater originates from runways and taxiways, office building, auto parking lot, light manufacturing, warehousing, truck parking lot, and turf.		

Outfall No.	007	**Design Flow (MGD)**	0
Latitude	40º 22' 31.34"	**Longitude**	-75º 58' 26.53"
Wastewater Description:	Stormwater; The drainage area is approximately 93.35 acres. The stormwater originates from aircraft hanger, warehousing, truck parking lot, auto parking lot, and turf. Some deicing activities.		

Outfall No.	008	**Design Flow (MGD)**	0
Latitude	40º 22' 15.73"	**Longitude**	-75º 57' 24.17"
Wastewater Description:	Stormwater; The drainage area is approximately 21.15 acres. The stormwater originates from airport maintenance garage, runway and taxiway, auto parking lot, and turf.		

Outfall No.	009	**Design Flow (MGD)**	0
Latitude	40º 22' 25.17"	**Longitude**	-75º 58' 9.70"
Wastewater Description:	Stormwater; Some deicing activities.		

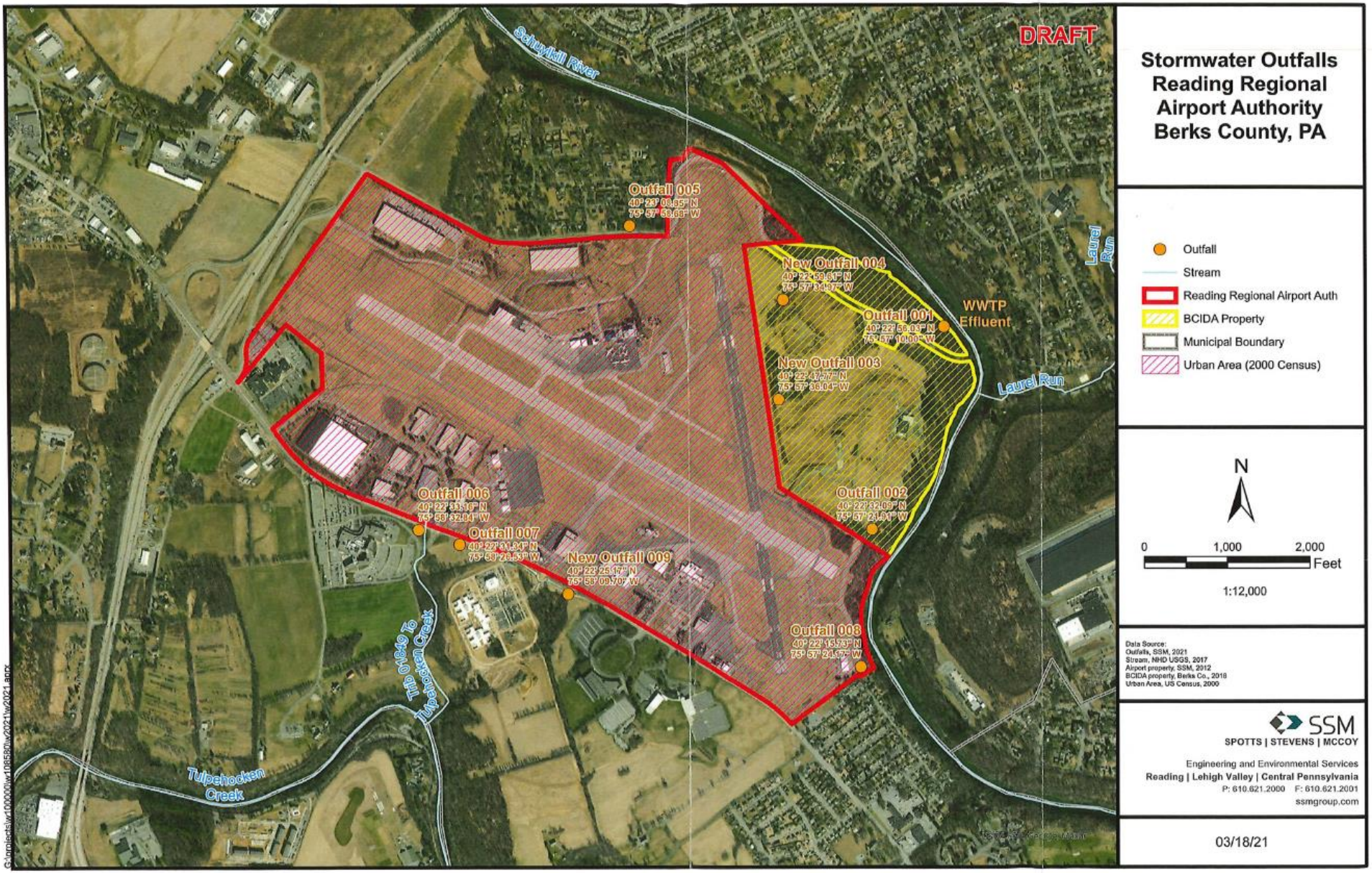
The locations of the stormwater outfalls are depicted in the map.

The red outline encircles the Reading Regional Airport Authority property. The yellow outline encircles the BCIDA property.

Outfall 002 is just outside the airport parcel and will receive little contribution from BCIDA stormwater. The facility will seek permission from BCIDA to continue sampling at this outfall.

Outfalls 003 and 004 were relocated to move the outfalls upstream from the BCIDA property as much as possible to avoid drainage from the BCIDA site. Due to the sale of the property to BCIDA, the facility will no longer have access to the stormwater outfalls.

Outfall 009 is a new outfall.


DRAFT
Schuylkill River
Laurel Run
Outfall 005
40° 23' 03.85" N
75° 57' 53.68" W
New Outfall 004
40° 22' 59.61" N
75° 57' 34.97" W
Outfall 001
40° 22' 56.03" N
75° 57' 10.00" W
WWTP Effluent
New Outfall 003
40° 22' 47.77" N
75° 57' 36.04" W
Laurel Run
Outfall 006
40° 22' 33.16" N
75° 58' 32.94" W
Outfall 007
40° 22' 31.34" N
75° 58' 24.53" W
New Outfall 009
40° 22' 25.17" N
75° 58' 09.70" W
Outfall 002
40° 22' 32.09" N
75° 57' 21.91" W
Outfall 008
40° 22' 15.73" N
75° 57' 24.17" W
Trib 01849 To Tulpehocken Creek
Tulpehocken Creek
Stormwater Outfalls
Reading Regional
Airport Authority
Berks County, PA
Outfall
Stream
Reading Regional Airport Auth
BCIDA Property
Municipal Boundary
Urban Area (2000 Census)
N
0
1,000
2,000
Feet
1:12,000
Data Source:
Outfalls, SSM, 2021
Stream, NHD USGS, 2017
Airport property, SSM, 2012
BCIDA property, Berks Co., 2018
Urban Area, US Census, 2000
SSM
SPOTTS | STEVENS | MCCOY
Engineering and Environmental Services
Reading | Lehigh Valley | Central Pennsylvania
P: 610.621.2000 F: 610.621.2001
ssmgroup.com
03/18/21

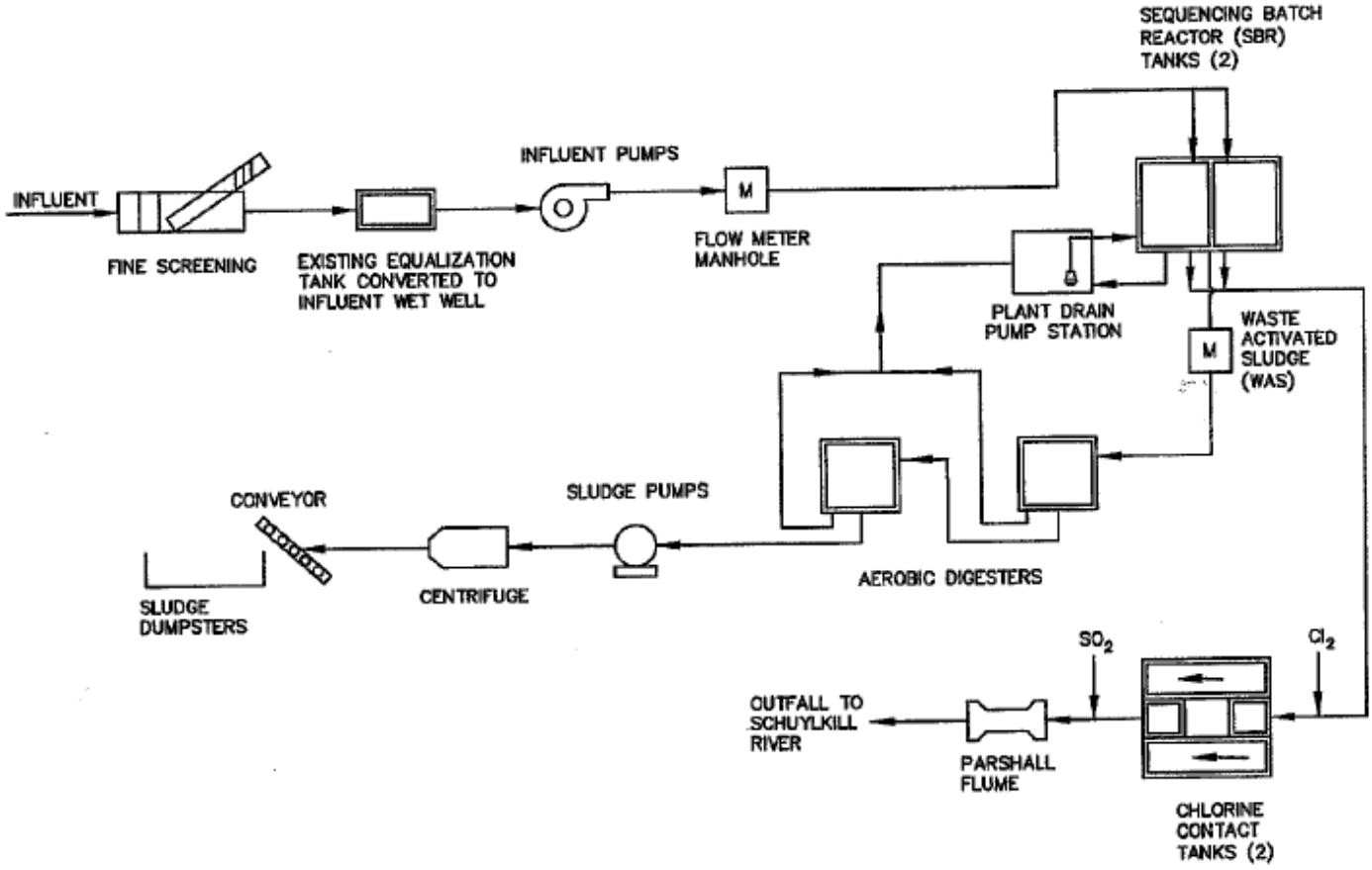
2.2 Description of Wastewater Treatment Process

The subject facility is a 0.42 MGD design flow facility. The subject facility treats wastewater using a sequencing batch reactor(s) (SBR) and a chlorine contact tank prior to discharge through the outfall. The facility is being evaluated for flow, pH, dissolved oxygen, TRC, TSS, CBOD, oil and grease, ammonia-nitrogen, TDS, PCBs, and fecal coliform. The existing permits limits for the facility is summarized in Section 2.4.

The treatment process is summarized in the table.

Treatment Facility Summary				
Treatment Facility Name: Reading Region Airport STP				
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary	Sequencing Batch Reactor	Chlorine With Dechlorination	0.42
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.504	1043	Not Overloaded	Aerobic Digestion	Combination of methods

A process flow diagram for the facility is depicted.



2.3 Facility Outfall Information

The facility has the following outfall information for wastewater.

Outfall No.	001	**Design Flow (MGD)**	.42
Latitude	40º 22' 58.15"	**Longitude**	-75º 57' 11.29"
Wastewater Description:	Sewage Effluent		

2.3.1 Operational Considerations- Chemical Additives

Chemical additives are chemical products introduced into a waste stream that is used for cleaning, disinfecting, or maintenance and which may be detected in effluent discharged to waters of the Commonwealth. Chemicals excluded are those used for neutralization of waste streams, the production of goods, and treatment of wastewater.

The subject facility utilizes the following chemicals as part of their treatment process.

- Chlorine for chlorination
- Sulfur dioxide for dichlorination

2.4 Existing NPDES Permits Limits

The existing NPDES permit limits are summarized in the table.

Permit No. PA 0028720

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

I. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. For Outfall 001, Latitude 40°22'56", Longitude 75°57'10", River Mile Index 80.3, Stream Code 00833, Discharging to Schuylkill River

which receives wastewater from the wastewater treatment plant.

1. The permittee is authorized to discharge during the period from June 1, 2009 through May 31, 2014.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements, Footnotes, and Supplemental Information).

Discharge Parameter	Effluent Limitations							Monitoring Requirements	
	Mass Units (lbs/day)[1]		Concentrations (mg/L)						
	Monthly Average	Weekly Average	Minimum	Monthly Average	Weekly Average	Maximum Daily	Instantaneous Maximum	Minimum[3] Measurement Frequency	Required Sample Type
Flow (mgd)	Report	Report Daily Max	XXX	XXX	XXX	XXX	XXX	Continuous	Measured
Influent (BOD_5 and TSS)[4]	Report	Report Daily Max	XXX	Report	XXX	XXX	XXX	2/Month	24-hr comp
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	XXX	9.0	1/Day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	XXX	1/Day	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.5	XXX	XXX	1.60	1/Day	Grab
Total Suspended Solids	105	157	XXX	30	45	XXX	60	1/Week	24-hr comp
$CBOD_5$	87	140	XXX	25	40	XXX	50	1/Week	24-hr comp
Oil and Grease	52	XXX	XXX	15	XXX	XXX	30	1/Week	24-hr comp
NH_3-N	70	XXX	XXX	20	XXX	XXX	40	1/Week	24-hr comp
Total Dissolved Solids	XXX	XXX	XXX	2,625	XXX	5,210	5,210	1/Week	24-hr comp
Total PCBs[5]	XXX	XXX	XXX	Report	XXX	XXX	XXX	2/Year	24-hr comp
Fecal Coliform[6] (5/1 to 9/30)	XXX	XXX	XXX	200	XXX	XXX	XXX	1/Week	Grab
Fecal Coliform[5],[6] (10/1 to 4/30)	XXX	XXX	XXX	2,000	XXX	XXX	XXX	1/Week	Grab

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

° at discharge from facility.

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

B. Monitoring Requirements for Stormwater Outfalls 002, 003, 004, 005, 006, 007, and 008.[7]

Parameter	MONITORING REQUIREMENTS	
	Grab Sample (mg/l)	Monitor Frequency
$CBOD_5$	Monitor & Report	1/year
Chemical Oxygen Demand	Monitor & Report	1/year
Total Suspended Solids	Monitor & Report	1/year
Total Potassium	Monitor & Report	1/year
Diethylene Glycol	Monitor & Report	1/year
Propylene Glycol	Monitor & Report	1/year
Ethylene Glycol	Monitor & Report	1/year
pH (S.U.)	Monitor & Report	1/year
Oil and Grease	Monitor & Report	1/year
Total Iron	Monitor & Report	1/year

3.0 Facility NPDES Compliance History

3.1 Summary of Inspections

A summary of the most recent inspections during the existing permit review cycle is as follows.

The DEP inspector noted the following during the inspection.

07/06/2016:

- The raw influent was tinted orange/red. The facility suspects the industrial metal plating may be responsible for the dye in the influent. Metal sampling was conducted around June 27, 2016.
- A charcoal and sand mixture were observed in the influent channel. The facility noticed the grit beginning on June 7 over the course of about a week. The grit resembles a media used in the industrial metal plating pretreatment process.

04/11/2017:

- The inspection was precipitated by an incident. Approximately 3,000 gallons was overflow due to a PLC failure. Lime was applied to the ground in the area of overflow.

07/02/2018:

- The following repairs/replacements were made since the last inspection: Effluent sampler, utility water pump rebuilt, gasket gate valves repaired, influent screen had new brushes and wear plates, blower #3 rebuilt, PLC power supply fixed.
- The SCADA system was adjusted so it would not register a storm event when entering in fill decant mode.
- The industrial metal plating pretreatment was upgraded.
- The pump station is maintained by Bern Township.
- The flow to the treatment plant from Bern township is monitored along Leisczs Bridge Road.

3.2 Summary of DMR Data

A review of approximately 1-year of DMR data shows that the monthly average flow data for the facility below the design capacity of the treatment system. The maximum average flow data for the DMR reviewed was 0.185 MGD in March 2021. The hydraulic design capacity of the treatment system is 0.504 MGD.

The off-site laboratory used for the analysis of the parameters were QCL, QC Laboratories located at 1205 Industrial Blvd, PO Box 514 Southampton, PA 18966 and Atlantic Coast Laboratories located at 630 Churchmans Road, Newark, DE 19702.

DMR Data for Outfall 001 (from October 1, 2020 to September 30, 2021)

Parameter	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20	OCT-20
Flow (MGD) Average Monthly	0.157	0.098	0.090	0.085	0.065	0.107	0.185	0.093	0.079	0.182	0.113	0.117
Flow (MGD) Daily Maximum	0.303	0.160	0.126	0.131	0.134	0.213	0.269	0.219	0.105	1.337	0.340	0.171
pH (S.U.) Minimum	6.0	7.1	7.2	7.1	6.7	7.0	7.0	6.9	6.7	6.2	6.9	7.0
pH (S.U.) Instantaneous Maximum	7.4	7.8	7.6	7.6	7.8	7.6	7.6	7.6	7.9	7.6	7.6	7.8
DO (mg/L) Minimum	5.4	5.2	5.7	5.9	6.8	7.1	7.8	8.3	7.0	6.1	7.2	7.1
TRC (mg/L) Minimum	0.01	0.01	0.01	< 0.1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
TRC (mg/L) Average Monthly	0.1	0.1	0.03	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1
TRC (mg/L) Instantaneous Maximum	0.4	0.3	0.1	0.7	1.0	0.8	0.4	1.4	0.6	1.0	0.4	0.1
CBOD5 (lbs/day) Average Monthly	4	< 2	< 2	< 2	< 1	2	< 6	3	< 2	6	< 2	< 2
CBOD5 (lbs/day) Weekly Average	5	< 3	2	< 2	< 1	3	13	5	3	17	< 2	< 2
CBOD5 (mg/L) Average Monthly	3	< 2	< 2	< 2	< 2	2	< 4	5	< 3	4	< 2	< 2
CBOD5 (mg/L) Weekly Average	5	< 2	2	< 2	2	3	10	6	3	9	< 2	< 2
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	94	118	194	204	221	83	136	202	139	162	108	137
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	134	136	232	269	301	84	156	227	178	190	116	157
BOD5 (mg/L) Raw Sewage Influent Average Monthly	60	131	221	214	260	77	80	198	181	220	104	133
TSS (lbs/day) Average Monthly	29	< 5	< 4	< 3	< 2	< 4	< 14	9	< 6	< 8	7	5

TSS (lbs/day) Raw Sewage Influent Average Monthly	77	111	198	220	140	73	139	187	99	85	108	121
TSS (lbs/day) Raw Sewage Influent Daily Maximum	103	156	218	226	162	74	167	234	108	93	161	161
TSS (lbs/day) Weekly Average	38	< 5	4	< 3	< 3	6	30	11	12	< 15	9	7
TSS (mg/L) Average Monthly	23	< 5	< 4	< 4	< 4	< 4	< 10	16	< 8	< 7	8	5
TSS (mg/L) Raw Sewage Influent Average Monthly	50	124	223	232	165	68	82	182	132	116	108	115
TSS (mg/L) Weekly Average	51	< 4	5	4	< 4	5	22	20	15	11	10	6
Total Dissolved Solids (mg/L) Average Monthly	816.3	1544.0	1527.5	1364.0	1190.0	894.0	716.4	1053.5	1016.5	1121.2	1155.0	1137.5
Total Dissolved Solids (mg/L) Daily Maximum	992.0	1620.0	1610.0	1450.0	1220.0	1070.0	874.0	1220.0	1090.0	1300.0	1200.0	1180.0
Oil and Grease (lbs/day) Average Monthly	< 9	< 5	< 6	< 4	< 3	< 5	< 9	< 4	< 4	< 8	< 5	< 6
Oil and Grease (mg/L) Average Monthly	< 6	< 5	< 7	< 5	< 6	< 5	< 6	< 5	< 6	< 5	< 5	< 5
Fecal Coliform (CFU/100 ml) Geometric Mean	> 4573	< 14	2	11	< 4	36	8	< 2	5	< 48	553	51
Ammonia (lbs/day) Average Monthly	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	1	3	< 2	< 0.1	< 9	< 0.1	< 0.1
Ammonia (mg/L) Average Monthly	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	1	2	< 2.4	< 0.1	< 3	< 0.1	< 0.1
PCBs (Dry Weather) (ng/L) Average Monthly										0.641		
PCBs (Wet Weather) (ng/L) Average Monthly										0.703		

DMR Data for Outfall 005 (from October 1, 2020 to September 30, 2021)

Parameter	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20	OCT-20
pH (S.U.) Average Monthly										6.74		
CBOD5 (mg/L) Average Monthly										< 2.0		
COD (mg/L) Average Monthly										E		
TSS (mg/L) Average Monthly										4.8		
Oil and Grease (mg/L) Average Monthly										< 5.0		
Total Iron (mg/L) Average Monthly										0.15		
Total Potassium (mg/L) Average Monthly										0.983		
Ethylene Glycol (mg/L) Average Monthly										< 5.0		
Propylene Glycol (mg/L) Average Monthly										< 5.0		
Diethylene Glycol (mg/L) Average Monthly										< 5.0		

DMR Data for Outfall 006 (from October 1, 2020 to September 30, 2021)

Parameter	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20	OCT-20
pH (S.U.) Average Monthly										7.13		
CBOD5 (mg/L) Average Monthly										< 2.0		
COD (mg/L) Average Monthly										E		
TSS (mg/L) Average Monthly										7.2		
Oil and Grease (mg/L) Average Monthly										< 5.0		
Total Iron (mg/L) Average Monthly										0.106		
Total Potassium (mg/L) Average Monthly										0.853		
Ethylene Glycol (mg/L) Average Monthly										< 5.0		
Propylene Glycol (mg/L) Average Monthly										< 5.0		
Diethylene Glycol (mg/L) Average Monthly										< 5.0		

DMR Data for Outfall 007 (from October 1, 2020 to September 30, 2021)

Parameter	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20	OCT-20
pH (S.U.) Average Monthly										7.20		
CBOD5 (mg/L) Average Monthly										< 2.0		
COD (mg/L) Average Monthly										E		
TSS (mg/L) Average Monthly										7.6		
Oil and Grease (mg/L) Average Monthly										< 5.0		

Total Iron (mg/L) Average Monthly										< 0.05		
Total Potassium (mg/L) Average Monthly										< 0.5		
Ethylene Glycol (mg/L) Average Monthly										< 5.0		
Propylene Glycol (mg/L) Average Monthly										< 5.0		
Diethylene Glycol (mg/L) Average Monthly										< 5.0		

DMR Data for Outfall 008 (from October 1, 2020 to September 30, 2021)

Parameter	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20	OCT-20
pH (S.U.) Average Monthly										6.80		
CBOD5 (mg/L) Average Monthly										2.3		
COD (mg/L) Average Monthly										E		
TSS (mg/L) Average Monthly										4.5		
Oil and Grease (mg/L) Average Monthly										< 5.3		
Total Iron (mg/L) Average Monthly										0.107		
Total Potassium (mg/L) Average Monthly										3.14		
Ethylene Glycol (mg/L) Average Monthly										< 5.0		
Propylene Glycol (mg/L) Average Monthly										< 5.0		
Diethylene Glycol (mg/L) Average Monthly										< 5.0		

3.3 Non-Compliance

3.3.1 Non-Compliance- NPDES Effluent

A summary of the non-compliance to the permit limits for the existing permit cycle is as follows.

From the DMR data beginning in June 1, 2009 and ending November 20, 2021, the following were the observed effluent non-compliances.

Summary of Non-Compliance with NPDES Permit Limits
Beginning June 1, 2009 and Ending November 20, 2021

NON COMPLIANCE DATE	PARAMETER	SAMPLE VALUE	VIOLATION CONDITION	PERMIT VALUE	UNIT OF MEASURE	STATISTICAL BASE CODE
06/07/2017	Total Suspended Solids	54	>	45	mg/L	Weekly Average
02/15/2018	Total Suspended Solids	47	>	45	mg/L	Weekly Average
03/15/2018	Total Suspended Solids	84	>	45	mg/L	Weekly Average
05/20/2018	Total Suspended Solids	53	>	45	mg/L	Weekly Average
09/27/2019	Fecal Coliform	230	>	200	CFU/100 ml	Geometric Mean
01/21/2020	Total Residual Chlorine (TRC)	2.0	>	1.6	mg/L	Instantaneous
04/27/2020	Total Suspended Solids	51	>	45	mg/L	Weekly Average
10/27/2021	Fecal Coliform	> 4573	>	200	CFU/100 ml	Geometric Mean
10/27/2021	Total Suspended Solids	51	>	45	mg/L	Weekly Average

3.3.2 Non-Compliance- Enforcement Actions

A summary of the non-compliance enforcement actions for the current permit cycle is as follows:

Beginning in June 1, 2009 to December 7, 2021, there were no observed enforcement actions.

3.4 Summary of Biosolids Disposal

A summary of the biosolids disposed of from the facility is as follows.

2021			
Sewage Sludge / Biosolids Production Information			
Hauled Off-Site			
Date (YEAR)	Gallons	% Solids	Dry Tons
January			0
February			0
March			0
April			0
May			0
June			0
July	34,600	2.8	4.041
August			0
September			0
Notes:			
Sewage Sludge/Biosolids disposed at Exeter Township in Berks County under DEP Permit No. PA0026972 and Lehigh County Authority WWTP in Lehigh County under DEP Permit No. PAS902202			

3.5 Open Violations

No open violations existed as of December 2021.

4.0 Receiving Waters and Water Supply Information Detail Summary

4.1 Receiving Waters

The receiving waters has been determined to be the Schuylkill River. The sequence of receiving streams that the Schuylkill River discharges into are the Delaware River which eventually drains into the Delaware Bay.

4.2 Public Water Supply (PWS) Intake

The closest PWS to the subject facility is the Pottstown Borough Water Authority (PWS ID #1460037) located approximately 23 miles downstream of the subject facility on the Schuylkill River. Based upon the distance and the flow rate of the facility, the PWS should not be impacted.

4.3 Class A Wild Trout Streams

Class A Wild Trout Streams are waters that support a population of naturally produced trout of sufficient size and abundance to support long-term and rewarding sport fishery. DEP classifies these waters as high-quality coldwater fisheries.

The information obtained from EMAP suggests that no Class A Wild Trout Fishery will be impacted by this discharge.

4.4 2020 Integrated List of All Waters (303d Listed Streams):

Section 303(d) of the Clean Water Act requires States to list all impaired surface waters not supporting uses even after appropriate and required water pollution control technologies have been applied. The 303(d) list includes the reason for impairment which may be one or more point sources (i.e. industrial or sewage discharges) or non-point sources (i.e. abandoned mine lands or agricultural runoff and the pollutant causing the impairment such as metals, pH, mercury or siltation).

States or the U.S. Environmental Protection Agency (EPA) must determine the conditions that would return the water to a condition that meets water quality standards. As a follow-up to listing, the state or EPA must develop a Total Maximum Daily Load (TMDL) for each waterbody on the list. A TMDL identifies allowable pollutant loads to a waterbody from both point and non-point sources that will prevent a violation of water quality standards. A TMDL also includes a margin of safety to ensure protection of the water.

The water quality status of Pennsylvania's waters uses a five-part categorization (lists) of waters per their attainment use status. The categories represent varying levels of attainment, ranging from Category 1, where all designated water uses are met to Category 5 where impairment by pollutants requires a TMDL for water quality protection.

The receiving waters is listed in the 2020 Pennsylvania Integrated Water Quality Monitoring and Assessment Report as a Category 2 and 4a waterbody. The surface waters is an attaining stream that supports aquatic life, recreational uses, and a potable water supply. The receiving waters is impaired for fish consumption due to PCBs from an unknown source. The designated use has been classified as protected waters for warm water fishes (WWF) and migratory fishes (MF).

4.5 Low Flow Stream Conditions

Water quality modeling estimates are based upon conservative data inputs. The data are typically estimated using either a stream gauge or through USGS web based StreamStats program. The NPDES effluent limits are based upon the combined flows from both the stream and the facility discharge.

A conservative approach to estimate the impact of the facility discharge using values which minimize the total combined volume of the stream and the facility discharge. The volumetric flow rate for the stream is based upon the seven-day, 10-year low flow (Q710) which is the lowest estimated flow rate of the stream during a 7 consecutive day period that occurs once in 10 -year time period. The facility discharge is based upon a known design capacity of the subject facility.

The closest WQN station to the subject facility is the Schuylkill River station (WQN111). This WQN station is located approximately 26 miles downstream of the subject facility.

The closest gauge station to the subject facility is the Schuylkill River station at Reading, PA (USGS station number 1471510). This gauge station is located approximately 4 miles downstream of the subject facility.

For WQM modeling, pH and stream water temperature data from the water quality network station was used. pH was estimated to be 8.05 and the stream water temperature was estimated to be 23.3 C.

The hardness of the stream was estimated from the water quality network to be 136 mg/l $CaCO_3$.

The low flow yield and the Q710 for the subject facility was estimated using StreamStats.

The low flow yield is 0.24 $ft^3/s/mi^2$.

The Q710 is 153 ft^3/s. This Q710 estimate is consistent with the consultant's Q710 reported in the Application for the Discharge of Pollutants into Surface Waters or Groundwaters of the Delaware River Basin, Section C- Receiving Waterbody Information.

4.6.1 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.42
Latitude	40º 22' 59.08"	Longitude	-75º 57' 10.33"
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		

Receiving Waters	Schuylkill River (WWF, MF)	Stream Code	833
NHD Com ID	26000386	RMI	79.4
Drainage Area	648	Yield (cfs/mi^2)	0.24
Q_{7-10} Flow (cfs)	153	Q_{7-10} Basis	StreamStats
Elevation (ft)	228	Slope (ft/ft)	
Watershed No.	3-C	Chapter 93 Class.	WWF, MF
Existing Use	Same as Chapter 93 class.	Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	POLYCHLORINATED BIPHENYLS (PCBS)		
Source(s) of Impairment	SOURCE UNKNOWN		
TMDL Status	Final	Name	Schuylkill River PCB TMDL

Background/Ambient Data		Data Source
pH (SU)	8.05	WQN111; Median July to Sept
Temperature (°C)	23.3	WQN111; Median July to Sept
Hardness (mg/L)	136	WQN111; Historical Median
Other:		

Nearest Downstream Public Water Supply Intake		Pottstown Borough Water Authority	
PWS Waters	Schuylkill River	Flow at Intake (cfs)	
PWS RMI	56	Distance from Outfall (mi)	23

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	0
Latitude	40º 22' 32.09"	Longitude	-75º 57' 21.91"
Quad Name		Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	Schuylkill River (WWF, MF)	Stream Code	
NHD Com ID	26000386	RMI	

Discharge, Receiving Waters and Water Supply Information

Outfall No.	003	Design Flow (MGD)	0
Latitude	40º 22' 47.77"	Longitude	-75º 57' 36.04"
Quad Name		Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	Schuylkill River (WWF, MF)	Stream Code	
NHD Com ID	26000390	RMI	

Discharge, Receiving Waters and Water Supply Information

Outfall No.	004	Design Flow (MGD)	0
Latitude	40º 22' 59.61"	Longitude	-75º 57' 34.97"
Quad Name		Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	Schuylkill River (WWF, MF)	Stream Code	
NHD Com ID	26000386	RMI	

Discharge, Receiving Waters and Water Supply Information

Outfall No.	005	Design Flow (MGD)	0
Latitude	40º 23' 8.85"	Longitude	-75º 57' 58.68"
Quad Name		Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	Schuylkill River (WWF, MF)	Stream Code	
NHD Com ID	26000386	RMI	

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	006	Design Flow (MGD)	0
Latitude	40º 22' 33.16"	Longitude	-75º 58' 32.84"
Quad Name		Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	Unnamed Tributary of Tulpehocken Creek (WWF)	Stream Code	
NHD Com ID	26000278	RMI	

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	007	Design Flow (MGD)	0
Latitude	40º 22' 31.34"	Longitude	-75º 58' 26.53"
Quad Name		Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	Unnamed Tributary to Schuylkill River (WWF)	Stream Code	
NHD Com ID	26000252	RMI	

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	008	Design Flow (MGD)	0
Latitude	40º 22' 15.73"	Longitude	-75º 57' 24.17"
Quad Name		Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	Schuylkill River (WWF, MF)	Stream Code	

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	009	Design Flow (MGD)	0
Latitude	40º 22' 25.17"	Longitude	-75º 58' 9.7"
Quad Name		Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	Unnamed Tributary of Tulpehocken Creek (WWF, MF)	Stream Code	
NHD Com ID	25992838	RMI	0.3000

5.0: Overview of Presiding Water Quality Standards

5.1 General

There are at least six (6) different policies which determines the effluent performance limits for the NPDES permit. The policies are technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), antidegradation, total maximum daily loading (TMDL), anti-backsliding, and whole effluent toxicity (WET) The effluent performance limitations enforced are the selected permit limits that is most protective to the designated use of the receiving waters. An overview of each of the policies that are applicable to the subject facility has been presented in Section 6.

5.2.1 Technology-Based Limitations

TBEL treatment requirements under section 301(b) of the Act represent the minimum level of control that must be imposed in a permit issued under section 402 of the Act (40 CFR 125.3). Available TBEL requirements for the state of Pennsylvania are itemized in PA Code 25, Chapter 92a.47.

The presiding sources for the basis for the effluent limitations are governed by either federal or state regulation. The reference sources for each of the parameters is itemized in the tables. The following technology-based limitations apply, subject to water quality analysis and best professional judgement (BPJ) where applicable:

Parameter	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Industrial facilities are commonly restricted to effluent limitations established by federal effluent limitation guidelines (ELG). The applicable ELG for this type of industrial facility is Airport Deicing Subcategory (i.e. 40 CFR 449)

The Effluent Guidelines require existing and new primary airports with 1,000 or more annual jet departures that discharge wastewater associated with airfield pavement deicing to use non-urea-containing deicers, or alternatively, meet a numeric effluent limitation for ammonia.

New airports with 10,000 annual departures located in certain cold climate zones are required to collect 60 percent of aircraft deicing fluid after deicing. Airports that discharge the collected aircraft deicing fluid directly to waters of the U.S. must also meet numeric discharge requirements for chemical oxygen demand.

Spotts, Stevens, and McCoy, the facility's consultant, suggested that there are no discharges subject to ELG since the facility is not a primary airport. The facility has approximately 1,544 passengers boarding/yr and all the passengers are by way of chartered flights. There is minimal commercial flights. The airport does not have scheduled airline services.

5.2.2 Mass Based Limits

For publicly owned treatment works (POTW), mass loadings are calculated based upon design flow rate of the facility and the permit limit concentration. The generalized calculation for mass loadings is shown below:

$$Quantity\ \left(\frac{lb}{day}\right) = (MGD)(Concentration)(8.34)$$

5.3 Water Quality-Based Limitations

WQBEL are based on the need to attain or maintain the water quality criteria and to assure protection of designated and existing uses (PA Code 25, Chapter 92a.2). The subject facility that is typically enforced is the more stringent limit of either the TBEL or the WQBEL.

Determination of WQBEL is calculated by spreadsheet analysis or by a computer modeling program developed by DEP. DEP permit engineers utilize the following computing programs for WQBEL permit limitations: (1) MS Excel worksheet for Total Residual Chorine (TRC); (2) WQM 7.0 for Windows Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen Version 1.1 (WQM Model) and (3) Toxics using DEP Toxics Management Spreadsheet for Toxics pollutants.

The modeling point nodes utilized for this facility are summarized below.

General Data 1 (Modeling Point #1)	***Input Value***	***Units***
Stream Code	833	
River Mile Index	79.4	miles
Elevation	228	feet
Latitude	40.382222	
Longitude	-75.952778	
Drainage Area	648	sq miles
Reach Slope	Default	ft/ft
Low Flow Yield	0.24	cfs/sq mile
Potable Water Supply Withdrawal	Default	mgd
General Data 2 (Modeling Point #2)	***Input Value***	***Units***
Stream Code	833	
River Mile Index	77.57	miles
Elevation	201	feet
Latitude	40.364273	
Longitude	-75.941234	
Drainage Area	658	sq miles
Reach Slope	Default	ft/ft
Low Flow Yield	0.24	cfs/sq mile
Potable Water Supply Withdrawal	Default	mgd

5.3.1 Water Quality Modeling 7.0

The WQM Model is a computer model that is used to determine NPDES discharge effluent limitations for Carbonaceous BOD (CBOD5), Ammonia Nitrogen (NH3-N), and Dissolved Oxygen (DO) for single and multiple point source discharges scenarios. WQM Model is a complete-mix model which means that the discharge flow and the stream flow are assumed to instantly and completely mixed at the discharge node.

WQM recommends effluent limits for DO, CBOD5, and NH_3-N in mg/l for the discharge(s) in the simulation.

Four types of limits may be recommended. The limits are

(a) a *minimum concentration for DO in the discharge as 30-day average;*
(b) a 30-day average concentration for CBOD5 in the discharge;
(c) a 30-day average concentration for the NH_3-N in the discharge;
(d) *24-hour average concentration for NH_3-N in the discharge*.

The WQM Model requires several input values for calculating output values. The source of data originates from either EMAP, the National Map, or Stream Stats. Data for stream gauge information, if any, was abstracted from USGS Low-Flow,

Base-Flow, and Mean-Flow Regression Equations for Pennsylvania Streams authored by Marla H. Stuckey (Scientific Investigations Report 2006-5130).

The applicable WQM Effluent Limit Type are discussed in Section 6 under the corresponding parameter which is either DO, CBOD, or ammonia-nitrogen.

5.3.2 Toxics Modeling

The Toxics Management Spreadsheet model is a computer model that is used to determine effluent limitations for toxics (and other substances) for single discharge wasteload allocations. This computer model uses a mass-balance water quality analysis that includes consideration for mixing, first-order decay, and other factors used to determine recommended water quality-based effluent limits. Toxics Management Spreadsheet does not assume that all discharges completely mix with the stream. The point of compliance with water quality criteria are established using criteria compliance times (CCTs). The available CCTs are either acute fish criterion (AFC), chronic fish criterion (CFC), or human health criteria (THH & CRL).

Acute Fish Criterion (AFC) measures the criteria compliance time as either the maximum criteria compliance time (i.e.15 minutes travel time downstream of the current discharge) or the complete mix time whichever comes first. AFC is evaluated at Q710 conditions.

Chronic Fish Criterion (CFC) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the complete mix time whichever comes first. CFC is evaluated at Q710 conditions.

Threshold Human Health (THH) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the estimated travel time downstream to the nearest potable water supply intake whichever comes first. THH is evaluated at Q710 conditions.

Cancer Risk Level (CRL) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the complete mix time whichever comes first. CRL is evaluated at Qh (harmonic mean or normal flow) conditions.

The Toxics Model requires several input values for calculating output values. The source of data originates from either EMAP, the National Map, or Stream Stats. Data for stream gauge information, if any, was abstracted from USGS Low-Flow, Base-Flow, and Mean-Flow Regression Equations for Pennsylvania Streams authored by Marla H. Stuckey (Scientific Investigations Report 2006-5130).

5.3.2.1 Determining if NPDES Permit Will Require Monitoring/Limits in the Proposed Permit for Toxic Pollutants

To determine if Toxics modeling is necessary, DEP has developed a Toxics Management Spreadsheet to identify toxics of concern. Toxic pollutants whose maximum concentrations as reported in the permit application or on DMRs are greater than the most stringent applicable water quality criterion are pollutants of concern. A Reasonable Potential Analysis was utilized to determine (a) if the toxic parameters modeled would require monitoring or (b) if permit limitations would be required for the parameters. The toxics reviewed for reasonable potential were the following pollutants- TDS, chloride, bromide, sulfate, total copper, total lead, and total zinc.

Based upon the SOP- Establishing Water Quality-Based Effluent Limitations (WQBELs) and Permit Conditions for Toxic Pollutants (Revised January 10, 2019), monitoring and/or limits will be established as follows.

(a) When reasonable potential is demonstrated, establish limits where the maximum reported concentration equals or exceeds 50% of the WQBEL.
(b) For non-conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL.
(c) For conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 10% - 50% of the WQBEL.

Toxics Management Spreadsheet did not observe toxics with reasonable potential.

The Toxics Management Spreadsheet output has been included in Attachment B.

5.3.3 Whole Effluent Toxicity (WET)

The facility is not subject to WET limits.

5.4 Total Maximum Daily Loading (TMDL)

5.4.1 TMDL

The goal of the Clean Water Act (CWA), which governs water pollution, is to ensure that all of the Nation's waters are clean and healthy enough to support aquatic life and recreation. To achieve this goal, the CWA created programs designed to regulate and reduce the amount of pollution entering United States waters. Section 303(d) of the CWA requires states to assess their waterbodies to identify those not meeting water quality standards. If a waterbody is not meeting standards, it is listed as impaired and reported to the U.S. Environmental Protection Agency. The state then develops a plan to clean up the impaired waterbody. This plan includes the development of a Total Maximum Daily Load (TMDL) for the pollutant(s) that were found to be the cause of the water quality violations. A Total Maximum Daily Load (TMDL) calculates the maximum amount of a specific pollutant that a waterbody can receive and still meet water quality standards.

A TMDL for a given pollutant and waterbody is composed of the sum of individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources and natural background levels. In addition, the TMDL must include an implicit or explicit margin of safety (MOS) to account for the uncertainty in the relationship between pollutant loads and the quality of the receiving waterbody. The TMDL components are illustrated using the following equation:

$$TMDL = \Sigma WLAs + \Sigma LAs + MOS$$

Pennsylvania has committed to restoring all impaired waters by developing TMDLs and TMDL alternatives for all impaired waterbodies. The TMDL serves as the starting point or planning tool for restoring water quality.

5.4.1.1 Local TMDL

The subject facility discharges into a local TMDL- PCB TMDL Development for the Schuylkill River, Pennsylvania. The TMDL was published in April 2007.

The Schuylkill River, in southeastern Pennsylvania, is the focus of the TMDL study. The Schuylkill River watershed is the largest subwatershed in the Delaware River Basin. Pennsylvania's 2004 section 303(d) list includes multiple mainstem and tributary segments in the Schuylkill River Basin as impaired due to elevated polychlorinated biphenyl (PCB) concentrations. The elevated PCB concentrations were found in fish tissue and sediment samples taken throughout the basin.

Pennsylvania's 1996 303(d) list identifies 73.5 miles along the mainstem of the Schuylkill River as impaired due to PCBs.

PCBs are a group of synthetic chemicals that consist of 209 individual compounds (known as congeners). Physically, they are either oily liquids or solids. They are colorless to light yellow in color and have no known smell or taste. PCBs made in the United States were marketed under the trade name Aroclor.

Review of the USEPA's Permit Compliance System (PCS) and DRBC monitoring data presented in the 2003 Delaware River PCBs TMDL identified 40 likely and potential point sources in the Schuylkill River watershed. They include 21 publicly owned wastewater treatment plants (POTWs) with pretreatment facilities that had historically been permitted for PCB discharges, 1 POTW that has been explicitly permitted for PCB discharges, 1 PCB-contaminated industrial site contributing storm water discharges, and 3 industrial facilities identified by the DRBC as discharging PCBs.

Of the 40 facilities identified, 27 on and discharging directly to the mainstem of the Schuylkill River are considered explicitly by the steady-state model. In addition, four facilities suspected of PCB-contaminated storm water discharges are considered as well. Point source facilities (including storm water dischargers) and the model segments and subsegments to which they are assigned are presented in Table 3-1 of the TMDL.

Reading Regional Airport is not listed as one of the 40 likely and potential point soutces in the Schuylkill River watershed (Refer to Figure 3-1 of the PCB TMDL for the Schuylkill River, Page 57).

5.5 Anti-Degradation Requirement

Chapter 93.4a of the PA regulations requires that surface water of the Commonwealth of Pennsylvania may not be degraded below levels that protect the existing uses. The regulations specifically state that *Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected*. Antidegradation requirements are implemented through DEP's guidance manual entitled Water Quality Antidegradation Implementation Guidance (Document #391-0300-02).

The policy requires DEP to protect the existing uses of all surface waters and the existing quality of High Quality (HQ) and Exceptional Value (EV) Waters. Existing uses are protected when DEP makes a final decision on any permit or approval for an activity that may affect a protected use. Existing uses are protected based upon DEP's evaluation of the best available information (which satisfies DEP protocols and Quality Assurance/Quality Control (QA/QC) procedures) that indicates the protected use of the waterbody.

For a new, additional, or increased point source discharge to an HQ or EV water, the person proposing the discharge is required to utilize a nondischarge alternative that is cost-effective and environmentally sound when compared with the cost of the proposed discharge. If a nondischarge alternative is not cost-effective and environmentally sound, the person must use the best available combination of treatment, pollution prevention, and wastewater reuse technologies and assure that any discharge is nondegrading. In the case of HQ waters, DEP may find that after satisfaction of intergovernmental coordination and public participation requirements lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In addition, DEP will assure that cost-effective and reasonable best management practices for nonpoint source control in HQ and EV waters are achieved.

The subject facility's discharge will be to a non-special protection waters and the permit conditions are imposed to protect existing instream water quality and uses. Neither HQ waters or EV waters is impacted by this discharge.

5.6 Anti-Backsliding

Anti-backsliding is a federal regulation which prohibits a permit from being renewed, reissued, or modified containing effluent limitations which are less stringent than the comparable effluent limitations in the previous permit (40 CFR 122.l.1 and 40 CFR 122.l.2). A review of the existing permit limitations with the proposed permit limitations confirm that the facility is consistent with anti-backsliding requirements. The facility has proposed effluent limitations that are as stringent as the existing permit.

6.0 NPDES Parameter Details

The basis for the proposed sampling and their monitoring frequency that will appear in the permit for each individual parameter are itemized in this Section. The final limits are the more stringent of technology based effluent treatment (TBEL) requirements, water quality based (WQBEL) limits, TMDL, antidegradation, anti-degradation, or WET.

The reader will find in this section:

a) a justification of recommended permit monitoring requirements and limitations for each parameter in the proposed NPDES permit;
b) a summary of changes from the existing NPDES permit to the proposed permit; and
c) a summary of the proposed NPDES effluent limits.

6.1 Recommended Monitoring Requirements and Effluent Limitations

A summary of the recommended monitoring requirements and effluent limitations are itemized in the tables. The tables are categorized by (a) Conventional Pollutants and Disinfection, (b) Nitrogen Species and Phosphorus, and (c) Toxics.

6.1.1.1 Conventional Pollutants and Disinfection (Sewage Outfall)

Summary of Proposed NPDES Parameter Details for Conventional Pollutants and Disinfection
Reading Regional Airport, PA0028720

Parameter	Permit Limitation Required by[1]:	Recommendation	
pH (S.U.)	TBEL	Monitoring:	The monitoring frequency shall be daily as a grab sample (Table 6-3).
		Effluent Limit:	Effluent limits may range from pH = 6.0 to 9.0
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 95.2(1).
Dissolved Oxygen	BPJ	Monitoring:	The monitoring frequency shall be daily as a grab sample (Table 6-3).
		Effluent Limit:	Effluent limits shall be greater than 5.0 mg/l.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by best professional judgement.
CBOD	TBEL	Monitoring:	The monitoring frequency shall be 1x/wk as a 24-hr composite sample (Table 6-3).
		Effluent Limit:	Effluent limits shall not exceed 87 lbs/day and 25 mg/l as an average monthly.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(1). WQM modeling indicates that the TBEL is more stringent than the WQBEL. Thus, the permit limit is confined to TBEL.
TSS	TBEL	Monitoring:	The monitoring frequency shall be 1x/wk as a 24-hr composite sample (Table 6-3).
		Effluent Limit:	Effluent limits shall not exceed 105 lbs/day and 30 mg/l as an average monthly.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(1). While there is no WQM modeling for this parameter, the permit limit for TSS is generally assigned similar effluent limits as CBOD or BOD. Since the TBEL is more stringent than TBEL, TBEL will apply.
TRC	TBEL	Monitoring:	The monitoring frequency shall be on a daily basis as a grab sample (Table 6-3).
		Effluent Limit:	The average monthly limit should not exceed 0.5 mg/l and/or 1.6 mg/l as an instantaneous maximum.
		Rationale: Chlorine in both combined (chloramine) and free form is extremely toxic to freshwater fish and other forms of aquatic life (Implementation Guidance Total Residual Chlorine 1). The TRC effluent limitations to be imposed on a discharger shall be the more stringent of either the WQBEL or TBEL requirements and shall be expressed in the NPDES permit as an average monthly and instantaneous maximum effluent concentration (Implementation Guidance Total Residual Chlorine 4). Based on the stream flow rate (lowest 7-day flow rate in 10 years) and the design flow rate of the subject facility calculated by the TRC Evaluation worksheet, the TBEL is more stringent than the WQBEL. The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.48(b)(2)	
Fecal Coliform	TBEL	Monitoring:	The monitoring frequency shall be 1x/wk as a grab sample (Table 6-3).
		Effluent Limit:	Summer effluent limits shall not exceed 200 No./100 mL as a geometric mean. Winter effluent limits shall not exceed 2000 No./100 mL as a geometric mean.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(4) and 92a.47(a)(5).
E. Coli	SOP; Chapter 92a.61	Monitoring:	The monitoring frequency shall be 1x/quarter as a grab sample (SOP).
		Effluent Limit:	No effluent requirements.
		Rationale:	Consistent with the SOP- Establishing Effluent Limitations for Individual Sewage Permits (Revised March 22, 2019) and under the authority of Chapter 92a.61, the facility will be required to monitor for E.Coli.
Oil and Grease	TBEL; BPJ	Monitoring:	The monitoring frequency shall be 1x/wk as a 24-hr composite sample.
		Effluent Limit:	Effluent limits shall not exceed 15 mg/l as an average monthly and 30 mg/l as an instantaneous maximum.
		Rationale:	The monitoring frequency has been assigned in accordance with best professional judgment and the effluent limits assigned by Chapter 95.2.(2)(ii)

Notes:

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other

2 Monitoring frequency based on flow rate of 0.42 MGD.

3 Table 6-3 (Self Monitoring Requirements for Sewage Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Phase 2 Watershed Implementation Plan Wastewater Supplement, Revised September 6, 2017

6.1.1.2 Nitrogen Species and Phosphorus (Sewage Outfall)

Summary of Proposed NPDES Parameter Details for Nitrogen Species and Phosphorus

Reading Regional Airport, PA0028720

Parameter	Permit Limitation Required by[1]:	Recommendation
Ammonia-Nitrogen	WQBEL	Monitoring: The monitoring frequency shall be 1x/wk as a 24-hr composite sample
		Effluent Limit: Effluent limits shall not exceed 70 lbs/day and 20 mg/l as an average monthly.
		Rationale: Water quality modeling recommends limits.

Notes:

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other

2 Monitoring frequency based on flow rate of 0.42 MGD.

3 Table 6-3 (Self Monitoring Requirements for Sewage Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Phase 2 Watershed Implementation Plan Wastewater Supplement, Revised September 6, 2017

6.1.1.3 Toxics (Sewage Outfall)

Summary of Proposed NPDES Parameter Details for Toxics

Reading Regional Airport, PA0028720

Parameter	Permit Limitation Required by[1]:	Recommendation	
TDS	DRBC Docket	Monitoring:	The monitoring frequency shall be 1x/wk as a 24-hr composite sample
		Effluent Limit:	Effluent limits shall not exceed 2,605 mg/l as an average monthly and 5,210 mg/l as a daily maximum.
		Rationale:	Based on the DRBC docket, monitoring and effluent limits are required.
Total PCBs	TMDL	Monitoring:	The monitoring frequency shall be 2x/yr as a 24-hr composite sample.
		Effluent Limit:	No effluent requirements.
		Rationale:	Due to the TMDL, monitoring shall be required. The monitoring frequency has been assigned in accordance with best professional judgment.

Notes:

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other

2 Monitoring frequency based on flow rate of 0.42 MGD.

3 Table 6-3 (Self Monitoring Requirements for Sewage Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Phase 2 Watershed Implementation Plan Wastewater Supplement, Revised September 6, 2017

6.1.2.1 Stormwater Monitoring

Consistent with the PAG03 general permit, the requirements in Appendix G (Air Transportation Facility) apply to stormwater discharges associated with industrial activity from Air Transportation facilities as identified by the following SIC Codes: 4512-4581.

The GIF form reported the facility is classified by SIC code 4581.

This General Permit authorizes stormwater discharges from only those portions of the air transportation facility that are involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling and lubrication), equipment cleaning operations or deicing operations.

An individual NPDES permit is required for the following discharges:

- Discharges of aircraft, ground vehicle, runway and equipment wash waters.
- Dry weather discharges containing deicing chemicals.
- Runoff containing urea from airfield pavement deicing at existing and new primary airports with 1,000 or more annual non-propeller aircraft departures, subject to effluent limitation guidelines in 40 CFR Part 449.

The permittee must monitor and report analytical results for the parameters listed below on Discharge Monitoring Reports (DMRs) for representative outfalls, subject to footnotes provided. The benchmark values listed below are not effluent limitations, and exceedances do not constitute permit violations. However, if the permittee's sampling demonstrates exceedances of benchmark values for two consecutive monitoring periods, the permittee shall submit a corrective action plan within 90 days of the end of the monitoring period triggering the plan.

Parameter	Monitoring Requirements[(1)]	Sample Type	Benchmark Values	Units
pH	1/6 months	Grab	XXX	SU
BOD	1/6 months	Grab	30	mg/l
COD	1/6 months	Grab	120	mg/l
TSS	1/6 months	Grab	100	mg/l
Ammonia-Nitrogen	1/6 months	Grab	XXX	mg/l
TDS	1/6 months	Grab	XXX	mg/l

Footnotes

(1) The permittee shall monitor the listed parameters only at those outfalls that receive runoff from areas where deicing activities occur. The permittee shall conduct the required monitoring during the deicing season, which is defined for the purpose of this appendix as the period from October 1 – March 31. One sample must be collected during the period October 1 – December 31 (to be submitted on a DMR due January 28) and one sample must be collected during the period January 1 – March 31 (to be submitted on a DMR due July 28). Additional monitoring outside of the deicing season is optional.

Consistent with the March 17, 2021 letter from Spotts, Stevens, and McCoy, (a) the facility is not considered a primary airport; (b) there are no dry weather discharges (c) only Outfalls 006 and 008 are not affected by de-icing contributions (d) the facility will obtain permission from BCIDA to sample Outfall 002.

6.1.3.2 Toxics (Stormwater Outfall)

Summary of Proposed NPDES Parameter Details for Toxics

Reading Regional Airport; PA0028720; Outfalls 002, 003, 004, 005, 006, 007, 008, and 009

Parameter	Permit Limitation Required by[1]:	Recommendation	
Oil and Grease	**Antibacksliding**	Monitoring:	The monitoring frequency shall be 2x/yr as a grab sample
		Effluent Limit:	No effluent requirement.
		Rationale:	Due to antibacksliding regulations, this parameter shall continue to be monitored.
Total Potassium	**Antibacksliding**	Monitoring:	The monitoring frequency shall be 2x/yr as a grab sample
		Effluent Limit:	No effluent requirement.
		Rationale:	Due to antibacksliding regulations, this parameter shall continue to be monitored.
Diethylene Glycol	**Antibacksliding**	Monitoring:	The monitoring frequency shall be 2x/yr as a grab sample
		Effluent Limit:	No effluent requirement.
		Rationale:	Due to antibacksliding regulations, this parameter shall continue to be monitored.
Propylene Glycol	**Antibacksliding**	Monitoring:	The monitoring frequency shall be 2x/yr as a grab sample
		Effluent Limit:	No effluent requirement.
		Rationale:	Due to antibacksliding regulations, this parameter shall continue to be monitored.
Ethylene Glycol	**Antibacksliding**	Monitoring:	The monitoring frequency shall be 2x/yr as a grab sample
		Effluent Limit:	No effluent requirement.
		Rationale:	Due to antibacksliding regulations, this parameter shall continue to be monitored.
Total Iron	**Antibacksliding**	Monitoring:	The monitoring frequency shall be 2x/yr as a grab sample
		Effluent Limit:	No effluent requirement.
		Rationale:	Due to antibacksliding regulations, this parameter shall continue to be monitored.

Notes:

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other

2 Monitoring frequency based on PAG03- Appendix G

3 Table 6-3 (Self Monitoring Requirements for Sewage Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021

6.2 Summary of Changes From Existing Permit to Proposed Permit

A summary of how the proposed NPDES permit differs from the existing NPDES permit is summarized as follows.

This table summarizes changes for sewage effluent.

Changes in Permit Monitoring or Effluent Quality (Sewage Effluent)

Parameter	Existing Permit	Draft Permit
E.Coli	No monitoring or effluent limits	Due to EPA directive, monitoring shall be required on a 1x/quarter basis
TDS	Effluent limits not to exceed 2,625 mg/l as an average monthly and 5,210 mg/l as a daily maximum.	Effluent limits shall not exceed 2,605 mg/l as an average monthly and 5,210 mg/l as a daily maximum. The current permit may have had a typographical error with a limit of 2,625 mg/l.

This table summarizes changes for stormwater monitoring.

Changes in Permit Monitoring or Effluent Quality (Stormwater)

Parameter	Existing Permit	Draft Permit
pH, CBOD,TSS, Oil and Grease, Total Potassium, Diethylene Glycol, Propylene Glycol, Ethylene Glycol, Total Iron	Monitoring is required 1x/yr.	Consistent with other monitoring parameters in PAG03-Appendix G, monitoring shall be required on a 2x/yr basis.
Ammonia-Nitrogen	No monitoring or effluent limits	Consistent with PAG03- Appendix G, monitoring shall be required on a 2x/yr basis.
TDS	No monitoring or effluent limits	Consistent with PAG03- Appendix G, monitoring shall be required on a 2x/yr basis.

6.3.1 Summary of Proposed NPDES Effluent Limits

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.

The proposed NPDES effluent limitations are summarized in the table below.

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

I. A. **For Outfall** 001, **Latitude** 40° 22' 56.03", **Longitude** 75° 57' 10.00", **River Mile Index** 79.4, **Stream Code** 833

Receiving Waters: Schuylkill River (WWF, MF)

Type of Effluent: Sewage Effluent

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) [1]		Concentrations (mg/L)				Minimum [2]	Required
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	87	140	XXX	25.0	40.0	50	1/week	24-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Suspended Solids	105	157	XXX	30.0	45.0	60	1/week	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Dissolved Solids	Report	XXX	XXX	2605.0	5210.0 Daily Max	5210	1/week	24-Hr Composite
Oil and Grease	52	XXX	XXX	15.0	XXX	30	1/week	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	XXX	1/week	Grab

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) [1]		Concentrations (mg/L)				Minimum [2]	Required
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum	Measurement Frequency	Sample Type
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	XXX	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	Grab
Ammonia-Nitrogen	70	XXX	XXX	20.0	XXX	40	1/week	24-Hr Composite

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

at Outfall 001

For Storwater Outfallos 002 to 009, the table summarizes the monitoring requirements.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) [1]		Concentrations (mg/L)				Minimum [2]	Required
	Average Monthly	Average Weekly	Minimum	Semi-Annual Average	Maximum	Instant. Maximum	Measurement Frequency	Sample Type
pH (S.U.)	XXX	XXX	XXX	Report	XXX	XXX	1/6 months	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	Report	XXX	XXX	1/6 months	Grab
Chemical Oxygen Demand (COD)	XXX	XXX	XXX	Report	XXX	XXX	1/6 months	Grab
Total Suspended Solids	XXX	XXX	XXX	Report	XXX	XXX	1/6 months	Grab
Total Dissolved Solids	XXX	XXX	XXX	Report	XXX	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	Report	XXX	XXX	1/6 months	Grab
Iron, Total	XXX	XXX	XXX	Report	XXX	XXX	1/6 months	Grab
Potassium, Total	XXX	XXX	XXX	Report	XXX	XXX	1/6 months	Grab
Ethylene Glycol	XXX	XXX	XXX	Report	XXX	XXX	1/6 months	Grab
Propylene Glycol	XXX	XXX	XXX	Report	XXX	XXX	1/6 months	Grab
Diethylene Glycol	XXX	XXX	XXX	Report	XXX	XXX	1/6 months	Grab

6.3.2 Summary of Proposed Permit Part C Conditions

The subject facility has the following Part C conditions.

- Chlorine Minimization
- SBR Batch Discharge Condition
- Hauled-in Waste Restrictions
- Solids Management for Non-Lagoon Treatment Systems
- Stormwater Requirements
- Stormwater BMPs
- Schuylkill River PCB TMDL- Monitoring Requirements
- Schuylkill River PCB TMDL- Submit Plan

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachment)
☒	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☐	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☐	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.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
☐	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.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
☐	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.
☐	Design Stream Flows, 391-2000-023, 9/98.
☐	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.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	SOP: New and Reissuance Sewage Individual NPDES permit Applications, rev January 6, 2020
☐	Other:

Attachment A

Stream Stats/Gauge Data

10 Selected Streamflow Statistics for Streamgage Locations in and near Pennsylvania

Table 1. List of U.S. Geological Survey streamgage locations in and near Pennsylvania with updated streamflow statistics.—Continued

[Latitude and Longitude in decimal degrees; mi², square miles]

Streamgage number	Streamgage name	Latitude	Longitude	Drainage area (mi²)	Regulated[1]
01465780	Poquessing Creek above Byberry Creek at Phila., Pa.	40.070	-74.975	13.2	N
01465798	Poquessing Creek at Grant Ave. at Philadelphia, Pa.	40.057	-74.985	21.4	N
01465850	South Branch Rancocas Creek at Vincentown, N.J.	39.94	-74.763	64.5	N
01466500	McDonalds Branch in Byrne State Forest, N.J.	39.885	-74.505	2.35	N
01467000	North Branch Rancocas Creek at Pemberton, N.J.	39.97	-74.684	118	N
01467042	Pennypack Creek at Pine Road, at Philadelphia, Pa.	40.090	-75.069	37.9	N
01467048	Pennypack Creek at Lower Rhawn St Bdg, Phila., Pa.	40.050	-75.033	49.8	N
01467050	Wooden Bridge Run at Philadelphia, Pa.	40.055	-75.022	3.35	N
01467081	South Branch Pennsauken Creek at Cherry Hill, N.J.	39.942	-75.001	8.98	N
01467086	Tacony Creek ab Adams Avenue, Philadelphia, Pa.	40.047	-75.111	16.7	N
01467087	Frankford Creek at Castor Ave, Philadelphia, Pa.	40.016	-75.097	30.4	N
01467089	Frankford Creek at Torresdale Ave., Phila., Pa.	40.007	-75.092	33.8	N
01467150	Cooper River at Haddonfield, N.J.	39.903	-75.021	17.0	N
01467500	Schuylkill River at Pottsville, Pa.	40.684	-76.186	53.4	N
01468500	Schuylkill River at Landingville, Pa.	40.629	-76.125	133	N
01469500	Little Schuylkill River at Tamaqua, Pa.	40.807	-75.972	42.9	N
01470500	Schuylkill River at Berne, Pa.	40.523	-75.998	355	N
01470756	Maiden Creek at Virginville, Pa.	40.514	-75.883	159	N
01470779	Tulpehocken Creek near Bernville, Pa.	40.413	-76.172	66.5	N
01470853	Furnace Creek at Robesonia, Pa.	40.340	-76.143	4.18	N
01470960	Tulpehocken Creek at Blue Marsh Damsite near Reading, Pa.	40.371	-76.025	175	Y
01471000	Tulpehocken Creek near Reading, Pa.	40.369	-75.979	211	Y
01471510	Schuylkill River at Reading, Pa.	40.335	-75.936	880	Y
01471875	Manatawny Creek near Spangsville, Pa.	40.340	-75.742	56.9	N
01471980	Manatawny Creek near Pottstown, Pa.	40.273	-75.680	85.5	N
01472000	Schuylkill River at Pottstown, Pa.	40.242	-75.652	1,147	Y
01472157	French Creek near Phoenixville, Pa.	40.151	-75.601	59.1	N
01472174	Pickering Creek near Chester Springs, Pa.	40.090	-75.630	5.98	N
01472198	Perkiomen Creek at East Greenville, Pa.	40.394	-75.515	38.0	N
01472199	West Branch Perkiomen Creek at Hillegass, Pa.	40.374	-75.522	23.0	N
01472500	Perkiomen Creek near Frederick, Pa.	40.275	-75.455	152	N
01472620	East Branch Perkiomen Creek near Dublin, Pa.	40.404	-75.234	4.05	LF
01472810	East Branch Perkiomen Creek near Schwenksville, Pa.	40.259	-75.429	58.7	LF
01473000	Perkiomen Creek at Graterford, Pa.	40.230	-75.452	279	LF
01473120	Skippack Creek near Collegeville, Pa.	40.165	-75.433	53.7	N
01473169	Valley Creek at Pa. Turnpike Br near Valley Forge, Pa.	40.079	-75.461	20.8	N
01473500	Schuylkill River at Norristown, Pa.	40.111	-75.347	1,760	N
01473900	Wissahickon Creek at Fort Washington, Pa.	40.124	-75.220	40.8	N
01473950	Wissahickon Creek at Bells Mill Rd, Phila., Pa.	40.080	-75.226	53.6	N
01473980	Wissahickon Creek at Livezey Lane, Phila., Pa.	40.050	-75.214	59.2	N
01474000	Wissahickon Creek at Mouth, Philadelphia, Pa.	40.015	-75.207	64.0	N
01474500	Schuylkill River at Philadelphia, Pa.	39.968	-75.189	1,893	N
01475000	Mantua Creek at Pitman, N.J.	39.737	-75.113	6.05	N
01475300	Darby Creek at Waterloo Mills near Devon, Pa.	40.023	-75.422	5.15	N
01475510	Darby Creek near Darby, Pa.	39.929	-75.272	37.4	N

Table 2. Selected low-flow statistics for streamgage locations in and near Pennsylvania.—Continued

[ft³/s; cubic feet per second; —, statistic not computed; <, less than]

Streamgage number	Period of record used in analysis[1]	Number of years used in analysis	1-day, 10-year (ft³/s)	7-day, 10-year (ft³/s)	7-day, 2-year (ft³/s)	30-day, 10-year (ft³/s)	30-day, 2-year (ft³/s)	90-day, 10-year (ft³/s)
01453000	[3]1904–1927	18	237	312	447	378	546	472
01454700	1968–2005	38	471	510	745	600	902	760
01455500	1930–2008	52	0	.4	7.8	—	—	6.0
01457000	1905–2008	89	40.6	45.6	70.5	52.2	81.7	62.5
01459500	[2]1975–2008	34	1.9	2.1	4.1	2.9	7.1	5.7
01459500	[3]1937–1973	37	.4	.9	2.1	1.3	3.6	2.9
01463500	1914–2008	95	1,540	1,720	2,700	1,960	3,120	2,430
01463620	1974–2008	19	2.4	2.7	7.6	4.8	10.6	8.6
01464000	1925–2008	84	9.4	14.2	25.7	18.7	34.2	29.3
01464500	1942–2008	65	16.4	18.9	34.0	24.4	42.3	37.3
01464645	1987–2008	22	3.3	3.6	12.3	4.4	13.6	5.4
01464720	1992–2008	17	3.0	3.6	5.8	4.5	7.3	6.2
01465000	1886–1934	28	—	3.4	10.1	4.9	15.0	12.9
01465500	1936–2008	73	9.0	12.7	26.4	17.3	37.4	28.6
01465770	1966–1982	16	.3	.4	1.2	.8	1.7	1.7
01465798	1967–2008	42	1.0	1.2	3.6	3.0	6.8	7.9
01465850	1963–2008	19	5.2	8.5	13.2	12.1	19.5	17.1
01466500	1955–2008	54	.8	.8	1.1	.9	1.2	.9
01467000	1923–2008	86	26.2	34.2	51.8	41.6	63.2	53.2
01467042	1966–1981	16	8.6	9.3	16.8	11.3	21.5	17.0
01467048	1967–2008	42	10.7	12.1	18.9	16.6	27.2	26.6
01467050	1967–1981	15	.3	.4	.8	.7	1.3	1.6
01467081	1969–2008	38	2.4	2.9	4.1	3.9	6.0	6.3
01467086	1967–1988	23	3.3	4.4	6.9	6.6	9.9	10.4
01467087	1984–2008	25	1.6	2.1	6.1	4.8	10.1	12.0
01467089	1968–1982	15	4.8	6.6	9.6	10.3	16.0	20.1
01467150	1965–2008	44	3.9	5.4	10.1	7.3	13.2	11.5
01467500	1945–1969	25	14.6	17.2	24.5	19.8	28.5	23.4
01468500	1949–2008	40	40.8	44.5	70.6	52.1	82.4	65.0
01469500	1921–2008	88	4.8	5.5	10.9	7.3	14.4	10.1
01470500	1949–2008	60	69.2	82.3	137	102	164	133
01470756	1974–1995	22	14.8	16.7	30.5	23.4	43.9	35.5
01470779	1976–2008	33	21.9	24.6	39.3	29.4	45.2	34.8
01470853	1984–2005	22	.2	.4	1.2	.8	1.6	1.1
01470960	[2]1980–2008	29	29.4	31.8	52.4	47.0	74.7	66.3
01470960	[3]1967–1978	12	32.7	38.2	74.0	47.6	88.3	59.5
01471000	[2]1980–2008	29	36.9	43.4	69.4	58.9	93.9	81.0
01471000	[3]1952–1978	27	41.8	47.6	77.1	55.3	91.2	68.6
01471510	[2]1980–2008	29	222	244	347	274	422	340
01471510	[3]1916–1930	10	142	173	279	206	337	245
01471875	1995–2008	14	10.9	11.8	21.2	14.1	25.3	19.0
01471980	1976–2004	29	16.5	17.8	29.2	21.7	34.9	29.7
01472000	[2]1980–2008	29	276	301	432	349	527	453
01472000	[3]1929–1978	50	228	258	411	298	486	374
01472157	1970–2008	39	9.5	10.2	17.2	12.5	21.8	17.0

Attachment B

WQM 7.0 Modeling Output Values
Toxics Management Spreadsheet Output Values

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
03F	833	SCHUYLKILL RIVER

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
79.400	Reading RA	PA0028720	0.420	CBOD5	25		
				NH3-N	20	40	
				Dissolved Oxygen			5

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
03F	833	SCHUYLKILL RIVER

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
79.400	Reading RA	2.76	40	2.76	40	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
79.400	Reading RA	.59	20	.59	20	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
79.40	Reading RA	25	25	20	20	5	5	0	0

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
03F	833	SCHUYLKILL RIVER	79.400	228.00	648.00	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.240	0.00	0.00	0.000	0.000	0.0	0.00	0.00	23.30	8.05	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Reading RA	PA0028720	0.4200	0.4200	0.4200	0.000	25.00	7.23

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	20.00	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
03F	833	SCHUYLKILL RIVER	77.570	201.00	658.00	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.240	0.00	0.00	0.000	0.000	0.0	0.00	0.00	23.30	8.05	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
03F	833	SCHUYLKILL RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
79.400	0.420	23.307	8.040
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
187.607	1.118	167.817	0.745
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.10	0.066	0.08	0.903
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.229	10.497	Tsivoglou	5
Reach Travel Time (days)			
0.150			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.015	2.09	0.08	7.76
0.030	2.09	0.08	7.76
0.045	2.09	0.08	7.76
0.060	2.09	0.08	7.76
0.075	2.08	0.08	7.76
0.090	2.08	0.08	7.76
0.105	2.08	0.08	7.76
0.120	2.08	0.07	7.76
0.135	2.07	0.07	7.76
0.150	2.07	0.07	7.76

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
03F	833	SCHUYLKILL RIVER

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
79.400	155.52	0.00	155.52	.6497	0.00279	1.118	187.61	167.82	0.74	0.150	23.31	8.04
Q1-10 Flow												
79.400	141.52	0.00	141.52	.6497	0.00279	NA	NA	NA	0.71	0.158	23.31	8.04
Q30-10 Flow												
79.400	174.18	0.00	174.18	.6497	0.00279	NA	NA	NA	0.79	0.141	23.31	8.04

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☐
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.91	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.12	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **Reading Regional Airport** NPDES Permit No.: **PA0028720** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Sewage Effluent**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.42	100	7.23						

					0 if left blank		*0.5 if left blank*		*0 if left blank*			*1 if left blank*	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		1628									
	Chloride (PWS)	mg/L		303									
	Bromide	mg/L		0.22									
	Sulfate (PWS)	mg/L		366									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L											
	Total Antimony	µg/L											
	Total Arsenic	µg/L											
	Total Barium	µg/L											
	Total Beryllium	µg/L											
	Total Boron	µg/L											
	Total Cadmium	µg/L											
	Total Chromium (III)	µg/L											
	Hexavalent Chromium	µg/L											
	Total Cobalt	µg/L											
	Total Copper	mg/L		0.132									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L											
	Total Iron	µg/L											
	Total Lead	mg/L	<	0.002									
	Total Manganese	µg/L											
	Total Mercury	µg/L											
	Total Nickel	µg/L											
	Total Phenols (Phenolics) (PWS)	µg/L											
	Total Selenium	µg/L											
	Total Silver	µg/L											
	Total Thallium	µg/L											
	Total Zinc	mg/L		0.0649									
	Total Molybdenum	µg/L											
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Stream / Surface Water Information

Reading Regional Airport, NPDES Permit No. PA0028720, Outfall 001

Instructions | Discharge | Stream

Receiving Surface Water Name: **Schuylkill River**

No. Reaches to Model: 1

- (●) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	000833	79.4	228	648			Yes
End of Reach 1	000833	77.57	201	658			Yes

$Q_{7\text{-}10}$

Location	RMI	LFY (cfs/mi²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	79.4	0.24										136	8.05		
End of Reach 1	77.57	0.24										136	8.05		

Q_h

Location	RMI	LFY (cfs/mi²)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	79.4														
End of Reach 1	77.57														

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

Pollutants	Mass Limits		Concentration Limits				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			
Total Copper	Report	Report	Report	Report	Report	mg/L	0.41	AFC	Discharge Conc > 10% WQBEL (no RP)

Attachment C

TRC Evaluation

Reading Regional Airport
PA0028720

November 2021

TRC EVALUATION

Input appropriate values in B4:B8 and E4:E7

153	= Q stream (cfs)	0.5	= CV Daily
0.42	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)	0	=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 75.137	1.3.2.iii	WLA cfc = 73.245
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 27.998	5.1d	LTA_cfc = 42.581

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.500	BAT/BPJ
		INST MAX LIMIT (mg/l) = 1.635	

WLA afc	**(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...** **...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	**(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))...** **...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)
LTA_cfc	wla_cfc*LTAMULT_cfc
AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))
AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)
INST MAX LIMIT	**1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)**

Attachment D

DRBC Docket

DOCKET NO. D-1986-038 CP-4

DELAWARE RIVER BASIN COMMISSION

Reading Regional Airport Authority
Wastewater Treatment Plant
Bern Township, Berks County, Pennsylvania

PROCEEDINGS

This docket is issued in response to an application submitted to the Delaware River Basin Commission (DRBC or Commission) on May 23, 2018 (Application), for renewal of the existing wastewater treatment plant (WWTP) and its discharge. National Pollutant Discharge Elimination System (NPDES) Permit No. PA0028720 for this discharge was issued by the Pennsylvania Department of Environmental Protection (PADEP) on May 6, 2009. The NPDES Permit renewal is pending. The application was reviewed for continuation of the project in the Comprehensive Plan and approval under Section 3.8 of the *Delaware River Basin Compact*. The Berks County Planning Commission has been notified of pending action. A public hearing on this project was held by the DRBC on May 15, 2019.

A. DESCRIPTION

1. **Purpose**. The purpose of this docket is to renew approval of the docket holder's existing 0.42 million gallons per day (mgd) WWTP and its discharge.

2. **Location**. The docket holder's WWTP is located at Bernville Road in Bern Township, Berks County, Pennsylvania. The WWTP will continue to discharge treated effluent to the Schuylkill River at River Mile 92.47 – 80.3 (Delaware River – Schuylkill River) via Outfall No. 001.

The WWTP outfall is located in the Schuylkill River Watershed as follows:

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
001	40° 22' 56"	75° 57' 10"

3. **Area Served**. The docket holder's WWTP will continue to serve the Reading Regional Airport, which includes the tenants of 3 Airport Industrial Parks and contained businesses, the Direct Link Building, and the Riveredge Restaurant. The WWTP also serves the St. Joseph Hospital and Medical Center, Water District (A), and the West Shore Area, which are all located within the limits of Bern Township, Berks County, Pennsylvania. For the purpose of defining the

Area Served, Section B (Type of Discharge) and D (Service Area) of the docket holder's Application are incorporated herein by reference, to the extent consistent with all other conditions contained in the DECISION Section of this docket.

4. **Design Criteria**. The docket holder's 0.42 mgd WWTP utilizes a sequencing batch reactor (SBR) treatment process with chlorine disinfection.

5. **Facilities**. The WWTP facilities consist of a fine influent screen, an influent wet well, 2 SBR treatment units, 2 aerobic digesters, 2 chlorine contact tanks, a Parshall flume, a sludge dewatering centrifuge, and a sludge holding tank.

The WWTP facilities are not located in the 100-year floodplain

Wasted sludge will continue to be hauled off-site by a licensed hauler for disposal at a state approved facility.

6. **Water withdrawals**. The potable water supply in the project service area is provided by the Reading Area Water Authority (RAWA). The RAWA water withdrawal is described in detail in Docket No. D-2000-059 CP-2, which was approved on May 11, 2011

7. **NPDES Permit / DRBC Effluent Requirements**. NPDES Permit No. PA0028720 was issued by the PADEP on May 6, 2009 and includes final effluent limitations for the project discharge to surface waters classified by the PADEP as supporting migratory fishes (MF) and warm water fishes (WWF). EFFLUENT TABLES C-1 & C-2 included in the DECISION section of this docket, contain effluent requirements for DRBC parameters that must be met as a condition of this approval (See DECISION Condition C.1.). Effluent requirements for Outfall No. 001 are based on a discharge rate of 0.42 mgd.

8. **Relationship to the Comprehensive Plan**. The existing WWTP was added to the Comprehensive Plan by Docket No. D-1986-038 CP on September 17, 1986. The WWTP approval was modified and renewed by Docket Nos. D-1986-038 CP-2 and D-1986-038 CP-3, on September 27, 2006 and September 12, 2013, respectively. Issuance of this docket will renew and continue the approval of the WWTP and its discharge in the Comprehensive Plan.

B. FINDINGS

The purpose of this docket is to renew the approval of the docket holder's existing 0.42 mgd WWTP and its related discharge.

1. Total Dissolved Solids

Section 3.10.4D.2. of the Commission's *Water Quality Regulations* (*WQR*) establishes the basin-wide total dissolved solids (TDS) effluent standard as 1,000 mg/l. The Commission's basin-wide in-stream criteria outlines that the TDS concentration of the receiving stream exhibit a

resultant of less than 133% of the background TDS concentration, in conjunction with a TDS less than 500 mg/l (Sections 3.10.3B.1b and 3.10.3B.2 of the Commission's *WQR*).

The 133% of the background TDS requirement is implemented for the protection of aquatic life. The 500 mg/l TDS requirement is utilized to protect the use of the receiving stream as a drinking water source; whereas, the EPA's Safe Drinking Water Act's secondary standard for TDS is 500 mg/l.

Background TDS is to be the observed concentration of TDS during Q_{7-10} conditions or, in the absence thereof, an acceptable estimate to the Commission in accordance with Section 3.10.6G of the Commission's *WQR*. A letter from the Commission to the docket holder dated August 4, 2003 established the in-stream background TDS concentration and accompanying Q_{7-10} flow at the WWTP's discharge as 400 mg/l and 101 mgd, respectively.

Within the referenced letter and Docket Nos. D-1986-38 CP-2 and D-1986-38 CP-3, a variance to the Commission's TDS effluent limit was approved on an average monthly and instantaneous maximum basis of 2,605 mg/l and 5,210 mg/l, respectively. The established in-stream background TDS concentration and Q_{7-10} low flow evaluated at the docket holder's WWTP existing 0.42 mgd flow does not increase the stream's resultant concentration greater than the Commission's *WQR* criteria. Therefore, this docket continues an average monthly TDS effluent limit of 2,605 mg/l and an instantaneous maximum TDS effluent limit of 5,210 mg/l.

2. Other

At the docket holder's WWTP discharge, the Schuylkill River has an estimated seven-day low flow with a recurrence interval of ten years (Q_{7-10}) of 99.5 mgd (154 cfs). The ratio of this low flow to the hydraulic design wastewater discharge from the 0.42 mgd WWTP is 237 to 1.

The nearest surface water intake of record for public water supply is located on Schuylkill River approximately 24 River Miles downstream of the docket holder's WWTP and is operated by Pottstown Borough Authority.

The project does not conflict with the Comprehensive Plan and is designed to prevent substantial adverse impact on the water resources related environment, while sustaining the current and future water uses and development of the water resources of the Basin.

The effluent limits in the NPDES Permit are in compliance with Commission effluent quality requirements, where applicable.

The project is designed to produce a discharge meeting the effluent requirements as set forth in the Commission's *Water Quality Regulations* (*WQR*).

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C. DECISION

Effective on the approval date for Docket No. D-1986-038 CP-4 below, the project described in Docket No. D-1986-038 CP-3 is removed from the Comprehensive Plan to the extent that they are not included in Docket No. D-1986-038 CP-4; Docket No. D-1986-038 CP-3 is terminated and replaced by Docket No. D-1986-038 CP-4; and the project and the appurtenant facilities described in Section A. DESCRIPTION of this docket shall be continued in the Comprehensive Plan. The project and appurtenant facilities as described in Section A of this docket are approved pursuant to Section 3.8 of the *Compact*, subject to the following conditions

Monitoring and Reporting

1. The docket holder shall comply with the requirements contained in the EFFLUENT TABLES below. The docket holder shall submit the required monitoring results electronically to the DRBC Project Review Section via email **aemr@drbc.state.nj.us** on the **Annual Effluent Monitoring Report Form** located at this web address: http://www.state.nj.us/drbc/programs/project/pr/info.html. The monitoring results shall be submitted annually, absent any observed limit violations, by January 31. If a DRBC effluent limit is violated, the docket holder shall submit the result(s) to the DRBC within 30 days of the violation(s) and provide a written explanation that states the action(s) the docket holder has taken to correct the violation(s) and protect against any future violations. The following average monthly effluent limits are among those listed in the NPDES Permit and meet or are more stringent than the effluent requirements of the DRBC.

EFFLUENT TABLE C-1: DRBC Parameters Included in NPDES Permit

OUTFALL 001 (Discharging to Schuylkill River)		
PARAMETER	**LIMIT**	**MONITORING**
pH (Standard Units)	6 to 9 at all times	As required by NPDES Permit
Total Suspended Solids	30 mg/l	As required by NPDES Permit
$CBOD_5$ (at 20° C)	25 mg/l	As required by NPDES Permit
Ammonia Nitrogen	20 mg/l	As required by NPDES Permit
Fecal Coliform (5-1 to 9-30)	200 colonies per 100 ml as a geo. avg.	As required by NPDES Permit
(10-1 to 4-30)	2000 colonies per 100 ml as a geo. avg.	
Total Dissolved Solids*	2,605 mg/l (Average Monthly)** 5,210 mg/l (Instantaneous Max.)	As required by NPDES Permit

* See DECISION Condition C.5.

** DRBC requirement; NPDES Permit does not match the approved DRBC limit value of 2,605 mg/l.

The following monitoring requirements and average monthly effluent limits are for DRBC parameters not listed in the NPDES Permit.

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EFFLUENT TABLE C-2: DRBC Parameters Not Included in NPDES Permit

OUTFALL 001 (Discharging to Schuylkill River)		
PARAMETER	LIMIT	MONITORING
$CBOD_5$ (at 20° C)	Monitor & Report Influent	Monthly, paired with $CBOD_5$ effluent monitoring sample
$CBOD_5$ (at 20° C)	85% Minimum Removal	Monthly

Other Conditions

2. Nothing in this docket constitutes a defense to any penalty action for past conduct of the docket holder or ongoing activity not authorized by this approval. In particular, renewal of this docket does not resolve violations – whether in the past or continuing – of provisions of the Delaware River Basin Compact ("Compact") or any rule, regulation, order or approval duly issued by the Commission or the Executive Director pursuant to the Compact. The Commission reserves its right to take appropriate enforcement action against the docket holder, including but not limited to recovery of financial penalties consistent with Section 14.17 of the Compact, for any and all such prior or continuing violations.

3. Except as otherwise authorized by this docket, if the docket holder seeks relief from any limitation based upon a DRBC water quality standard or minimum treatment requirement, the docket holder shall apply for approval from the Executive Director or for a docket revision in accordance with Section 3.8 of the *Compact* and the *Rules of Practice and Procedure*.

4. The docket holder may request of the Executive Director in writing the substitution of specific conductance for TDS. The request should include information that supports the effluent specific correlation between TDS and specific conductance. Upon review, the Executive Director may modify the docket to allow the substitution of specific conductance for TDS monitoring.

5. The docket holder is responsible for timely submittal to the DRBC of a docket renewal application on the appropriate application form including the appropriate docket application filing fee (see 18 CFR 401.43) at least 6 months in advance of the docket expiration date set forth below. The docket holder will be subject to late filed renewal surcharges in the event of untimely submittal of its renewal application, whether or not DRBC issues a reminder notice in advance of the deadline or the docket holder receives such notice. In the event that a timely and complete application for renewal has been submitted and the DRBC is unable, through no fault of the docket holder, to reissue the docket before the expiration date below, the terms and conditions of the current docket will remain fully effective and enforceable against the docket holder pending the grant or denial of the application for docket approval.

6. The docket holder is permitted to treat and discharge wastewater as set forth in the Area Served Section of this docket, which incorporates by reference Sections B (Type of Discharge) and D (Service Area) of the docket holder's Application to the extent consistent with all other conditions of this DECISION Section.

7. The docket holder is prohibited from treating/pre-treating any hydraulic fracturing wastewater from sources in or out of the Basin at this time. Should the docket holder wish to

treat/pre-treat hydraulic fracturing wastewater in the future, the docket holder will need to first apply to the Commission to renew this docket and be issued a revised docket allowing such treatment and an expanded service area. Failure to obtain this approval prior to treatment/pre-treatment will result in action by the Commission.

8. The facility and operational records shall be available at all times for inspection by the DRBC.

9. The facility shall be operated at all times to comply with the requirements of the Commission's WQR.

10. If at any time the receiving treatment plant proves unable to produce an effluent that is consistent with the requirements of this docket approval, no further connections shall be permitted until the deficiency is remedied.

11. Nothing herein shall be construed to exempt the docket holder from obtaining all necessary permits and/or approvals from other State, Federal or local government agencies having jurisdiction over this project.

12. The docket holder shall discharge wastewater in such a manner as to avoid injury or damage to fish or wildlife and shall avoid any injury to public or private property.

13. No sewer service connections shall be made to newly constructed premises with plumbing fixtures and fittings that do not comply with water conservation performance standards contained in Resolution No. 88-2 (Revision 2).

14. The issuance of this docket approval shall not create any private or proprietary rights in the waters of the Basin, and the Commission reserves the right to amend, suspend or rescind the docket for cause, in order to ensure proper control, use and management of the water resources of the Basin.

15. The docket holder shall be subject to applicable DRBC regulatory program fees, in accordance with duly adopted DRBC resolutions and/or regulations (see 18 CFR 401.43).

16. This approval is transferable by request to the DRBC Executive Director provided that the project purpose and area served approved by the Commission in this docket will not be materially altered because of the change in project ownership. The request shall be submitted on the appropriate form and be accompanied by the appropriate fee (see 18 CFR 401.43).

17. The docket holder shall request a name change of the entity to which this approval is issued if the name of the entity to which this approval is issued changes its name. The request for name change shall be submitted on the appropriate form and be accompanied by the appropriate fee (see 18 CFR 401.43).

18. The Executive Director may modify or suspend this approval or any condition thereof, or require mitigating measures pending additional review, if in the Executive Director's judgment such modification or suspension is required to protect the water resources of the Basin.

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19. Any person who objects to a docket decision by the Commission may request a hearing in accordance with Article 6 of the Rules of Practice and Procedure. In accordance with Section 15.1(p) of the *Delaware River Basin Compact*, cases and controversies arising under the *Compact* are reviewable in the United States district courts.

BY THE COMMISSION

APPROVAL DATE: June 12, 2019

EXPIRATION DATE: June 30, 2025

Attachment E

Correspondence

Spotts, Stevens and McCoy
1047 N. Park Road > P.O. Box 6307 > Reading PA 19610-0307
610.621.2000 > F. 610.621.2001 > SSMGROUP.COM

SSM

May 21, 2018

Ms. Bonnie Boylan, Environmental Engineering Specialist
Clean Water Program
Department of Environmental Protection
Southcentral Regional Office
909 Elmerton Avenue
Harrisburg PA 17110-8200

RE: Reading Regional Airport Authority (RRAA)
NPDES Permit Renewal Application
Permit No. PA 0028720
SSM File 108580.0019

Ms. Boylan:

As you are aware, RRAA submitted the NPDES permit renewal application to the PADEP. On February 13, 2018 you responded to an email requesting information pertaining to the NPDES permit renewal and the stormwater outfall locations. We are formally providing a response to the February 13, 2018 email to be included with our original permit renewal application.

1. We included a list of industrial and commercial users for 2017 that were included in the 2017 Chapter 94 report. The list is slightly different from the 2013 customer list that was provided in the NPDES application. Several of the restaurant/nightclubs have closed down and a new restaurant (Klingers) was opened in the Airport terminal building. We have highlighted the changes between the two list to reflect that minimal changes have occurred from 2013 to 2017.
2. No additional influent/effluent sampling was performed that was not already submitted to the PADEP through the monthly reporting and/or the chapter 94 reporting.
3. As per the email, RRAA has sold a 154 acre portion of their property to Berks County Industrial Development Authority. They no longer own nor have access to stormwater outfall locations 002, 003, and 004. We have provided the attached Site Plan that shows the area in which the airport owns and the area in which BCIDA owns. Stormwater locations for 005, 006, 007 and 008 are shown in this figure. Outfall 001 is the NPDES permit outfall location for the wastewater treatment plant. An excerpt of module 1 is provided to show the four remaining outfalls for RRAA.
4. As per the contract operator, Peter Juzyk, Miller Environmental, sampling requirements under the NPDES permit are to be collected as a grab sample during the first 30 minutes but no later than 1 hour of the discharge resulting from a storm event that occurs at least 72 hours from the previously measurable storm event.

Sampling at outfalls 003, 006, 007 and 008 had no flow during rain events in 2017 that meet the requirements. Sampling at outfalls 002, 003, 006, 007 and 008 had no flow during rain events in 2016 that meet the above requirements.

5. As per your email we have provided an excerpt from the 3800-PM-BCW0009b form. The industrial user portion was completed for Industrial Metal Plating which is not considered a significant industrial user as it does not supply more than 20% of the WWTP flow.
6. We are also attaching the DRBC docket renewal application that must be submitted to the DRBC by May 31, 2018, one year prior to the May 31, 2019 expiration date.
7. There have been no other changes that we are aware of since the 2013 submission.

Please contact us should you have any questions or require any additional information.

Sincerely,
SSM Group, Inc.

Christina Crawford, PE/MBA
Water and Wastewater Services
christina.crawford@ssmgroup.com

Enclosures

cc: Terry Sroka, Manager – RRAA
Delaware River Basin Commission (included with DRBC Docket Application)

Spotts, Stevens and McCoy
1047 N. Park Road > P.O. Box 6307 > Reading PA 19610-0307
610.621.2000 > F. 610.621.2001 > SSMGROUP.COM

SSM

March 17, 2021

Mr. Daniel W. Martin, P.E, Environmental Engineer Manager
Clean Water Program
Department of Environmental Protection
Southcentral Regional Office
909 Elmerton Avenue
Harrisburg PA 17110-8200
[Via Email: danielmarti@pa.gov]

RE: Reading Regional Airport Authority (RRAA)
NPDES Permit Renewal Application – Stormwater Permitting
Permit No. PA 0028720
SSM File 108580.2021

Dear Mr. Martin:

We are writing in response to your March 2, 2021 correspondence relative to the Reading Regional Airport Authority (RRAA), Berks County, and the *NPDES Permit Renewal Application* to the Department. The *NPDES Permit Renewal* has been under Technical Review by the Department since October 31, 2013. In 2018, we provided supplemental information to the Department relative to the stormwater outfall locations.

In this supplemental information, we had provided an update to the Department relative to the Berks County Industrial Development Authority (BCIDA) and the purchase of a 154-acre property from the RRAA. Due to the sale and development of this property, the RRAA no longer has access to the Stormwater Outfalls previously labelled Outfall 003 and Outfall 004, or no longer feel that these Outfalls are representative of the RRAA stormwater discharge. Attached is a Site Plan showing the delineation of the RRAA ownership as well as the BCIDA ownership.

In the Department's March 2021 correspondence, the Department has requested additional information in response to new federal regulations as well as the sale of the property to the BCIDA. This correspondence is updated information in response to the Department's request:

(1) Are there dry weather discharges from the airport runway areas? If so, a) what activities generate these discharges and what are the "known or believed present" parameters in the discharges? b) are there any sampling results for dry weather discharges from the airport runway areas to add to the permit application? c) where do these discharges leave the airport's property (specific outfall numbers or latitude and longitude locations)?

   a. ***No, there are no dry weather discharges. The only washing that occurs is within the hangar buildings, which have floor drains that discharge to the Authority's Wastewater Treatment Plant (WWTP).***

   b. ***Not applicable – there are no dry weather discharges.***

SSM

*c. **The Outfall latitude and longitude locations are provided in the attached Outfall Location Map.***

(2) Are their discharges subject to the federal Effluent Limitation Guidelines for Airport Deicing, 40 CFR 449, discharges from de-icing operations at "Primary Airports"? "Primary airport" is defined in 49 U.S. Code 47102 as a commercial service airport with more than 10,000 passenger boardings each year.

There are no discharges subject to federal Effluent Limitation Guidelines for Airport Deicing for operations at "Primary Airports." This item is not applicable, as this facility is not considered a Primary Airport; there are currently about 1,544 passengers boarding per year, and all passengers are by way of Chartered flights. There is minimal commercial flights, again by way of Charter only. The Reading Regional Airport Authority does not have scheduled airline services.

(3) Are there less than 1000 annual non-propeller aircraft departures at this airport? 'Annual non-propeller aircraft departures' means the average number of commercial turbine-engine aircraft that are propelled by jet, i.e., turbojet or turbofan, that take off from an airport on an annual basis, as tabulated by the Federal Aviation Administration (FAA).

The only commercial, turbine-engine aircraft departures are by Southwest Airlines for "seasonal" Charters, which average about 10 to 15 departures per year. The only other aircraft departures with jets (turbojet or turbofan) are private or corporate-owned.

(4) Is area used for de-icing operations or will it be used during the next five years? If so, where do these discharges leave the airport's property (specific outfall numbers or latitude and longitude locations)?

Yes, there are several locations within the RRAA property containing de-icing operations. The de-icing locations are depicted in the attached Outfall Location Map, as well as the attached Stormwater Module. The only Stormwater Outfalls not affected by de-icing contributions are Outfalls 006 and 008, per the attached.

(5) Please submit a drainage map for the stormwater leaving the property with current outfalls shown and with proposed sampling locations shown for stormwater since the sale of a portion of the property to Berks County Industrial Development Authority (BCIDA). If former outfalls 002, 003, and 004 are no longer on airport property but there is still stormwater runoff from the runways, taxiways, hangars, fuel storage tanks, treatment plant area, etc., more appropriate monitoring locations would be before the stormwater leaves the airport property, whether it is monitoring from storm drains or monitoring of runoff. For each proposed sampling location other than outfalls 005, 006, and 008, please provide the latitude and longitude. For outfall 007, please also provide the latitude and longitude. (The latitude and longitude for outfall 007 in Part C of the 2009 NPDES permit does not match the map submitted to DEP by SSM consultants in May 2018 and may need to be corrected.)

A drainage map depicting each of the Authority's Stormwater Outfalls and the associated drainage areas for each Outfall are attached herein for the Department's use and reference. Outfall 002 will remain, as there is very little contribution from the BCIDA property. The RRAA will obtain permission from the BCIDA to continue sampling at this location. Outfalls 003 and 004 are being relocated (see attached Outfall Location Map) in order to move the Outfalls upstream from the BCIDA property as much as possible and to avoid any drainage from the BCIDA site. The latitude

and longitude coordinates for each of the Stormwater Outfalls is also contained in the attached Mapping. The BCIDA has also added Outfall 009, as provided herein.

(6) Alternatively, if the airport proposes to continue using outfalls 002, 003, and 004 for monitoring of stormwater generated on the airport's property, a) it would need to have BCIDA's permission to access the stormwater outfalls and b) stormwater generated on BCIDA's property should not be mingled with the airport's stormwater. If BCIDA generates 'stormwater associated with industrial activity' now or in the future, they will be required to have their own NPDES permit for stormwater.

As stated above, Outfall 002 will remain in the same sampling location, and RRAA will obtain permission to continue sampling at this location. Outfalls 003 and 004 are being relocated to the Headwalls upstream of the BCIDA Property, as shown in the attachments.

(7) Are there any changes to the previously submitted permit application, other than the sale of a portion of the property to BCIDA?

All revisions to the existing NPDES Permit Application have already been provided to the Department.

Please contact us should you have any questions or require any additional information.

Sincerely,
Spotts, Stevens and McCoy

Jamie D. Lorah, P.E.
Manager, Process Engineering
jamie.lorah@ssmgroup.com

Enclosures

cc: Terry Sroka, Manager – RRAA
Bonnie Boylan, PA DEP **[Via Email:** bboylan@pa.gov]