pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southeast Regional Office
CLEAN WATER PROGRAM

Application Type	**New**	Application No.	**PA0245046**
Facility Type	**Industrial**	APS ID	**976113**
Major / Minor	**Minor**	Authorization ID	**1243037**

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

Applicant and Facility Information

Applicant Name	**Horsham Air Guard Station**	Facility Name	**Horsham Air Guard Station**
Applicant Address	1120 Fairchild Street Horsham Air Guard Station Horsham, PA 19044-5236	Facility Address	1051 Fairchild Street Horsham Air Guard Station Horsham, PA 19090
Applicant Contact	Col. William Griffin	Facility Contact	Lt. Col. Jacqueline Siciliano
Applicant Phone	(215) 323-7177	Facility Phone	(215) 323-8387
Client ID	310873	Site ID	665758
SIC Code	9711	Municipality	Horsham Township
SIC Description	Public Admin. - National Security	County	Montgomery
Date Application Received	August 28, 2018	EPA Waived?	Yes
Date Application Accepted	January 17, 2019	If No, Reason	

Purpose of Application: New NPDES permit application to discharge treated groundwater and stormwater.

Summary of Review

The PA Department of Environmental Protection (PADEP/Department) received a new NPDES permit application on August 28, 2018, from Horsham Air Guard Station (applicant/HAGS) to discharge stormwater and groundwater from the above-referenced HAGS site located in Horsham Township, Montgomery County. The HAGS site currently has no active flights. A temporary discharge permit issued in 2017 and extended in 2018 authorized the discharge of treated groundwater and stormwater contaminated with Perfluorooctanesulfonic Acid (PFOS) and Perfluorooctanoic Acid (PFOA) into an UNT to Park Creek in State Watershed 2-F. The receiving streams are classified as WWF/MF. A temporary treatment plant is currently in operation. The timeframe for a permanent treatment facility is not yet known. The final permit cover letter will request HAGS to submit a WQM Part 2 permit application to the Department for the construction of a permanent treatment plant.

Public Participation

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

Approve	Deny	Signatures	Date
√		Reza H. Chowdhury, E.I.T. / Environmental Engineering Specialist	August 28, 2019
		Pravin C. Patel, P.E. / Environmental Engineer Manager	

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.288
Latitude	40º 12' 43.92"	Longitude	-75º 9' 1.44"
Quad Name	Ambler	Quad Code	1744
Wastewater Description:	Other Miscellaneous Discharges (Stormwater and Groundwater)		
Receiving Waters	Unnamed Tributary to Park Creek (WWF, MF)	Stream Code	02662
NHD Com ID	25473922	RMI	0.5100
Drainage Area	0.67 mi^2	Yield (cfs/mi^2)	0.021
Q_{7-10} Flow (cfs)	0.014	Q_{7-10} Basis	See below
Elevation (ft)	263.83	Slope (ft/ft)	
Watershed No.	2-F	Chapter 93 Class.	WWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use	None	Exceptions to Criteria	N/A
Assessment Status	Impaired		
Cause(s) of Impairment	FLOW REGIME MODIFICATION, NUTRIENTS, PATHOGENS, POLYCHLORINATED BIPHENYLS (PCBS), SILTATION		
Source(s) of Impairment	MUNICIPAL POINT SOURCE DISCHARGES, SOURCE UNKNOWN, SOURCE UNKNOWN, URBAN RUNOFF/STORM SEWERS, URBAN RUNOFF/STORM SEWERS		
TMDL Status	Final	Name	Neshaminy Creek

Background/Ambient Data		Data Source
pH (SU)		
Temperature (°F)		
Hardness (mg/L)		
Other:		

Nearest Downstream Public Water Supply Intake		Aqua PA Main Division	
PWS Waters	Neshaminy Creek	Flow at Intake (cfs)	
PWS RMI	9.06	Distance from Outfall (mi)	24.38

Changes Since Last Permit Issuance: New permit

Other Comments:

Streamflow:

There is no USGS streamgage located nearby this facility. Streamflow is obtained from USGS StreamStats Version 4.1.8 accessed on May 21, 2019. Per StreamStats, the Q_{7-10} at discharge point for Outfall 001 is 0.00708 cfs. The drainage area is 0.67 mi^2. Since these values are outside of suggested range for regression analysis, the whole drainage area for Park Creek was considered. The drainage area of the Park Creek at the confluence with Little Neshaminy Creek is 11.8 mi^2 and Q_{7-10} is 0.245 cfs (1). The yield is calculated as below:

$$\text{Yield} = 0.245\text{cfs}/11.8\ mi^2 = 0.021\ cfs/mi^2$$

This value of yield was used to calculate the Q_{7-10} at the discharge point as 0.021 cfs/mi^2 * 0.67 mi^2 or 0.014 cfs. The Q_{30-10} calculated from StreamStats is 0.0152 cfs. The Q_{30-10}: Q_{7-10} is 0.0152:0.014 or 1.09. The default Q_{1-10}: Q_{7-10} is 0.64 per 391-2000-007. The calculated Q_{1-10} is 0.64 * 0.0.14 cfs or 0.009 cfs. These values will be used in running models to determine WQBELs, if needed.

(1) http://streamstats.usgs.gov/ss/

PWS Intake:
The nearest downstream PWS is Aqua PA Main on the Neshaminy Creek. The distance from the discharge to the intake is approximately 24.38 miles. This distance is determined as follows:

	Outfall 001 (UNT to Park Creek) to Park Creek	0.51 mi
+	Park Creek to confluence with Little Neshaminy Creek	0.65 mi
+	Little Neshaminy Creek to Neshaminy Creek	8.03 mi
+	RMI at Neshaminy Creek	24.25 mi
-	Neshaminy Creek to PWS intake	9.06 mi
		24.38 mi

Background/Ambient Stream Data:
In absence of site-specific data, a temperature of 25°C (for WWF) and pH of 7.0 is selected, per *Implementation Guidance of Section 93.7 Ammonia Criteria 391-2000-013*.

Wastewater Characteristics:
Since it is a new application, effluent data for temperature, pH, and hardness is not available. Default temperature of 20°C (per 391-2000-013) and default pH of 7.0 (per 391-2000-007) will be used for Water Quality Modeling (WQM), if needed.

Anti-Degradation Requirement
Chapter 93.4a(b) of the Department's rules and regulations require that "Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." The discharges are into UNTs to Park Creek which are classified as Warm Water Fishery (WWF), and Migratory Fishes (MF.)

Class A Wild Trout Streams:
No Class A Wild Trout Streams are impacted by this discharge.

303d Listed Streams:
The discharge is located in an UNT to Park Creek which is not attaining its designated recreational, fish consumption, and aquatic use. The source and cause for recreational impairment is Unknown-Pathogens. The source-cause for fish consumption impairment is Unknown-PCBs. The sources-causes for aquatic life impairment are Municipal Point Source Discharges-Nutrients, Urban Runoff/Storm Sewers-Flow Regime Modification, and Urban Runoff/Storm Sewers-Siltation. The limits for this permit will be developed in a way that it doesn't contribute to the existing impairments. The Neshaminy Creek Watershed TMDL (discussed below) proposed to remove the Recreational Use impairment due to pathogens as none of the bacteria samples exceeded the highest geometric mean of 70.9, which is less than criteria.

Total Maximum Daily Load (TMDL):
A TMDL for Neshaminy Creek Watershed was finalized on April 9, 2003 which was revised on December 2003. The Neshaminy Creek is located in state watershed 2-F, in Bucks and Montgomery Counties. It has approximately 418.3 miles of streams. Since 1996, 203.3 miles of these streams have been included on Pennsylvania's 303(d) list of streams having aquatic life use impairments. The watershed as a whole is very much a point source-dominated system. On an annual basis, the municipal wastewater treatment plants in the watershed contribute about 25% of the total phosphorus load. During critical low-flow periods, effluent discharges comprise over 90% of the total stream flow in many reaches. Upland erosion from developing areas and agriculture, and streambank erosion are other major sources of phosphorus, as well as sediment. However, in September 6, 2007, the nutrients portion of the TMDL was withdrawn by PADEP and approved by USEPA on January 31, 2008. No WLA was allocated for this facility since this facility wasn't built when the TMDL was finalized/revised. Historically, HAGS was a part of the larger former Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove. The Willow Grove Naval Air (PA0022411) had a Total Phosphorus WLA of 6.67 lbs./day at average discharge of 1.0 MGD and concentration of 0.8 mg/l. The NAS-JRB ceased discharge in August 15, 2011. No WLA was assigned for sediments other than suggesting urban BMPs.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	003	Design Flow (MGD)	0
Latitude	40º 12' 37.44"	Longitude	-75º 8' 23.28"
Quad Name	Ambler	Quad Code	1744
Wastewater Description:	Stormwater		
Receiving Waters	Unnamed Tributary to Little Neshaminy Creek (WWF, MF)	Stream Code	02660
NHD Com ID	25473932	RMI	1.2400

Other Comments: This outfall is located on the eastern side of the facility and receives stormwater runoff from an inactive portion of the base. This is a stormwater only outfall which eventually discharges to an UNT to Little Neshaminy Creek. Discharge to 003 is conveyed via several grass lined swales with concrete pipes conveying flow under roadways. Contributing drainage area is 342,195 sft with 50% impervious.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	IMP-101	Design Flow (MGD)	0
Latitude	40º 12' 43.56"	Longitude	-75º 9' 0.72"
Quad Name	Ambler	Quad Code	1744
Wastewater Description:	Groundwater from Lift Station		
Receiving Waters	UNT to Park Creek	Stream Code	02662
NHD Com ID	25473922	RMI	

Other Comments: This outfall is located in the former sewer lift station. Old sewer lines collect shallow groundwater through infiltration and convey the water to the lift station. The lift station then pumps the water to the treatment system. Contributing drainage area is 432,300 sft with 80% impervious.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	IMP-102	Design Flow (MGD)	0
Latitude	40º 12' 44.28"	Longitude	-75º 9' 0.72"
Quad Name	Ambler	Quad Code	1744
Wastewater Description:	Stormwater from northeastern portion of the facility		
Receiving Waters	UNT to Park Creek	Stream Code	02662
NHD Com ID	25473922	RMI	

Other Comments: This outfall receives stormwater runoff from the northeastern portion of the facility and discharges to the stormwater basin. Outfall is approximately 5 feet higher than normal basin water level. Contributing drainage area is 446,400 sft with 51% impervious.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	IMP-103	Design Flow (MGD)	0
Latitude	40º 12' 39.96"	Longitude	-75º 8' 56.76"
Quad Name	Ambler	Quad Code	1744
Wastewater Description:	Stormwater from south and central portion of the facility, and groundwater		
Receiving Waters	UNT to Park Creek	Stream Code	02662
NHD Com ID	25473922	RMI	

Other Comments: This outfall receives stormwater runoff from the south and central portions of the base. Also receives groundwater discharge. Groundwater discharges continuously except during very dry periods. Contributing drainage area is 5,142,600 sft with 66% impervious.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	IMP-104	Design Flow (MGD)	0
Latitude	40º 12' 42.12"	Longitude	-75º 9' 0.72"
Quad Name	Ambler	Quad Code	1744
Wastewater Description:	Stormwater from flight apron and central portion of the facility, and groundwater		
Receiving Waters	UNT to Park Creek	Stream Code	02662
NHD Com ID	25473922	RMI	

Other Comments: This outfall receives stormwater runoff from the south and central portions of the base. Also receives groundwater discharge. Groundwater discharges continuously except during very dry periods. Contributing drainage area is 2,230,400 sft with 95% impervious.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	IMP-201	Design Flow (MGD)	0
Latitude	40º 12' 33.48"	Longitude	-75º 9' 0.72"
Quad Name	Ambler	Quad Code	1744
Wastewater Description:	Stormwater from adjacent Naval Facility, and groundwater		
Receiving Waters	UNT to Park Creek	Stream Code	02662
NHD Com ID	25473922	RMI	

Other Comments: This outfall receives stormwater runoff from the adjacent Naval facility's flight apron and also portions of the Horsham flight apron and southwestern corner. Also receives groundwater discharge from Naval facility and Horsham facility. Groundwater discharge is continuous except during very dry periods. Outfall 002 is located on Naval facility approximately 1,000 feet northwest of IMP-201. Contributing drainage area is 2,296,400 sft with 62% impervious.

Treatment Facility Summary				
Treatment Facility Name: Horsham Air Guard Station IWTP.				
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Industrial				
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**

Permit Status

The Air Force National Guard (ANG) submitted application for an individual NPDES permit application back in November 2016 that was significantly deficient and was returned. The revised application was received on August 28, 2018 from Horsham Air Guard Station (HAGS). A temporary discharge authorization was issued on August 17, 2017 for which an extension was approved on October 17, 2018. The Temporary Discharge permit has a combined PFOA and PFOS daily maximum limit of 0.07 µg/l. A stormwater permit, PAR800120, was issued on April 23, 2003 to USAF that will cease discharge after this NPDES permit is issued.

Description of the Treatment Facility

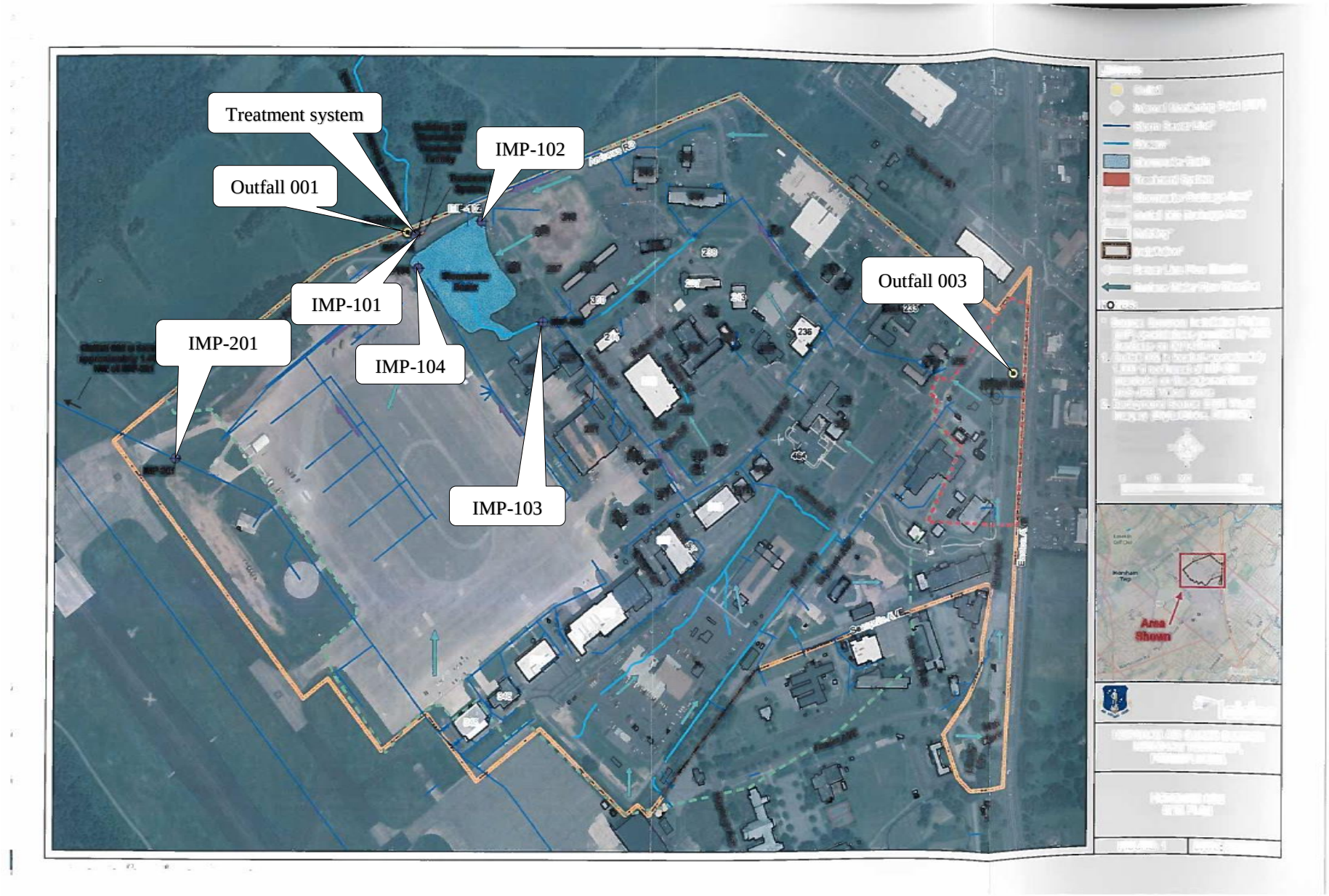
Horsham Air Guard Station (HAGS) was part of the larger former Naval Air Station Joint Reserve Base (NAS-JRB) Willow Grove, located in Horsham Township, Montgomery County. The majority of the Willow Grove NAS was turned over to Horsham Township for redevelopment under BRAC (Base Realignment). Currently a portion of the site groundwater is collected by an old system of piping that previously was used for sanitary sewage collection. The piping network discharges to a pumping station which was also previously used to pump collected sewage to a treatment facility. The base currently has a new wastewater collection system and pumping station to replace the abandoned system. The abandoned system is old and the piping network is not watertight. This network, therefore, is a conduit for the collection of groundwater.

Perfluorooctanesulfonate (PFOS) and Perfluorooctanoic Acid (PFOA) were found in this collected groundwater and also in the discharge from the stormwater basin adjacent to the pumping station. The pumping station collects contaminated groundwater and pumps the untreated water into a storm culvert on the property which discharged to the UNT to Park Creek. There is also a continual discharge of water from the stormwater basin that also discharges into the same culvert and the UNT to Park Creek. It was assumed that the discharge was from groundwater as well. The stormwater basin discharge has PFOS/PFOA levels above the EPA Health Advisory Level (HAL) of 0.07 µg/l combined PFOS/PFOA..

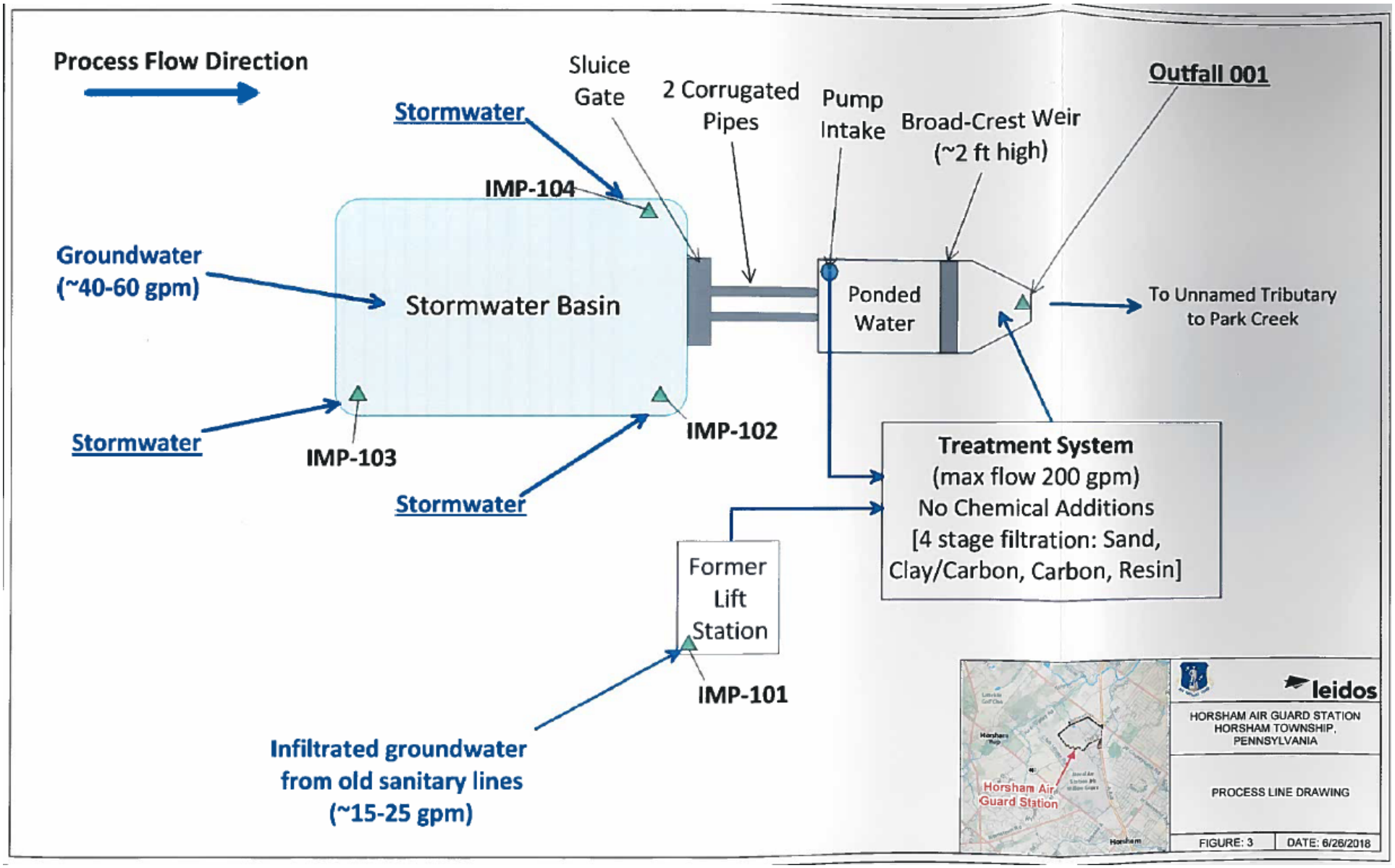
HAGS contracted with the Warminister Municipal Authority to install a temporary Granulated Activated Carbon (GAC) treatment system to treat the groundwater and stormwater before it is discharged to the culvert and creek. An initial treatment system was put in place and started operation in October of 2017. Contaminated groundwater was pumped from the abandoned sewer lines. Additionally, an 18” weir was installed across a stormwater culvert to divert part of the stormwater discharge to the treatment system. The treatment system was designed to treat up to 200 GPM for a period of one year. The expected discharge concentration was less than the HAL. The initial testing of the treatment results found a rapid reduction in removal levels of PFOS/PFOA. After one month, however, the levels of PFOS/PFOA in the discharge started exceeding the permit limits. The system was evaluated to determine what was affecting the treatment efficiency of the system. Additional back-washing was initiated as well as flow adjustments. Efforts were made to screen and pre-filter the basin discharge before the treatment system. After additional evaluation and testing, it was determined that the resin was being fouled by the oil and grease and other organics present in the stormwater basin inflow. In order for the GAC and resin media to be effective, these materials needed to be removed prior to filtration.

The system was upgraded on August 25, 2018 to include a 25 cft sand filter, 25 cft Organoclay filter, 25 cft GAC filter, and 40 cft PFA 694 resin. Sand and clay filters can be back-washed as required to maintain treatment of the organics prior to the GAC and Resin tanks. Outfall 003 doesn’t receive any treatment.

Solids Disposal: The solids from all four units are landfilled.



Outfall locations at HAGS



HAGS Process Flow Diagram

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.288
Latitude 40º 12' 43.92" **Longitude** -75º 9' 1.44"
Wastewater Description: Other Miscellaneous Discharges (Stormwater and Groundwater)

Technology-Based Effluent Limitations (TBELs):
The following technology-based effluent limitations apply, subject to water quality analysis and BPJ where applicable:

Parameter	Limit (mg/l)	SBC	State Regulation
pH (S.U.)	6.0 – 9.0	Minimum – Maximum	25 Pa. Code § 95.2(1)

Flow:
The volume of effluent discharged from each outfall should be monitored, per 40 CFR § 122.44(i)(1)(ii).

Toxics:
There are no active industrial activities on the site. No toxics were identified from the sample results. In absence of toxic data, no toxic screening analysis was performed.

PFOA/PFOS:
As discussed in page 6 of this fact sheet, PFOA and PFOS were detected in the discharge above the HAL. PFOA and PFOS are fluorinated organic chemicals that are part of a larger group of chemicals referred to as perfluoroalkyl substances (PFASs). In 2009, EPA published provisional health advisories for PFOA and PFOS based on the evidence available at that time. In 2016, EPA published new, lifetime health advisories for PFOA and PFOS. The application data indicated the PFOA and PFOS concentration at outfall 001 has exceeded the HAL. It is recommended that the current limits under the extended temporary discharge permit, along with monitoring requirement for PFOA and PFOS be placed in the individual permit. The Department has determined that the limits are appropriate based on the general water quality criterion at 25 Pa. Code § 93.6(a), which states "Water may not contain substances attributable to point or nonpoint source discharges in concentration or amount sufficient to be inimical or harmful to the water uses to be protected or to human, animal, plant or aquatic life." In developing the effluent limits for PFOA and PFOS in this permit, the Department translated this general water quality criterion into a numeric criterion based upon the HAL.

Total Suspended Solids (TSS): There is no water quality criteria for TSS. A monitor only requirement for TSS is recommended to quantify the impact on the watershed from this discharge.

Oil and Grease:
PA Code 25 § 95.2(2)(ii) stated that *"At no time contain more than 15 milligrams of oil per liter as a daily average value nor more than 30 milligrams of oil per liter at any time."* The permit application data indicated an estimated concentration of 1.5 mg/l. Therefore, oil and grease are not a pollutant of concern at this time.

Total Dissolved Solids (TDS), Sulfate, Chloride, Bromide:
TDS and its associated solids including Bromide, Chloride, and Sulfate have become statewide pollutants of concern. The requirement to monitor these pollutants must be considered under the criteria specified in 25 Pa. Code § 95.10. A quarterly monitoring requirement for TDS is recommended for this permit term.

Stormwater discharge:
The activities contributing to Outfall 001 also include stormwater discharges. The tributary areas for outfall 001 composed of stormwater runoff from roadways, parking areas, vehicle/equipment storage and maintenance. It also includes underdrain discharge from former flight apron and NAS-JRB Willow Grove. DEP's PAG03 (NPDES General Permit for Discharges of Stormwater Associated with Industrial Activity) Appendix G-Air Transportation Facilities apply to stormwater discharges from only those portions of the air transportation facility that are involved in vehicle maintenance, equipment cleaning operations or deicing operations. However, since the facility doesn't have any deicing activity that can contribute to the outfall 001, parameters contained in Appendix G are not applicable. Sector specific BMPs will be applied in Part C of the permit.

Outfall No.	003	**Design Flow (MGD)**	0
Latitude	40º 12' 37.44"	**Longitude**	-75º 8' 23.28"

Wastewater Description: Stormwater

Stormwater discharge:
The catchment area for this outfall is inactive portion of facility. It also has limited vehicle and equipment storage. Since the activities contributing to this outfall don't match with approved activities under PAG03 Appendix G, Appendix J will be applied. Appendix J apply to stormwater discharges associated with industrial activity from facilities whose industrial activity is not described by any other appendix and are designated as needing a permit in accordance with Pennsylvania Clean Streams Law and/or 40 CFR § 122.26. The applicable parameters and monitoring requirements are listed below:

Parameter	Monitoring Requirements		Benchmark Values
	Minimum Measurement Frequency (1)	Sample Type	
Total Suspended Solids (TSS) (mg/L)	1 / 6 months	Grab	100
Oil and Grease (mg/L)	1 / 6 months	Grab	30

Footnotes
(1) This is the minimum number of sampling events required. Permittees are encouraged to perform more than the minimum number of sampling events.

PFOA/PFOS:
PFOA and PFOS were identified in the discharge from outfall 003 and the concentration of PFOS exceeded the HAL. A monitoring requirement for PFOA and PFOS and limit of 0.07 µg/l for combined PFOA and PFOS is recommended with a minimum sampling frequency of 1/week when discharging.

Total Nitrogen:
The maximum reported concentration of TN is 16.9 mg/l in the permit application. The converted mass loading is 40.6 lbs./day (16.9 mg/l * 8.34 * 0.288 MGD) which is less than 75 lbs./day. Therefore, no monitoring or reporting requirement for TN is necessary at this time.

Total Phosphorus:
The maximum reported concentration of TP in the application is estimated to be 0.091 mg/l with a QL of 0.1 mg/l. No monitoring or reporting requirement will be added this time.

Oil and Grease:
PA Code 25 § 95.2(2)(ii) stated that *"At no time contain more than 15 milligrams of oil per liter as a daily average value nor more than 30 milligrams of oil per liter at any time."* The permit application data indicated non-detect concentration. Therefore, oil and grease are not a pollutant of concern at this time.

Outfall No.	IMP 201	**Design Flow (MGD)**	0
Latitude	40º 12' 33.48"	**Longitude**	-75º 9' 0.72"

Wastewater Description: Stormwater from adjacent Naval Facility and groundwater

Surface Water Study Technical Memorandum:

HAGS conducted a stormwater study and submitted the final report titled "Final Surface Water Study Technical Memorandum for the Perfluorinated Compound Facility Investigation at Horsham Air Guard Station (111th Attack Wing), Horsham, Pennsylvania" dated March 13, 2019 to the permit writer on July 22, 2019. The collective results of the study indicated widespread detections of PFAS at HAGS and in the regional watershed. The study concludes that elevated PFAS concentrations flow onto HAGS from nearby Willow Grove, discharge of contaminated groundwater occurs within HAGS as evidenced by base flow sample results etc. The study recommended additional investigation to further characterize the nature and extent of PFAS contamination to surface water at HAGS. It was decided by the Department that a monitoring requirement for PFOA, PFOS, and Combined PFOA & PFOS will be applied at this IMP. It is also recommended by the Department that once the permanent treatment facility is designed, the flows from IMP 201 be diverted to the treatment plant for treatment.

Compliance History	
Summary of DMRs:	**None, new facility**
Summary of Inspections:	**None, new facility**

Proposed Effluent Limitations and Monitoring Requirements

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

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Wkly Avg	XXX	XXX	XXX	XXX	1/day	Metered
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	XXX	9.0	1/day	Grab
Total Suspended Solids	XXX	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Dissolved Solids	XXX	XXX	XXX	Report Avg Qrtly	Report	XXX	1/quarter	Grab
PFOA (ug/L)	XXX	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite
PFOS (ug/L)	XXX	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite
Total PFOA and PFOS (ug/L)	XXX	XXX	XXX	0.07	XXX	0.175	1/week	Calculation

Compliance Sampling Location: At discharge from facility

Other Comments: None

Proposed Effluent Limitations and Monitoring Requirements

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

Outfall 003, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Total Suspended Solids	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
PFOA (ug/L)	XXX	XXX	XXX	Report	Report	XXX	Weekly when Discharging	Grab
PFOS (ug/L)	XXX	XXX	XXX	Report	Report	XXX	Weekly when Discharging	Grab
Total PFOA and PFOS (ug/L)	XXX	XXX	XXX	0.07	XXX	0.175	Weekly when Discharging	Calculation

Compliance Sampling Location: At discharge from facility

Other Comments: None

Proposed Effluent Limitations and Monitoring Requirements

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

Outfall IMP 201, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
PFOA (ug/L)	XXX	XXX	XXX	Report	Report	XXX	1/week	Grab
PFOS (ug/L)	XXX	XXX	XXX	Report	Report	XXX	1/week	Grab
Total PFOA and PFOS (ug/L)	XXX	XXX	XXX	Report	XXX	Report	1/week	Calculation

Compliance Sampling Location: At IMP 201

Other Comments: None