

Application Type Amendment, Major  
Facility Type Non-Municipal  
Major / Minor Minor

**NPDES PERMIT FACT SHEET  
INDIVIDUAL SEWAGE**

Application No. PA0058017 A- 1  
APS ID 1005288  
Authorization ID 1294689

**Applicant and Facility Information**

Applicant Name	<u>Harrow Station, LLC</u>	Facility Name	<u>Harrow Station STP</u>
Applicant Address	<u>265 Frogtown Road</u> <u>Kintnersville, PA 18930-9644</u>	Facility Address	<u>8340 Easton Road</u> <u>Ottsville, PA 18942</u>
Applicant Contact	<u>Glenn Neebe</u>	Facility Contact	<u>Glenn Neebe</u>
Applicant Phone	<u>(610) 847-8698</u>	Facility Phone	<u>(610) 847-8698</u>
Client ID	<u>241359</u>	Site ID	<u>521657</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Nockamixon Township</u>
Connection Status	<u>No Limitations</u>	County	<u>Bucks</u>
Date Application Received	<u>October 30, 2019</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>November 5, 2019</u>	If No, Reason	<u></u>
Purpose of Application	<u>Increase flow from 3,820 gpd to 5,286 gpd.</u>		

**Summary of Review**

The permittee submitted a permit application for the increase of permitted discharge flow from 3,820 gpd to 5,286 gpd. This increase in flow is requested after receiving plan revision approval on July 23, 2018 for the official plan revision for the consolidation of Tax Map Parcels (TMP) 30-11-30-3 and 30-11-30-7 into one parcel. A grocery store and restaurant are proposed to be constructed on the 12.24-acres consolidated lot. The proposed development is located at 4010 Durham Road, in Nockamixon Township, Buck County. This project will be connected to the Harrow Station collection system and will generate an additional 600 gallons of sewage per day (gpd) to be treated at the Harrow Station Wastewater Treatment Plant. DEP records indicate that sewage facilities planning was previously approved for the connection of 502 gpd from the Przuyski Family Restaurant on TMP 30-11-30-3 to the Harrow Station Wastewater Treatment Plant on July 10, 2009 under DEP Code 1-09936-245-3. This restaurant is intended to be demolished, the total flow for the consolidated parcel will be 1,102 gpd, which includes the previously approved flow of 502 gpd for this property and the additional 600 gpd referenced above. On May 21, 2009, an additional 364 gpd was approved to connect to Harrow Station under DEP Code 1-09936-252-3 for Harrow Station CVS and Car Wash on TMP 30-11-30. Including the 1,102 gpd for the consolidated lot approved with this project, the total flow approved for the Harrow Station Wastewater Treatment Plant is 5,286 gpd.

The Harrow Station sewage treatment facility is located near the intersection of Route 412 and Route 611, and services a small commercial development, which contains various retail stores, offices, and a restaurant. Outfall 001 discharges to a constructed wetland/polishing pond (with no liner), which overflows to an unnamed tributary to Haycock Creek and drains to Lake Nockamixon in Bucks County. According to the 2010 Integrated Water Quality Monitoring and Assessment Report, the UNT to Haycock Creek is attaining its designated uses. However, Lake Nockamixon is impaired with causes of nutrients and suspended solids and sources of agriculture and point sources. A TMDL has been developed for the Lake Nockamixon watershed (March 10, 2003), in which Harrow Station's discharge is included.

Approve	Deny	Signatures	Date
X		Juan J. Vicenty-Gonzalez / Project Manager /S/	January 23, 2020
X		Pravin C. Patel, P.E. / Environmental Engineer Manager /S/	1/23/2020

### Summary of Review

This permit amendment includes the following changes from the previous permit:

1. Permitted discharge flow change from 3,280 gpd to 5,286 gpd.
2. Updated Mass Loading Limits for CBOD<sub>5</sub>, TSS, Ammonia-Nitrogen, and Total Nitrogen.
3. Updated Fecal Coliform average monthly limit.

Act 14 Notifications:

Bucks County Planning Commission - August 16, 2019  
Nockamixon Township - August 16, 2019

Recommended Part C Conditions:

- I. Other Requirements
  - A. No Stormwater
  - B. Acquire Necessary Property Rights
  - C. Sludge Disposal Requirements
  - D. Abandon STP when Municipal Sewers Available
  - E. Dry Stream Discharge
  - F. Notification of Responsible Operator
  - G. O&M Plan
- II. Fecal Coliform Monitoring
- III. Special Protection Waters (SPW)

#### 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.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	<u>001</u>	Design Flow (MGD)	<u>.005286</u>
Latitude	<u>40° 29' 27.61"</u>	Longitude	<u>-75° 10' 36.88"</u>
Quad Name	<u>Bedminster</u>	Quad Code	<u>1544</u>
Wastewater Description: <u>Sewage Effluent</u>			
Receiving Waters	<u>Unnamed Tributary to Haycock Creek (TSF, MF)</u>	Stream Code	<u>03156</u>
NHD Com ID	<u>26030724</u>	RMI	<u>1.8</u>
Drainage Area	<u>0.0896 mi<sup>2</sup></u>	Yield (cfs/mi <sup>2</sup> )	<u></u>
Q <sub>7-10</sub> Flow (cfs)	<u>0.000365</u>	Q <sub>7-10</sub> Basis	<u>Pennsylvania StreamStats</u>
Elevation (ft)	<u>517.9</u>	Slope (ft/ft)	<u></u>
Watershed No.	<u>2-D</u>	Chapter 93 Class.	<u>TSF, MF</u>
Existing Use	<u>None</u>	Existing Use Qualifier	<u>N/A</u>
Exceptions to Use	<u>None</u>	Exceptions to Criteria	<u>N/A</u>
Assessment Status	<u>Attaining Use(s) (note – downstream Lake Nockamixon is impaired)</u>		
Cause(s) of Impairment	<u></u>		
Source(s) of Impairment	<u></u>		
TMDL Status	<u>Approved</u>	Name	<u>Lake Nockamixon TMDL</u>
Nearest Downstream Public Water Supply Intake	<u>Limerick Station</u>		
PWS Waters	<u></u>	Flow at Intake (cfs)	<u></u>
PWS RMI	<u>35</u>	Distance from Outfall (mi)	<u>14.25</u>

Changes Since Last Permit Issuance: None.

The receiving waters are designated for Trout Stocking Fishes (TSF) and are considered Special Protection Waters (SPW) under DRBC's regulations. In addition, because the discharge is to a wetland, SERO's hydrogeologist recommended in an April 24, 2000 memo that drinking water standards be met at the property line due to the possibility of groundwater recharge.

Treatment Facility Summary				
<b>Treatment Facility Name:</b> Harrow Station STP				
<b>WQM Permit No.</b>		<b>Issuance Date</b>		
0900415		November 21, 2000		
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary With Ammonia And Phosphorus	Extended Aeration	Ultraviolet	0.0038
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0038		Not Overloaded	Aerobic Digestion	Other WWTP

Changes Since Last Permit Issuance: Permitted Discharge Flow increase.

The plant consists of an equalization tank, three aeration tanks, one sand filter, UV disinfection, and an aerobic digestion tank.

The above Average Annual Flow and Hydraulic Capacity of 0.0038 MGD is the WQM permitted flow. The permittee was asked to submit a WQM permit application to amend the current WQM permit flow, the final permit will not be issued until the WQM permit amendment application is received by the PA DEP.

Compliance History

DMR Data for Outfall 001 (from December 1, 2018 to November 30, 2019)

Parameter	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19	MAY-19	APR-19	MAR-19	FEB-19	JAN-19	DEC-18
Flow (GPD) Average Monthly	2104	1896	2279	1759	1395	1811	2000	2119	1615	1479	1211	1500
Flow (GPD) Daily Maximum	2334	2160	2865	1960	1670	2090	2275	2525	1900	1650	1470	1780
pH (S.U.) Instantaneous Minimum	7.6	7.8	7.1	7.4	7.8	7.6	7.6	7.4	7.4	6.8	7.1	7.2
pH (S.U.) Instantaneous Maximum	8.6	8.4	8.5	8.2	8.3	8.7	8.2	8.4	8.7	8.6	8.4	8.4
DO (mg/L) Instantaneous Minimum	8.1	6.1	6.5	7.2	6.3	6.5	6.8	7.3	7.1	8.0	9.3	8.3
CBOD5 (lbs/day) Average Monthly	0.04	0.02	0.036	0.02	0.03	0.015	0.03	0.04	0.03	0.02	0.02	0.02
CBOD5 (mg/L) Average Monthly	2.0	< 2.0	< 2.0	< 2.0	2.0	1.0	2.0	2.0	2.0	2.0	2.0	< 2.0
TSS (lbs/day) Average Monthly	0.06	0.03	0.08	0.11	0.09	0.05	0.10	0.04	0.04	0.12	0.02	0.09
TSS (mg/L) Average Monthly	3.5	2.0	4.0	7.5	6.5	3.0	6.0	2.0	3.0	10.0	2.0	7.0
Fecal Coliform (No./100 ml) Geometric Mean	53.0	7.7	346.0	62.9	502.0	179.0	24.4	1.0	1.7	15.5	14.8	8.5
Fecal Coliform (No./100 ml) Instantaneous Maximum	70.0	59.0	460.0	220.0	1200.0	410.0	120.0	2.0	3.0	240.0	44.0	72.0
UV Intensity (mW/cm <sup>2</sup> ) Instantaneous Minimum	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
Total Nitrogen (mg/L) Average Monthly	14.2	3.5	17.75	7.85	1.3	4.1	12.9	11.6	23.97	27	34.25	24.6
Ammonia (lbs/day) Average Monthly	0.002	0.001	0.002	0.001	0.003	0.002	0.002	0.002	0.001	0.001	0.001	0.001
Ammonia (mg/L) Average Monthly	< 0.1	< 0.1	< 0.1	< 0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	0.1	0.1	< 0.1

Total Phosphorus (lbs/day) Average Monthly	0.0018	0.0047	0.0285	0.0039	0.0070	0.0041	0.0017	0.0018	0.0013	0.0037	0.0020	0.0020
Total Phosphorus (mg/L) Average Monthly	0.1	0.3	1.5	0.27	0.5	0.275	0.1	0.1	0.1	0.3	0.2	0.16

**Compliance History**

**Effluent Violations for Outfall 001, from: January 1, 2019 To: November 30, 2019**

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Fecal Coliform	09/30/19	Geo Mean	346.0	No./100 ml	200.0	No./100 ml
Fecal Coliform	07/31/19	Geo Mean	502.0	No./100 ml	200.0	No./100 ml
Fecal Coliform	07/31/19	IMAX	1200.0	No./100 ml	1000.0	No./100 ml
Total Phosphorus	09/30/19	Avg Mo	0.0285	lbs/day	0.0159	lbs/day
Total Phosphorus	09/30/19	Avg Mo	1.5	mg/L	0.5	mg/L

Summary of Inspections: This facility was last inspected January 28, 2019, no violations were identified at the time of inspection. Inspection report included below.

Attachment A.



Harrow Station STP  
CEI 1-28-19.pdf

**Development of Effluent Limitations**

<b>Outfall No.</b> <u>001</u>	<b>Design Flow (MGD)</b> <u>.005286</u>
<b>Latitude</b> <u>40° 29' 35.00"</u>	<b>Longitude</b> <u>-75° 10' 39.00"</u>
<b>Wastewater Description:</b> <u>Sewage Effluent</u>	

**Technology-Based Limitations**

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
CBOD <sub>5</sub>	10	Average Monthly	-	*
Total Suspended Solids	10	Average Monthly	-	*
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 10/31)	1,000 / 100 ml	IMAX	-	92a.47(a)(5)
Fecal Coliform (11/1 – 4/30)	1,000 / 100 ml**	IMAX	DRBC Sec. 4.30.4.A.2	-
Total Phosphorus	0.5	Average Monthly	-	*
Total Nitrogen	5.0	Average Monthly	-	*
Dissolved Oxygen	6.0	Minimum	-	*

\*Dry Streams Policy, 391-2000-014 minimum treatment requirements.

\*\*In no more than 10% of samples collected.

**Water Quality-Based Limitations**

The only applicable water quality-based limit for this permit is for Total Phosphorus at 0.5 mg/l, in the Lake Nockamixon TMDL. Water quality modeling is deemed unnecessary at this time since the limits already meet tertiary treatment requirements.

In the previous permit renewal, the permittee had proposed to extend the outfall from its current location (wetland) to the stream to get benefit of dilution and relaxation in effluent limits, more specific the relaxation of Total Nitrogen the permittee had trouble meeting. The outfall extension never materialized, therefore the Total Nitrogen limit of 10 mg/l average monthly, 20 mg/l IMAX will be added to this permit amendment.

The Dry Streams Policy’s recommendation of 5 mg/l (average monthly) will not be applied in this case because it is considered to be unnecessarily stringent. The policy’s recommendation were made more stringent after the existing permit was issued, and 10 mg/l for Total Nitrogen is more stringent than EPA’s MCL (i.e., Nitrate and Nitrite-Nitrogen will need to be discharged at levels well below 10 mg/l in order to meet the limit), and therefore deemed sufficient for this discharge.

**Best Professional Judgment (BPJ) Limitations**

Fecal Coliform was updated in this permit renewal per SPW designation of the receiving waters requires minimum wastewater treatment requirements in accordance with DRBC’s regulations Section 3.10.3.A.2.d.5. The minimum requirements apply only if the facility expands. The current limits meet the DRBC regulations, but Fecal Coliform. Fecal Coliform limits per DRBC regulations is 50 mg/l. This limit will not be applied in this case because it is considered to be unnecessarily stringent, instead a mass balance calculation was done using the previously permitted flow and Fecal Coliform limit with the new flow and DRBC’s regulations Fecal Coliform limit. The calculation is presented below:

$$\left( \frac{(3820 \times 200) + (5286 \times 50)}{(3820 + 5286)} \right) = 112.93$$

The proposed Fecal Coliform in this permit amendment of 113 No./100 ml Geometric Mean.

Water Quality Modeling (WQM) 7.0 was done to evaluate the water quality due to the effluent discharge increase. The WQM 7.0 Effluent Limits were the same as the previous permit, therefor CBOD<sub>5</sub> (10 mg/l), NH<sub>3</sub>-N (1.5 mg/l), and

Dissolved Solids (6 mg/l) will remain in this permit renewal. The existing winter Ammonia-Nitrogen limit of 3.0 mg/l (average monthly) does not conform to existing guidance (i.e., is not a multiple of 3 times the summer limit), but due to anti-backsliding will remain in the permit.

Attachment B.



WQM 7.pdf

UV reporting requirement will remain in this permit amendment.

Mass loading limits were updated for CBOD<sub>5</sub>, TSS, TN, and NH<sub>3</sub>-N, to account for the increase in permitted discharge flow.



**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) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Instantaneous Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (GPD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	6.0	XXX	XXX	XXX	1/day	Grab
CBOD5	0.44	XXX	XXX	10.0	XXX	20	2/month	Grab
TSS	0.44	XXX	XXX	10.0	XXX	20	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	113.0 Geo Mean	XXX	1000.0	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	113.0 Geo Mean	XXX	1000.0	2/month	Grab
UV Intensity (mW/cm <sup>2</sup> )	XXX	XXX	Report	XXX	XXX	XXX	1/day	Metered
Total Nitrogen	0.44	XXX	XXX	10.0	XXX	20	2/month	Grab
Ammonia Nov 1 - Apr 30	0.132	XXX	XXX	3.0	XXX	6	2/month	Grab
Ammonia May 1 - Oct 31	0.066	XXX	XXX	1.5	XXX	3	2/month	Grab
Total Phosphorus	0.0159	XXX	XXX	0.5	XXX	1	2/month	Grab

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