

Application Type Renewal
 Facility Type Non-Municipal
 Major / Minor Minor

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0261343
 APS ID 692402
 Authorization ID 1316693

Applicant and Facility Information

Applicant Name	<u>Joshua Hill Sewer Co. LLC</u>	Facility Name	<u>Joshua Hill STP</u>
Applicant Address	<u>929 Baltimore Street</u> <u>Hanover, PA 17331</u>	Facility Address	<u>Musselman Road</u> <u>Hanover, PA 17331</u>
Applicant Contact	<u>Jennifer Bubczyk</u>	Facility Contact	<u>Jennifer Bubczyk</u>
Applicant Phone	<u>(410) 239-8331</u>	Facility Phone	<u>(410) 239-8331</u>
Client ID	<u>272703</u>	Site ID	<u>720720</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>West Manheim Township</u>
Connection Status	<u>No Limitations</u>	County	<u>York</u>
Date Application Received	<u>April 14, 2020</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>June 16, 2020</u>	If No, Reason	<u></u>
Purpose of Application	<u>NPDES permit renewal.</u>		

Summary of Review

Wm. F. Hill & Associates, Inc.; on behalf of the Joshua Hill Sewer Company, LLC; has applied to the Pennsylvania Department of Environmental Protection (DEP) for issuance of the NPDES permit. The permit was reissued on July 21, 2015 and became effective on August 1, 2015. The permit expired on July 31, 2020 but the terms and conditions of the permit have been extended since that time.

The facility has average annual design flow and hydraulic design capacity of 0.1 MGD. This facility has not been built yet as no development has been proposed.

Sludge use and disposal description and location(s): N/A

Changes from the previous permit:

- Unit of Fecal Coliform changed from CFU/100 ml to No./100 ml.
- The E. Coli. monitoring and report requirements will add to the proposed permit.
- The Total Nitrogen monitoring requirements minimum measurement frequency changed to 1/month calculation in the proposed permit.

Based on the review outlined in this report, it is recommended that the permit be drafted and published in the *Pennsylvania Bulletin* for public comments for 30 days.

Approve	Deny	Signatures	Date
X		<i>Hilaryle</i> Hilary H. Le / Environmental Engineering Specialist	September 15, 2021
X		Danial W. Martin Daniel W. Martin, P.E. / Environmental Engineer Manager	September 27, 2021

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.1
Latitude	39° 44' 47"	Longitude	-76° 54' 52"
Quad Name	Manchester	Quad Code	
Wastewater Description: Sewage Effluent			
Receiving Waters	Unnamed Tributary to West Branch Codorus Creek (WWF)	Stream Code	08255
NHD Com ID	57476079	RMI	0.13 mile
Drainage Area	0.29 mi. ²	Yield (cfs/mi ²)	0.13
Q ₇₋₁₀ Flow (cfs)	0.037	Q ₇₋₁₀ Basis	USGS StreamStats
Elevation (ft)	717	Slope (ft/ft)	
Watershed No.	7-H	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Name		
Nearest Downstream Public Water Supply Intake	Wrightsville Water Supply Co.		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI	43.54 miles	Distance from Outfall (mi)	Approximate 48 miles

Changes Since Last Permit Issuance: none, the

Drainage Area

The discharge is to Unnamed Tributary of West Branch Codorus Creek at RMI 0.13 mile. A drainage area upstream of the discharge is estimated to be 0.29 mi.², according to USGS StreamStats available at <https://streamstats.usgs.gov/ss/>.

Stream Flow

According to StreamStats, the discharge point in the receiving stream has a Q₇₋₁₀ of 0.037 cfs and a drainage area of 0.29 mi², which results in a Q₇₋₁₀ low flow yield of 0.13 cfs/mi². This information is used to obtain a chronic or 30-day (Q₃₀₋₁₀), and an acute or 1-day (Q₁₋₁₀) exposure stream flow for the discharge point as follows (Guidance No. 391-2000-023):

$$\begin{aligned}
 Q_{7-10} &= 0.037 \text{ cfs} \\
 \text{Low Flow Yield} &= 0.037 \text{ cfs} / 0.29 \text{ mi}^2 = 0.13 \text{ cfs/mi}^2 \\
 Q_{30-10} &= 1.36 * 0.037 \text{ cfs} = 0.05 \text{ cfs} \\
 Q_{1-10} &= 0.64 * 0.037 \text{ cfs} = 0.024 \text{ cfs}
 \end{aligned}$$

The resulting Q₇₋₁₀ dilution ratio is: $Q_{\text{stream}} / Q_{\text{discharge}} = 0.037 \text{ cfs} / [0.1 \text{ MGD} * (1.55 \text{ cfs/MGD})] = 0.24:1$.

Public Water Supply

The nearest downstream public water supply intake is the Wrightsville Water Supply Co. on Susquehanna River in York County, approximately 48 miles downstream of this discharge. Given the nature and dilution, the discharge is not expected to significantly impact the water supply.

Treatment Facility Summary				
Treatment Facility Name: Joshua Hill STP				
WQM Permit No.		Issuance Date		
6709403		03/12/2010		
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Tertiary	Sequencing Batch Reactor W/Sol Removal	Ultraviolet	0.1
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.1	242	Not Overloaded		

Changes Since Last Permit Issuance:

Other Comments: The facility was designed to serve wastewater generated from 150 homes and future development (max of 400 EDUs). This facility has not been built yet as no development has been proposed.

The treatment process is as follows:

A lift station → mechanical screening → SBRs (2) → tertiary drum filter → UV Disinfection → Outfall 001

An aerobic digester is installed for sludge prior to being hauled to another facility for further treatment and disposal.

Compliance History	
Summary of DMRs:	No DMR is available to review as the facility has not been constructed.
Summary of Inspections:	4/02/2020: DEP conducted an administrative file review of NPDES Permit. Monthly DMRs have been submitted to the Department. The last DMR submissions were received on 4/01/2020 for February and March 2020. No discharge was marked for both months. The facilities STP has not yet been constructed. Please notify the Department before the construction of the STP begins. There was no violation noted. 12/19/2017: DEP conducted a compliance inspection report. There was no violation noted. The WWTP had not been constructed yet.
Other Comments:	There is currently no open violation associated with the permit.

Other Comments:

Development of Effluent Limitations

Outfall No. <u>001</u>	Design Flow (MGD) <u>0.1</u>
Latitude <u>39° 44' 55.00"</u>	Longitude <u>-76° 54' 54.00"</u>
Wastewater Description: <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 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)

Water Quality-Based Limitations

Ammonia (NH₃-N):

NH₃-N calculations were first based on the Department's Implementation Guidance of Section 93.7 Ammonia Criteria, dated 11/4/97 (ID No. 391-2000-013). The following data is necessary to determine the in-stream NH₃-N criteria used in the attached computer model of the stream:

- Discharge pH 7.0 (Default per 391-2000-007)
- Discharge Temperature 25°C (Default per 391-2000-007)
- Stream pH 7.0 (Default per 391-2000-006)
- Stream Temperature 20°C (Default per 391-2000-003)
- Background NH₃-N 0 mg/L (Assumed)

Regarding NH₃-N limits, the attached computer printout of the WQM 7.0 stream model (version 1.1) indicates that a limit of 2.32 mg/L as a monthly average and 4.64 mg/L IMAX are necessary to protect the aquatic life from toxicity effects at the point of discharge. However, the existing limits of 1.5 mg/L monthly average & 3.0 mg/L IMAX are more stringent and will remain in the proposed permit. The winter effluent limit will be set at three-times the summer limits.

Carbonaceous Biochemical Oxygen Demand (CBOD₅):

The attached computer printout of the WQM 7.0 stream model (version 1.1) indicates that a monthly average limit of 25.0 mg/L, or secondary treatment, is adequate to protect the water quality of the stream. However, the existing limits of 25.0 mg/L monthly average (AML), and 50.0 mg/L instantaneous maximum (IMAX) will remain in the proposed permit as per guidance document 391-2000-014.

Dissolved Oxygen (D.O.):

A minimum D.O. of 5.0 mg/L is required per 25 Pa. Code § 93.7. It is recommended that this limit be maintained in the proposed permit to ensure the protection of water quality standards. This approach is consistent with DEP's current Standard Operating Procedure (SOP) No. BPNPSM-PMT-033 and has been applied to other point source dischargers throughout the state.

pH:

The effluent discharge pH should remain above 6.0 and below 9.0 standard units according to 25 Pa Code § 95.2(1).

Total Suspended Solids (TSS):

The existing limits of 30.0 mg/L average monthly, and 60.0 mg/L instantaneous maximum will remain in the permit based on the minimum level of effluent quality attainable by secondary treatment based on 25 Pa. Code § 92a.47.

Fecal Coliform:

The recent coliform guidance in 25 Pa. Code § 92a.47.(a)(4) requires a summer technology limit of 200/100 ml as a geometric mean and an instantaneous maximum not greater than 1,000/100ml and 25 Pa. Code § 92a.47.(a)(5) requires a winter limit of 2,000/100ml as a geometric mean and an instantaneous maximum not greater than 10,000/100ml.

E. Coli:

As recommended by DEP's SOP no. BPNPSM-PMT-033, a routine monitoring for E. Coli will be included in the proposed permit under 25 Pa. Code §92a.61. This requirement applies to all sewage dischargers greater than 0.002 MGD in their new and reissued permits. A monitoring frequency of 2/month will be included permit to be consistent with the recommendation from this SOP.

UV:

The UV system monitor and report the UV intensity (mW/cm²) after update to replace chlorine disinfection to UV disinfection system will remain in the proposed permit.

Total Phosphorus:

The existing Total Phosphorus average monthly of 0.5 mg/L & IMAX of 1.0 mg/L limits will remain in the proposed permit, due to federal anti-backsliding requirements.

Chesapeake Bay Strategy:

According to DEP's Chesapeake Bay Phase II Watershed Implementation Plan (WIP) Wastewater Supplement, this facility is considered a phase 5 non-significant sewage discharger with design flow less than 0.2 MGD but greater than 0.002 MGD. In general, DEP will issue permits for all phase 5 facilities with monitoring and reporting for Total Nitrogen (TN) and Total Phosphorus (TP) throughout the permit term at a frequency no less than annually. Furthermore, DEP's SOP No. BPNPSM-PMT-033 states that in general, at a minimum, monitoring for TN and TP should be included in new and reissued permits for sewage discharges with design flows > 2,000 gpd. At this time, the Department is not requiring a total maximum annual nitrogen or phosphorus loading cap. Ammonia-Nitrogen, Nitrate-Nitrite as N, Total Kjeldahl Nitrogen, TN, and TP monitoring is already included in the existing permit and will remain in the proposed renewal.

The 2/month "Monitor & Report" requirements for Ammonia-Nitrogen, Nitrate-Nitrite as N, and Total Kjeldahl Nitrogen; and 1/month calculation "Monitor & Report" for TN will remain in the proposed permit. The yearly calculation "report" for Nitrate-Nitrite as N, Total Kjeldahl Nitrogen, TP & TN will remain in the proposed permit.

Anti-Degradation Requirements

The effluent limits for this discharge have been developed to ensure that existing instream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. No High Quality Waters are impacted by this discharge. No Exceptional Value Waters are impacted by this discharge.

303(d) Listed Streams:

The stream is listed as attaining its designated use(s)

Class A Wild Trout Streams:

No Class A Wild Trout Fishery will be impacted by this discharge.

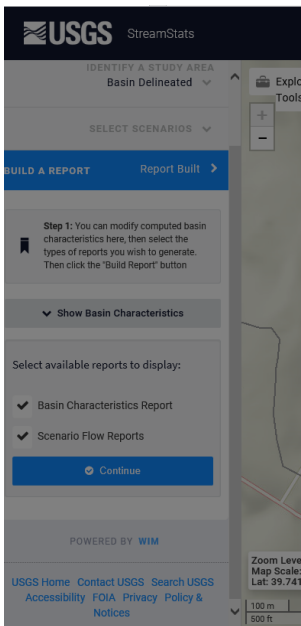
NPDES Permit Fact Sheet
Joshua Hill STP
WQM 7.0 Data:

NPDES Permit No. PA0261343

D.O. Goal: 6.0 mg/L

Node 1: UNT of West Branch Codorus Creek (08255)
 Elevation: 717 ft (USGS National Map Viewer)
 Drainage Area: 0.29 mi.² (USGS PA StreamStats)
 River Mile Index: 0.13 (PA DEP eMapPA)
 Low Flow Yield: 0.13 cfs/mi.²
 Discharge Flow: 0.1 MGD (NPDES Application)

Node 2: Just before confluence with West Branch Codorus Creek 08233
 Elevation: 704.6 ft (USGS National Map Viewer)
 Drainage Area: 2.56 mi.² (USGS PA StreamStats)
 River Mile Index: 0.001 (PA DEP eMapPA)
 Low Flow Yield: 0.13 cfs/mi.²
 Discharge Flow: 0.000 MGD

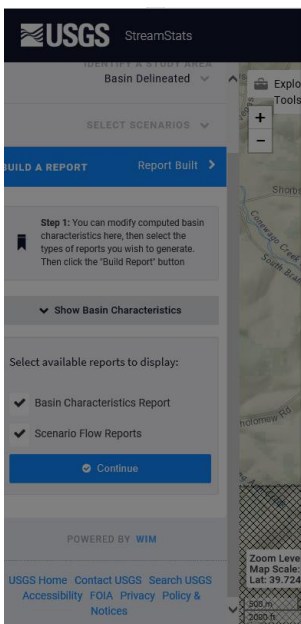
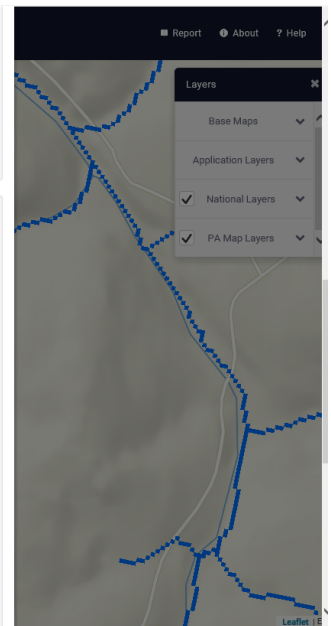


Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.29	square miles
BSLOPD	Mean basin slope measured in degrees	6.1718	degrees
ROCKDEP	Depth to rock	4.8	feet
URBAN	Percentage of basin with urban development	0	percent

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.29	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	6.1718	degrees	1.7	6.4
ROCKDEP	Depth to Rock	4.8	feet	4.13	5.21
URBAN	Percent Urban	0	percent	0	89

Low-Flow Statistics Disclaimers [Low Flow Region 1]
 One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0838	ft ³ /s
30 Day 2 Year Low Flow	0.104	ft ³ /s
7 Day 10 Year Low Flow	0.0369	ft ³ /s
30 Day 10 Year Low Flow	0.0485	ft ³ /s
90 Day 10 Year Low Flow	0.0693	ft ³ /s

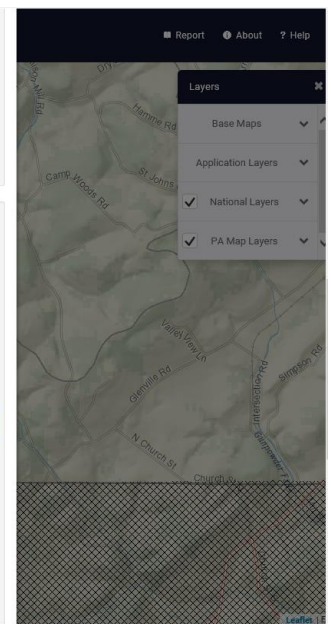


Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	2.56	square miles
BSLOPD	Mean basin slope measured in degrees	5.4615	degrees
ROCKDEP	Depth to rock	4.4	feet
URBAN	Percentage of basin with urban development	0.1932	percent

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2.56	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	5.4615	degrees	1.7	6.4
ROCKDEP	Depth to Rock	4.4	feet	4.13	5.21
URBAN	Percent Urban	0.1932	percent	0	89

Low-Flow Statistics Disclaimers [Low Flow Region 1]
 One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.446	ft ³ /s
30 Day 2 Year Low Flow	0.588	ft ³ /s
7 Day 10 Year Low Flow	0.191	ft ³ /s
30 Day 10 Year Low Flow	0.265	ft ³ /s
90 Day 10 Year Low Flow	0.411	ft ³ /s



Analysis Results WQM 7.0

Hydrodynamics | NH3-N Allocations | D.O. Allocations | D.O. Simulation | **Effluent Limitations**

RMI	Discharge Name	Permit Number	Disc Flow (mgd)
0.13	Joshua Hill	PA0261343	0.1000

Parameter	Effluent Limit 30 Day Average (mg/L)	Effluent Limit Maximum (mg/L)	Effluent Limit Minimum (mg/L)
CBOD5	25		
NH3-N	2.32	4.64	
Dissolved Oxygen			6

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WQM 7.0 Effluent Limits

RM	Name	Permit Number	Disc Flow (mgd)	Parameter	30 Day Avg. (mg/L)	Maximum (mg/L)	Minimum (mg/L)
0.13	Joshua Hill	PA0261343	0.1000	CBOD5	25		
				NH3-N	2.32	4.64	
				Dissolved Oxygen			6

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rpt_WLA

WQM 7.0 Wasteload Allocations

RM	Discharge Name	Parameter	30 Day Avg. (mg/L)	Maximum (mg/L)	Minimum (mg/L)	Disc Flow (mgd)	Permit Number
0.13	Joshua Hill	CBOD5	25			0.1000	PA0261343
0.13	Joshua Hill	NH3-N	2.32	4.64		0.1000	PA0261343
0.13	Joshua Hill	Dissolved Oxygen			6	0.1000	PA0261343

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WQM 7.0 D.O. Simulation

Site: **026** Title: **WQ 7.0 W/Revised Codes on D**

WQ Item	WQ Item	Simulation
010	0.00	0.00
011	0.00	0.00
012	0.00	0.00
013	0.00	0.00
014	0.00	0.00
015	0.00	0.00
016	0.00	0.00
017	0.00	0.00
018	0.00	0.00
019	0.00	0.00
020	0.00	0.00
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100	0.00	0.00

Simulation Results

Time Step	Code	WQ Item	Value
0.00	0.00	0.00	0.00
0.05	0.00	0.00	0.00
0.10	0.00	0.00	0.00
0.15	0.00	0.00	0.00
0.20	0.00	0.00	0.00
0.25	0.00	0.00	0.00
0.30	0.00	0.00	0.00
0.35	0.00	0.00	0.00
0.40	0.00	0.00	0.00
0.45	0.00	0.00	0.00
0.50	0.00	0.00	0.00
0.55	0.00	0.00	0.00
0.60	0.00	0.00	0.00
0.65	0.00	0.00	0.00
0.70	0.00	0.00	0.00
0.75	0.00	0.00	0.00
0.80	0.00	0.00	0.00
0.85	0.00	0.00	0.00
0.90	0.00	0.00	0.00
0.95	0.00	0.00	0.00
1.00	0.00	0.00	0.00

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rptModelSpecs [Minimize] [Maximize] [Close]

WQM 7.0 Modeling Specifications

Flowchart	Full	Unadjusted D1 D2 and D3	<input checked="" type="checkbox"/>
SLA Model	0.00%	Unadjusted WQ Item	<input type="checkbox"/>
D1 D2 D3 WQ Item	0.00	Unadjusted Peak Load Time	<input type="checkbox"/>
D3 WQ Item	1.00	Temperature Adjust K1	<input checked="" type="checkbox"/>
D1 D2	0.00%	Unadjusted Technology	<input checked="" type="checkbox"/>
D1 D2	0.00		

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rptHydro

WQM 7.0 Hydrodynamic Outputs

7/15/2021 to 7/15/2021 8:00 AM

RWS	Stream	PBS	W	Chw	Rwsd	Depth	W60	W75	Velocity	Rwd	Angle	Angle
Flow	Rate	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow
(MG)	(MG)	(MG)	(MG)	(MG)	(MG)	(MG)	(MG)	(MG)	(MG)	(MG)	(MG)	(MG)
0.00	0.04	0.00	0.0	1847.01901	404	3.8	840	0.0	0.068	20.88	700	
Q1-W Flow	0.00	0.00	0.0	1847.01901	NA	NA	NA	0.0	0.007	20.87	700	
Q1-W	0.00	0.00	0.0	1847.01901	NA	NA	NA	0.0	0.002	21.24	700	
Q2-W	0.00	0.00	0.0	1847.01901	NA	NA	NA	0.0	0.002	21.24	700	

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rptGeneral

Input Data WQM7.0

WQM	Stream	W	Chw	Rwsd	Depth	W60	W75	Velocity	Rwd	Angle	Angle	PH
Flow	Rate	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow
(MG)	(MG)	(MG)	(MG)	(MG)	(MG)	(MG)	(MG)	(MG)	(MG)	(MG)	(MG)	(MG)
07H	0007 T-61-0000 E-61-W-Evech-01				6.00	70.00	0.28	0.00000	0.00			

Process Data

Design	LFY	SL	Stream	RWS	RWS	ED	RWS	RWS	W60	W75	Temp	PH
Code	Flow	Flow	Flow	Flow	Flow	Depth	Depth	Depth	Flow	Flow	(°C)	(°C)
	(MG)	(MG)	(MG)	(MG)	(MG)	(ft)	(ft)	(ft)	(MG)	(MG)	(°C)	(°C)
Q1-W	0.00	0.00	0.00	0.000	0.0	0.00	0.00	2.00	7.00	0.00	0.00	
Q1-W	0.00	0.00	0.00	0.000								
Q2-W	0.00	0.00	0.00	0.000								

Discharge Data

Name	Permit Number	Discharge Rate (mg/d)	Permitted Rate (mg/d)	Design Flow (mg/d)	Discharge Factor	Flow Rate (MGD)	Discharge Temp (°C)
Joshua Hill	PA0261343	0.000	0.000	0.000	0.000	0.000	7.00

Parameter Data

Parameter Name	Flow	T60	Stream Code	Pdr Code
	(mg/d)	(mg/d)	(mg/d)	(mg/d)
CRDS	20.00	2.00	0.00	1.00
Discharge Oxygen	8.00	8.24	0.00	0.00
NRGN	20.00	0.00	0.00	0.70

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rptGeneral

Input Data WQM7.0

WQM	Stream	W	Chw	Rwsd	Depth	W60	W75	Velocity	Rwd	Angle	Angle	PH
Flow	Rate	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow
(MG)	(MG)	(MG)	(MG)	(MG)	(MG)	(MG)	(MG)	(MG)	(MG)	(MG)	(MG)	(MG)
07H	0007 T-61-0000 E-61-W-Evech-01				6.00	70.00	0.28	0.00000	0.00			

Process Data

Design	LFY	SL	Stream	RWS	RWS	ED	RWS	RWS	W60	W75	Temp	PH
Code	Flow	Flow	Flow	Flow	Flow	Depth	Depth	Depth	Flow	Flow	(°C)	(°C)
	(MG)	(MG)	(MG)	(MG)	(MG)	(ft)	(ft)	(ft)	(MG)	(MG)	(°C)	(°C)
Q1-W	0.00	0.00	0.00	0.000	0.0	0.00	0.00	2.00	7.00	0.00	0.00	
Q1-W	0.00	0.00	0.00	0.000								
Q2-W	0.00	0.00	0.00	0.000								

Discharge Data

Name	Permit Number	Discharge Rate (mg/d)	Permitted Rate (mg/d)	Design Flow (mg/d)	Discharge Factor	Flow Rate (MGD)	Discharge Temp (°C)
Joshua Hill	PA0261343	0.000	0.000	0.000	0.000	0.000	7.00

Parameter Data

Parameter Name	Flow	T60	Stream Code	Pdr Code
	(mg/d)	(mg/d)	(mg/d)	(mg/d)
CRDS	20.00	2.00	0.00	1.00
Discharge Oxygen	8.00	8.24	0.00	0.00
NRGN	20.00	0.00	0.00	0.70

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Existing Effluent Limitations and Monitoring Requirements

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instantaneous Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
D.O.	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
UV Intensity (µw/cm ²)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
CBOD ₅	XXX	XXX	XXX	25	XXX	50	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30	XXX	60	2/month	8-Hr Composite
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	1.5	XXX	3.0	2/month	8-Hr Composite
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	4.5	XXX	9.0	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	0.5	XXX	1.0	2/month	8-Hr Composite

Existing Effluent Limitations and Monitoring Requirements

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Monthly	Annual	Monthly	Monthly Average	Maximum	Instant. Maximum		
Ammonia--N	Report	Report	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	2/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Net Total Nitrogen	Report	0	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	0	XXX	XXX	XXX	XXX	1/month	Calculation

Proposed Effluent Limitations and Monitoring Requirements
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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) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instantaneous Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
D.O.	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
UV Intensity ($\mu\text{w}/\text{cm}^2$)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
CBOD ₅	XXX	XXX	XXX	25	XXX	50	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30	XXX	60	2/month	8-Hr Composite
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	2/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	1.5	XXX	3.0	2/month	8-Hr Composite
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	4.5	XXX	9.0	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	0.5	XXX	1.0	2/month	8-Hr Composite

Compliance Sampling Location:

Other Comments:

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) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Monthly	Annual	Monthly	Monthly Average	Maximum	Instant. Maximum		
Ammonia--N	Report	Report	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Net Total Nitrogen	Report	0	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	0	XXX	XXX	XXX	XXX	1/month	Calculation

Compliance Sampling Location:

Other Comments:

Tools and References Used to Develop Permit	
<input checked="" type="checkbox"/>	WQM for Windows Model (see Attachment [redacted])
<input type="checkbox"/>	Toxics Management Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	TRC Model Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	Temperature Model Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
<input type="checkbox"/>	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
<input type="checkbox"/>	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
<input type="checkbox"/>	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
<input type="checkbox"/>	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
<input type="checkbox"/>	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
<input type="checkbox"/>	Pennsylvania CSO Policy, 385-2000-011, 9/08.
<input checked="" 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 checked="" 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 checked="" type="checkbox"/>	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
<input type="checkbox"/>	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
<input type="checkbox"/>	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
<input type="checkbox"/>	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
<input checked="" 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 checked="" type="checkbox"/>	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
<input checked="" 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]