

Application Type Renewal
 Facility Type Municipal
 Major / Minor Minor

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0082279
 APS ID 5459
 Authorization ID 1536065

Applicant and Facility Information

Applicant Name	<u>Spring Creek Joint Sewer Authority Huntingdon County</u>	Facility Name	<u>Spring Creek STP</u>
Applicant Address	<u>PO Box 373 Three Springs, PA 17264-0373</u>	Facility Address	<u>Pa-994 East Of Three Springs Boro Three Springs, PA 17264</u>
Applicant Contact	<u>Robert Trego</u>	Facility Contact	<u>Dustin Anderson</u>
Applicant Phone	<u>(814) 448-3414</u>	Facility Phone	<u>(814) 448-3414</u>
Client ID	<u>143583</u>	Site ID	<u>246978</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Clay Township</u>
Connection Status	<u>No Limitations</u>	County	<u>Huntingdon</u>
Date Application Received	<u>August 4, 2025</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>August 5, 2025</u>	If No, Reason	<u></u>
Purpose of Application	<u>NPDES Renewal.</u>		

Summary of Review

GHD, Inc., on behalf of the Spring Creek Joint Sewer Authority has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its NPDES permit. The permit was last reissued on January 13, 2021, and became effective on February 1, 2021. The permit expires on January 31, 2026

The facility has an average annual design flow and hydraulic capacity is 0.17 MGD that discharges to Three Springs Creek. The application states the following flow contribution sources: 54% of Three Springs Borough, 37% of Saltillo Borough, and 9% of Clay Township.

WQM Part II No. 3109401 original was issued on May 28, 2009.

Sludge use and disposal description and location(s): N/A because sludge is hauled by facility's contractor.

Changes from the previous permit: The E. Coli monitoring and report requirements will be added to the proposed permit. The Raw Sewage Influent "Daily Average" concentration (mg/L) report of BOD₅ & TSS will be added to the proposed permit which were missing in the previous permit.

Based on the review outline in this fact sheet, 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	December 5, 2025
X		<i>Daniel W. Martin</i> Daniel W. Martin, P.E. / Environmental Engineer Manager	January 14, 2026

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.17
Latitude	40° 11' 34.81"	Longitude	-77° 58' 24.91"
Quad Name	Orbisonia	Quad Code	
Wastewater Description: Sewage Effluent			
Receiving Waters	Three Springs Creek (CWF)	Stream Code	12866
NHD Com ID	66212017	RMI	3.35
Drainage Area	23.6 mi. ²	Yield (cfs/mi ²)	0.02
Q ₇₋₁₀ Flow (cfs)	0.43	Q ₇₋₁₀ Basis	USGS StreamStats
Elevation (ft)	696.99	Slope (ft/ft)	
Watershed No.	12-C	Chapter 93 Class.	CWF
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	Mifflintown Municipal Authority,		
PWS Waters	Juniata River	Flow at Intake (cfs)	
PWS RMI	34.4 miles	Distance from Outfall (mi)	Approximate 64 miles

Changes Since Last Permit Issuance:

Drainage Area

The discharge is to Three Springs Creek at RMI 3.35 miles. A drainage area upstream of the discharge is estimated to be 23.6 mi.², according to USGS PA StreamStats available at <https://streamstats.usgs.gov/ss/>.

Streamflow

According to StreamStats, the discharge point on Three Springs Creek has a Q₇₋₁₀ of 0.43 cfs and a drainage area of 23.6 mi.², which results in a Q₇₋₁₀ low flow yield of 0.02 cfs/mi.². 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):

$$\begin{aligned}
 Q_{7-10} &= 0.43 \text{ cfs} \\
 \text{Low Flow Yield} &= 0.43 \text{ cfs} / 23.6 \text{ mi.}^2 \approx 0.02 \text{ cfs/mi.}^2 \\
 Q_{30-10} &= 1.36 * 0.43 \text{ cfs} \approx 0.58 \text{ cfs} \\
 Q_{1-10} &= 0.64 * 0.43 \text{ cfs} \approx 0.28 \text{ cfs}
 \end{aligned}$$

The resulting Q₇₋₁₀ dilution ratio is: $Q_{\text{stream}} / Q_{\text{discharge}} = 0.43 \text{ cfs} / [0.132 \text{ MGD} * (1.55 \text{ cfs/MGD})] = 2.1:1$

Three Springs Creek

25 Pa Code § 93.9n classifies Three Springs Creek as Cold Water and Migratory Fishes (CWF, MF) surface water. Based on the 2024 Integrated Report, Three Springs Creek, assessment unit ID 9875, is not impaired. A TMDL currently does not exist for this stream segment, therefore, no TMDL has been taken into consideration during this review.

Public Water Supply

The nearest downstream public water supply intake is the Mifflintown Municipal Authority, Juniata County, approximately 64 miles downstream of this discharge. Considering distance and dilution, the discharge is not expected to impact the water supply.

Treatment Facility Summary				
Treatment Facility Name: Spring Creek STP				
WQM Permit No.		Issuance Date		
3109401		5/28/2009		
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary With Ammonia And Phosphorus	Sequencing Batch Reactor	Gas Chlorine	0.17
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.17	275	Not Overloaded	Aerobic Digestion	Landfill

Changes Since Last Permit Issuance:

Other Comments:

The facility hydraulic capacity is a 170,000 GPD system with the following treatment units:

- One (1), Wet Well
- Two (2), Sequencing Batch Reactors
- One (1), Chlorine Contact Tank
- One (1), Dechlorination Tank
- One (1), Post Aeration Tank
- Two (2), Reed Beds
- Two (2), Aerobic Digesters
- One (1), Sludge Pad

The chemical is used at treatment Sodium Hypochlorite (liquid) for disinfection, and Sodium Bisulfite (liquid) for dechlorination.

Biosolids:

The total sewage sludge/biosolids production within the facility for the previous year was 34.48 dry tons.

Compliance History	
Summary of DMRs:	DMRs reported last 12 months are summarized in the next page.
Summary of Inspections:	11/14/2024: Mr. Clark, DEP WQS, conducted compliance evaluation inspection. There was recommendation to continue with collection system repair work and attach hauled in Waste supplemental forms to the appropriate eDMRs. The effluent was clear. The field test results were within permit limits. There were no violations noted during inspection.
Other Comments:	There are currently no open violations associated to the permittee or the facility.

Other Comments:

Compliance History

DMR Data for Outfall 001 (from November 1, 2024 to October 31, 2025)

Parameter	OCT-25	SEP-25	AUG-25	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24
Flow (MGD) Average Monthly	0.036	0.038	0.049	0.070	0.115	0.143	0.096	0.088	0.105	0.063	0.076	0.045
Flow (MGD) Daily Maximum	0.077	0.062	0.086	0.125	0.203	0.317	0.159	0.124	0.196	0.086	0.183	0.130
pH (S.U.) Instantaneous Minimum	7.1	7.2	7.2	7.1	7.1	6.9	7.0	7.1	7.1	7.1	7.1	7.0
pH (S.U.) Instantaneous Maximum	7.7	7.7	7.6	7.5	7.5	7.3	7.3	7.5	7.4	7.4	7.4	7.4
DO (mg/L) Instantaneous Minimum	8.3	8.2	8.2	7.9	7.2	7.8	7.9	8.8	7.6	7.4	7.8	7.8
TRC (mg/L) Average Monthly	0.04	0.04	0.03	0.03	< 0.04	0.04	0.04	< 0.04	< 0.04	< 0.04	0.04	< 0.04
TRC (mg/L) Instantaneous Maximum	0.08	0.06	0.06	0.06	0.07	0.07	0.07	0.07	0.09	0.07	0.09	0.07
CBOD5 (lbs/day) Average Monthly	< 1.0	< 1.0	< 1.0	< 2.0	< 3.0	< 3.0	< 3.0	< 2.0	< 3.0	< 2.0	< 2.0	< 1.0
CBOD5 (lbs/day) Weekly Average	2.0	1.0	2.0	3.0	< 4.0	< 3.0	4.0	3.0	< 5.0	3.0	< 2.0	< 1.0
CBOD5 (mg/L) Average Monthly	< 4.0	< 3.00	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 4.0	< 3.0	< 3.0
CBOD5 (mg/L) Weekly Average	6.0	4.0	4.0	4.0	< 3.0	< 3.0	4.0	4.0	< 3.0	7.0	< 3.0	< 3.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	74	75	65	86	96	98	110	69	127	85	110	79
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	91	120	74	105	182	126	136	114	139	104	167	99
BOD5 (mg/L) Raw Sewage Influent Average Monthly	217	196	138	134	99	95	113	88	131	162	144	195
TSS (lbs/day) Average Monthly	< 0.8	< 0.6	< 0.09	< 1	< 2	< 3	< 2	2	< 2	< 1	< 1	< 0.8

**NPDES Permit Fact Sheet
Spring Creek STP**

NPDES Permit No. PA0082279

TSS (lbs/day) Raw Sewage Influent Average Monthly	82	66	66	96	123	120	110	89	124	80	112	68
TSS (lbs/day) Raw Sewage Influent Daily Maximum	133	106	87	124	161	163	127	102	148	97	188	75
TSS (lbs/day) Weekly Average	1	0.8	2	< 1	3	4	4	5	< 3	2	< 1	1
TSS (mg/L) Average Monthly	< 3	< 2	< 2	< 2	< 2	< 3	< 3	3	< 2	< 2	< 2	< 2
TSS (mg/L) Raw Sewage Influent Average Monthly	241	174	139	145	123	116	114	116	124	149	149	168
TSS (mg/L) Weekly Average	5	2	4	2	2	4	4	7	< 2	4	3	4
Fecal Coliform (No./100 ml) Geometric Mean	6	15	23	< 7	< 3	3	21	< 2	4	< 4	7	10
Fecal Coliform (No./100 ml) Instantaneous Maximum	22.8	34.5	125.9	31.3	8.5	7.5	110.6	4.1	7.4	8.6	17.3	13.2
Nitrate-Nitrite (mg/L) Average Monthly	4.519	3.69	2.808	< 2.215	2.82	2.726	< 2.013	< 2.004	2.393	2.567	2.431	3.119
Nitrate-Nitrite (lbs) Total Monthly	40.5	34.6	36.8	< 41	77.9	84.3	< 52.3	< 44.4	65.7	37.2	43	29.8
Total Nitrogen (mg/L) Average Monthly	5.9367	4.6683	< 3.8978	< 2.9493	< 3.4871	< 3.3526	< 2.7604	< 2.8931	3.2119	3.896	3.3171	4.1462
Total Nitrogen (lbs) Effluent Net Total Monthly	53.3	43.9	< 50.8	< 54.6	< 96.1	< 103.7	< 71.7	< 63.7	87.6	56.5	58.4	39.8
Total Nitrogen (lbs) Total Monthly	53.3	43.9	< 50.8	< 54.6	< 96.1	< 103.7	< 71.7	< 63.7	87.6	56.5	58.4	39.8
Total Nitrogen (lbs) Effluent Net Total Annual		< 768										
Total Nitrogen (lbs) Total Annual		< 768										
Ammonia (lbs/day) Average Monthly	< 0.06	< 0.01	< 0.02	< 0.03	< 0.04	< 0.05	< 0.04	< 0.06	< 0.3	< 0.08	< 0.03	< 0.02
Ammonia (mg/L) Average Monthly	< 0.2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.1	< 0.3	< 0.2	< 0.1	< 0.1
Ammonia (lbs) Total Monthly	< 1.9	< 0.4	< 0.6	< 0.9	< 1.3	< 1.5	< 1.2	< 1.8	< 2.7	< 2.4	< 2.8	< 1.7
Ammonia (lbs) Total Annual		< 17										

**NPDES Permit Fact Sheet
Spring Creek STP**

NPDES Permit No. PA0082279

TKN (mg/L) Average Monthly	1.4177	0.9787	< 1.0898	0.7343	< 0.6669	< 0.6268	0.7479	0.8893	0.8189	1.3293	0.8861	1.027
TKN (lbs) Total Monthly	12.8	9.3	< 14	13.6	< 18.2	< 19.3	19.4	19.3	21.9	19.3	15.4	10
Total Phosphorus (mg/L) Average Monthly	4.45	4.24	3.47	2.818	1.72	1.276	1.144	1.27	0.8	2.43	2.04	3.34
Total Phosphorus (lbs) Effluent Net Total Monthly	39.9	39.9	45.1	53.6	46	39.2	28.8	27.2	22.1	35	35.4	32.1
Total Phosphorus (lbs) Total Monthly	39.9	39.9	45	53.6	46	39.2	29	27.2	22.1	35	35.4	32.1
Total Phosphorus (lbs) Effluent Net Total Annual		439										
Total Phosphorus (lbs) Total Annual		439										

Existing Effluent Limitations and Monitoring Requirements

Outfall 001,

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Weekly Average	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
TRC	XXX	XXX	XXX	0.25	XXX	0.82	1/day	Grab
CBOD ₅	35.0	57.0 Wkly Avg	XXX	25.0	40.0	50.0	1/week	8-Hr Composite
TSS	42.0	64.0 Wkly Avg	XXX	30.0	45.0	60.0	1/week	8-Hr Composite
BOD ₅ Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	1/week	8-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/week	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	1/week	Grab
Ammonia May 1 - Sep 30	6.4	XXX	XXX	4.5	XXX	9.0	1/week	8-Hr Composite
Ammonia Oct 1 - Apr 30	19.0	XXX	XXX	13.5	XXX	27.0	1/week	8-Hr Composite

Existing Effluent Limitations and Monitoring Requirements

Outfall 001,

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	1/week	8-Hr Composite
Kjeldahl---N	Report	XXX	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Net Total Nitrogen	Report	7,306	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	974	XXX	XXX	XXX	XXX	1/month	Calculation

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" (386-0400-001), 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	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
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
D.O.	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.25	XXX	0.82	1/day	Grab
CBOD ₅	35.0	57.0	XXX	25.0	40.0	50.0	1/week	8-Hr Composite
BOD ₅ Raw Sewage Influent	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	1/week	8-Hr Composite
TSS	42.0	64.0	XXX	30.0	45.0	60.0	1/week	8-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	1/week	8-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
Ammonia Nov 1 - Apr 30	19.0	XXX	XXX	13.5	XXX	27.0	1/week	8-Hr Composite
Ammonia May 1 - Oct 31	6.4	XXX	XXX	4.5	XXX	9.0	1/week	8-Hr Composite

Proposed Effluent Limitations and Monitoring Requirements

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

Outfall 001, Effective Period: Permit Effective Date 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	1/week	8-Hr Composite
Kjeldahl---N	Report	XXX	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Net Total Nitrogen	Report	7,306	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	974	XXX	XXX	XXX	XXX	1/month	Calculation

Development of Effluent Limitations

<p>Outfall No. <u>001</u></p> <p>Latitude <u>40° 11' 34.81"</u></p> <p>Wastewater Description: <u>Sewage Effluent</u></p>	<p>Design Flow (MGD) <u>0.17</u></p> <p>Longitude <u>-77° 58' 24.91"</u></p>
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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)

Comments:

Water Quality-Based Limitations

Ammonia (NH₃-N):

NH₃N calculations are 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 WQM 7.0 computer model of the stream:

- * Discharge pH = 7.0 (Default)
- * Discharge Temperature = 25°C (Default)
- * Stream pH = 7.0 (Default)
- * Stream Temperature = 20°C (Default)
- * Background NH₃-N = 0 mg/L (Default)

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)
3.35	Spring Creek	PA0082279	0.1700

Parameter	Effluent Limit 30 Day Average (mg/L)	Effluent Limit Maximum (mg/L)	Effluent Limit Minimum (mg/L)
CBOD ₅	25		
NH ₃ -N	5.91	11.82	
Dissolved Oxygen			5

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The model input data and results are attached. The printout of the WQM 7.0 output indicates that at a discharge of 0.17 MGD, limits (rounded according to the NPDES Technical Guidance 362-0400-001) of 5.91 mg/L NH₃-N as a monthly average and 11.82 mg/L NH₃-N instantaneous maximum are necessary to protect the aquatic life from toxicity effects. The more stringent summer in existing limits of 4.5 mg/L monthly average & 9.0 mg/L IMAX will remain in the proposed permit due to anti-backsliding requirements. The winter effluent limit will be set at three-times the summer limits. Recent DMRs and inspection reports indicate that the facility has been consistently achieving these limits. Mass limits are calculated as follows:

$$\begin{aligned} \text{Summer average monthly mass limit: } & 4.5 \text{ mg/L} \times 0.17 \text{ MGD} \times 8.34 = 6.38 \text{ (6.4) lbs/day} \\ \text{Winter average monthly mass limit: } & 6.4 \text{ lbs/day} \times 3 = 19.14 \text{ (19.0) lbs/day} \end{aligned}$$

Carbonaceous Biochemical Oxygen Demand (CBOD₅):

The attached computer printout of the WQM 7.0 stream model 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), 40.0 mg/l average weekly limit (AWL), and 50.0 mg/L instantaneous maximum will remain in the proposed permit as per guidance document 391-2000-014. Recent DMRs and inspection reports show that the facility has been consistently achieving these limits. Mass limits are calculated as follows:

$$\begin{aligned} \text{Average monthly mass limit: } & 25.0 \text{ mg/L} \times 0.17 \text{ MGD} \times 8.34 = 35.45 \text{ (35.0) lbs/day} \\ \text{Average weekly mass limit: } & 40.0 \text{ mg/L} \times 0.17 \text{ MGD} \times 8.34 = 56.71 \text{ (57.0) lbs/day} \end{aligned}$$

Total Suspended Solids (TSS):

The existing technology-based limits of 30.0 mg/L average monthly, 45.0 mg/L average weekly, and 60.0 mg/L instantaneous maximum will remain in the proposed permit based on the minimum level of effluent quality attainable by secondary treatment based on 25 Pa. Code § 92a.47. Recent DMRs and inspection reports show that the facility has been consistently achieving these limits. Mass limits are calculated as follows:

$$\begin{aligned} \text{Average monthly mass limit: } & 30.0 \text{ mg/L} \times 0.17 \text{ MGD} \times 8.34 = 42.53 \text{ (42.0) lbs/day} \\ \text{Average weekly mass limit: } & 45.0 \text{ mg/L} \times 0.17 \text{ MGD} \times 8.34 = 63.80 \text{ (64.0) lbs/day} \end{aligned}$$

Dissolved Oxygen (D.O.):

A minimum D.O. of 5.0 mg/L is required per 25 Pa. Code § 93.7. This is consistent with the previous permit and current Department criteria.

pH:

The effluent discharge pH should remain above 6 and below 9 standard units according to 25 Pa. Code § 95.2(1).

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 1,000/100 ml and 25 Pa. Code § 92a.47.(a)(5) requires a winter limit of 2,000/100 ml as a geometric mean and an instantaneous maximum not greater than 10,000/100 ml.

E. Coli:

As recommended by DEP's SOP No. BCW-PMT-033, version 2.0 revised February 5, 2024, 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 1/quarter will be included in the permit to be consistent with the recommendation from this SOP.

Influent BOD₅ and TSS Monitoring:

The permit will include influent BOD₅ and TSS monitoring at the same frequency as is done for effluent in order to implement 25 Pa. Code § 94.12 and assess percent removal requirements, per DEP policy.

Stormwater:

There is no stormwater outfall associated with this facility.

Biosolids Management:

Dried biosolids periodically removed from the sludge drying beds and then disposed of by a certified hauler.

Total Residual Chlorine (TRC):

The attached computer printout utilizes the equations and calculations as presented in the Department's 2003 Implementation Guidance for Residual Chlorine (TRC) (ID # 391-2000-015) for developing chlorine limitations. The attached printout indicates that an average monthly water quality limit of 0.25 mg/L and IMAX of 0.81 mg/L would be needed to prevent toxicity concerns. The existing permit had an average monthly water limit of 0.25 mg/L and IMAX of 0.82 mg/L will remain in the proposed permit. Recent DMR data indicates that the facility has been consistently achieving concentrations below these more stringent limits.

TRC EVALUATION					
Input appropriate values in A3:A9 and D3:D9					
0.43	= Q stream (cfs)		0.5	= CV Daily	
0.17	= 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)			= Decay Coefficient (K)	
Source	Reference	AFC Calculations		Reference	CFC Calculations
TRC	1.3.2.iii	WLA_afc = 0.541		1.3.2.iii	WLA_cfc = 0.519
PENTOXSD TRG	5.1a	LTAMULT_afc = 0.373		5.1c	LTAMULT_cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc = 0.201		5.1d	LTA_cfc = 0.302
Source		Effluent Limit Calculations			
PENTOXSD TRG	5.1f	AML_MULT = 1.231			
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.248		AFC	
		INST MAX LIMIT (mg/l) = 0.811			
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				

Chesapeake Bay Strategy:

In the Phase 3 WIP Wastewater Supplement revised on July 29, 2022, Table 7 of this document shows that Motts LLP has been allocated 7306 lbs/year of TN and 974 lbs/year of TP. This approach is consistent with the Chesapeake Bay TMDL was based on the actual performance data previously evaluated by the Department. Since the permittee is easily capable of achieving compliance with these loads, the Department determines that no "compliance schedule" for the requirements associated with the Chesapeake Bay Strategy is necessary. Accordingly, the Chesapeake Bay nutrient existing limitations and monitoring requirements will remain in the proposed permit.

Phase 3 WIP Wastewater Supplement
Revised, July 29, 2022

ATTACHMENT C

NON-SIGNIFICANT DISCHARGERS WITH CAP LOADS IN NPDES PERMITS

NPDES Permit No.	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0008281	PPL BRUNNER ISLAND INDUSTRIAL WASTES	7/27/2018	7/31/2023	10/1/2009	0	0	0.836	0.486
PA0020851	HYNDMAN STP	1/31/2020	1/31/2025	10/1/2013	7,306	974	1.00	0.499
PA0021652	KREAMER MUNI AUTH SEW STP	3/11/2015	3/31/2020	4/1/2015	7,306	974	0.748	0.330
PA0021776	FAIRFIELD STP	11/14/19	11/30/2024	10/1/2012	7,306	974	0.540	0.681
PA0021849	MILLERSTOWN STP	6/22/2016	5/31/2021	10/1/2013	6,697	974	0.0688	0.359
PA0024651	ATGLEN BOROUGH STP	4/13/2022	4/30/2027	10/1/2014	7,306	974	0.922	0.778
PA0027952	SUNOCO INC – LAWN SERVICE PLAZA	11/29/2021	11/30/2026	4/1/2009	-	304	0.590	0.448
PA0036846	NEW BERLIN BORO MUNI AUTH WTP	3/12/2021	3/31/2026	10/1/2016	7,020	819	0.812	0.442
PA0043494	LOYSVILLE STP	4/27/2022	4/30/2027	TBD	7,306	314	0.690	0.343
PA0044598	HARRISBURG AIRPORT STP	8/18/2015	8/31/2020	9/1/2015	7,306	974	0.837	0.503
PA0061123	MOSCOW SEW AUTH STP	1/25/2017	1/31/2022	10/1/2013	9,740	1,217	0.395	0.204
PA0065145	DUNN LAKE LLC	12/3/2018	12/31/2023	5/1/2013	0	0	0.098	0.013
PA0065307	COMM ENV SYS LANDFILL	3/13/2014	11/30/2016	10/1/2013	0	0	0.471	0.403
PA0080756	HERSHEY FARM MOTOR LODGE	2/27/2020	2/28/2025	10/1/2012	7,306	852	0.590	0.553
PA0080799	NEWBURG HOPEWELL JOINT AUTHORITY	10/5/2017	10/31/2022	11/1/2017	3380	325	0.707	0.444
PA0081264	PENN NATL HORSE RACE TRACK AND HOLLYWOOD CASINO – WWTP	10/22/2018	10/31/2023	2/1/2014	5,601	700	0.691	0.409
PA0082279	SPRING CREEK STP	9/23/2015	9/20/2020	10/1/2015	7,306	974	0.766	0.351
PA0083607	UNION TWP LEB CO LICKDALE STP	4/26/2016	4/30/2021	10/1/2012	7,306	974	0.722	0.434
PA0111422	THOMPSONTOWN STP	9/22/2015	9/30/2020	10/1/2015	7,032	974	0.816	0.392
PA0113093	CHRIST WESLEYAN CHURCH SEWER SYSTEM	8/18/2017	8/31/2022	9/1/2020	152	24	0.754	0.461
PA0021202	EAST BERLIN JOINT AUTHORITY – STP	5/7/2021	5/31/2026	10/1/2015	7,306	974	0.684	0.189
PA0232513	KELLY CROSSROADS SANI SEW SYS	8/10/2015	8/31/2020	9/1/2015	0	0	0.720	0.408
PA0232751	POTTER MILLS CENTRAL TREATMENT SYSTEM	8/31/2021	8/31/2026	10/1/2016	0	0	0.747	0.517

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Toxic:

Recommended WQBELs & Monitoring Requirements

No. Samples/Month:

Pollutants	Mass Limits		Concentration Limits			Units	Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX				

The data was analyzed based on the guidelines found in DEP’s Water Quality Toxics Management Strategy (Document No. 361-0100-003) and DEP’s SOP No. BPNPSM-PMT-033. Spreadsheet results are attached to this fact sheet (page 32-41). The Toxics Management Spreadsheet uses the following logic:

- Establish average monthly and IMAX limits in the draft permit where the maximum reported concentration exceeds 50% of the WQBEL.
- For non-conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL.
- For conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 10%-50% of the WQBEL.

Pollutant testing results on the current (2021) application were reviewed in comparison with DEP’s Toxic Management Spreadsheet, version 1.4, May 2023, output no recommends a routine monitoring and/or effluent limit requirements for any pollutants. Therefore, no monitoring requirements need in this proposed permit.

Spring Creek STP

Antidegradation (93.4):

The effluent limits for this discharge have been developed to ensure that existing in-stream 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.

303d Listed Streams:

The discharge is not located on a 303d listed stream segment. The stream segment that receive the discharge is listed as attaining its uses for aquatic life and fish consumption.

Class A Wild Trout Fisheries:

No Class A Wild Trout Fisheries are impacted by this discharge.

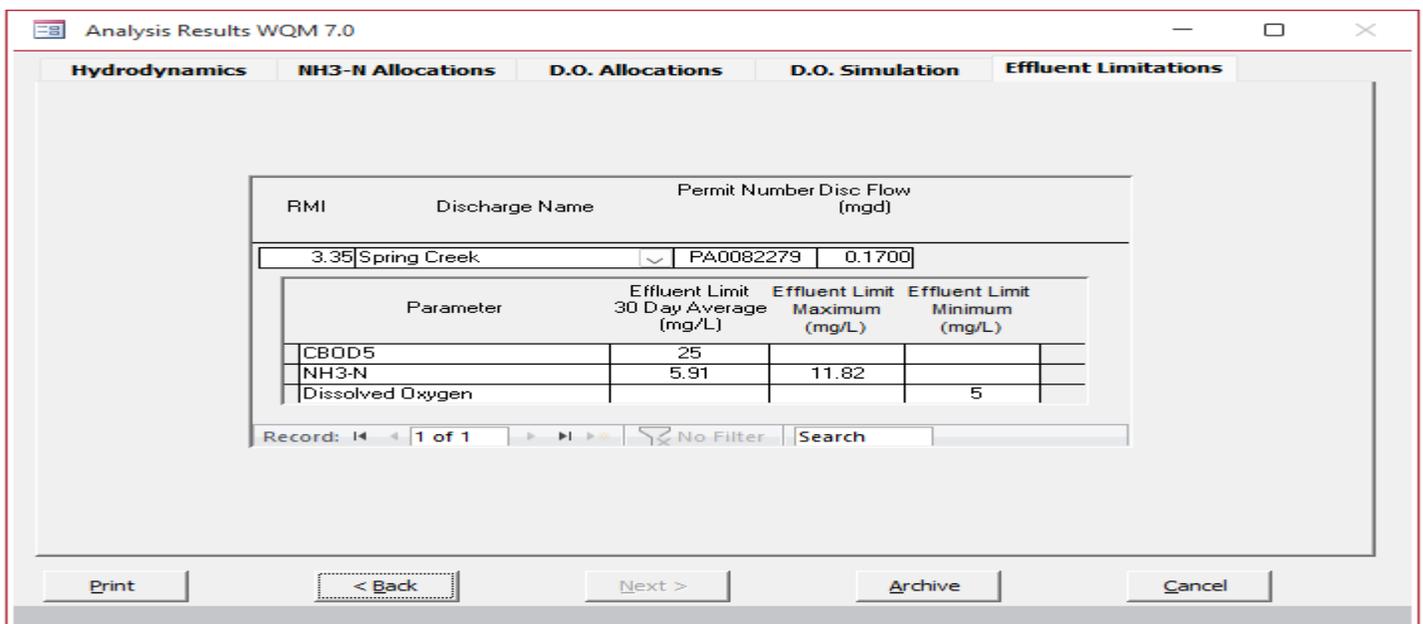
WQM 7.0 Data

D.O. Goal: 5.0 mg/L

*	Discharge pH	=	7.0	(Default)
*	Discharge Temperature	=	25°C	(Default)
*	Stream pH	=	7.0	(Default)
*	Stream Temperature	=	20°C	(Default)
*	Background NH ₃ -N	=	0 mg/L	(Default)

Node 1: Outfall 001 on Three Springs Creek (12866)
 Elevation: 696.99 ft (USGS National Map Viewer)
 Drainage Area: 23.6 mi.² (USGS PA StreamStats)
 River Mile Index: 3.35 (PA DEP eMapPA)
 Q₇₋₁₀ Low Flow Yield: 0.020 cfs/mi.²
 Discharge Flow: 0.17 MGD (NPDES permit)

Node 2: Just before confluence with Trib. 12875 to Three Springs Creek
 Elevation: 687.07 ft (USGS National Map Viewer)
 Drainage Area: 23.7 mi.² (USGS PA StreamStats)
 River Mile Index: 3.00 (PA DEP eMapPA)
 Q₇₋₁₀ Low Flow Yield: 0.020 cfs/mi.²
 Discharge Flow: 0.000 MGD



rptEffLimits

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name	THREE SPRINGS CREEK					
12C	12896							
R#M	Name	Permit Number	Discharge Flow (mgd)	Parameter	Eff. Limit 30-day Ave. (mg/L)	Eff. Limit Maximum (mg/L)	Eff. Limit Minimum (mg/L)	
3.350	Spring Creek	PA0082279	0.170	CSO205	25			
				NH3-N	5.91	11.82		
				Dissolved Oxygen			5	

Wednesday, December 3, 2025 Version 1.1 Page 1 of 1

rpt_WLA

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name	THREE SPRINGS CREEK					
12C	12896							
NHS-N Acute Allocations								
R#M	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction	
3.350	Spring Creek	13.82	20.69	13.82	20.69	0	0	
NHS-N Chronic Allocations								
R#M	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction	
3.350	Spring Creek	1.72	5.91	1.72	5.91	0	0	
Dissolved Oxygen Allocations								
R#M	Discharge Name	CSO205 (mg/L)	NH3-N (mg/L)	Dissolved Oxygen (mg/L)	Critical Reach	Percent Reduction		
3.350	Spring Creek	25	25	5.91	5	0	0	

Wednesday, December 3, 2025 Version 1.1 Page 1 of 1

rptDOSim

WQM 7.0 D.O. Simulation

SWP Basin	Stream Code	Stream Name	THREE SPRINGS CREEK			
12C	12896					
R#M	Total Discharge Flow (mgd)	Analyte Temperature (°C)	Ambient pH			
3.350	0.170	21.706	7.000			
Reach Width (ft)	Reach Depth (ft)	Reach W/D Ratio	Reach Velocity (fps)			
16.116	0.514	31.335	0.059			
Reach CSO205 (mg/L)	Reach NH3-N (Days)	Reach NH3-N (mg/L)	Reach DO (Days)			
10.23	1.276	2.32	0.803			
Reach DO (mg/L)	Reach K1 (Days)	K1 Equation	Reach DO Goal (mg/L)			
7.083	15.304	Chowes	5			
Reach Travel Time (Days)	Subreach Results		O.D. (mg/L)			
0.241	Time	CSO205 (mg/L)	NH3-N (mg/L)			
	0.024	9.95	2.07	7.06		
	0.048	9.57	2.04	7.05		
	0.072	9.25	2.00	7.07		
	0.096	8.95	1.96	7.10		
	0.121	8.66	1.92	7.13		
	0.145	8.37	1.88	7.17		
	0.169	8.10	1.85	7.21		
	0.193	7.83	1.81	7.25		
	0.217	7.57	1.78	7.29		
	0.241	7.33	1.74	7.33		

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rptModelSpecs

WQM 7.0 Modeling Specifications

Parameters	5th	Use Inpatient Q5-10 and Q30-10 Flows	<input checked="" type="checkbox"/>
WLA Method	ESR91	Use Inpatient W/D Ratio	<input type="checkbox"/>
Q5-10/Q1-10 Ratio	0.84	Use Inpatient Reach Travel Time	<input type="checkbox"/>
Q30-10/Q1-10 Ratio	1.36	Temperature Adjust K1	<input checked="" type="checkbox"/>
O.D. Substrate	90.00%	Use Balanced Technology	<input checked="" type="checkbox"/>
O.D. Goal	5		

Wednesday, December 3, 2025 Version 1.1 Page 1 of 1

rptHydro

WQM 7.0 Hydrodynamic Outputs

SWP Basin		Stream Code		Stream Name									
12C		12B6		THREE SPRINGS CREEK									
R/W	Stream	PWS	Net	Disc	Reach	Depth	Width	WD	Velocity	Reach	Analysis	Analysis	
Flow	Flow	Flow	Flow	Flow	Slope	(ft)	(ft)	Ratio	(ft/s)	Time	Temp	pH	
(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(ft/ft)	(ft)	(ft)		(ft/s)	(days)	(°C)		
Q7-10 Flow													
3.390	0.47	0.00	0.47	.263	0.00337	.514	16.12	31.36	0.09	0.241	21.70	7.00	
Q1-10 Flow													
3.390	0.30	0.00	0.30	.263	0.00337	NA	NA	NA	0.08	0.279	22.33	7.00	
Q30-10 Flow													
3.390	0.64	0.00	0.64	.263	0.00337	NA	NA	NA	0.10	0.215	21.45	7.00	

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rptGeneral

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	R/W	Elevation	Drainage Area	Slope	PWS Withdrawal	Apply FC
(ft)	(ft)	(ft)	(ft)	(sq mi)	(ft/ft)	(mgd)		
12C	12B6	THREE SPRINGS CREEK	3.350	696.99	23.60	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Intb Flow	Stream Flow	Rch Flow	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Intubary Temp	Stream Temp	pH
(dcm)	(cfs)	(cfs)	(cfs)	(cfs)	(ft/s)	(ft)	(ft)	(ft)	(°C)	(°C)	
Q7-10	0.020	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00
Q1-10	0.00	0.00	0.00	0.000	0.000						
Q30-10	0.00	0.00	0.00	0.000	0.000						

Discharge Data

Name	Permit Number	Existing Disc Flow	Permitted Disc Flow	Design Disc Flow	Reserve Factor	Disc Temp	Disc pH
		(mgd)	(mgd)	(mgd)		(°C)	
Spring Creek	PA0082279	0.1700	0.1700	0.1700	0.000	25.00	7.00

Parameter Data

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

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rptGeneral

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	R/W	Elevation	Drainage Area	Slope	PWS Withdrawal	Apply FC
(ft)	(ft)	(ft)	(ft)	(sq mi)	(ft/ft)	(mgd)		
12C	12B6	THREE SPRINGS CREEK	3.000	697.07	23.70	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Intb Flow	Stream Flow	Rch Flow	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Intubary Temp	Stream Temp	pH
(dcm)	(cfs)	(cfs)	(cfs)	(cfs)	(ft/s)	(ft)	(ft)	(ft)	(°C)	(°C)	
Q7-10	0.020	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00
Q1-10	0.00	0.00	0.00	0.000	0.000						
Q30-10	0.00	0.00	0.00	0.000	0.000						

Discharge Data

Name	Permit Number	Existing Disc Flow	Permitted Disc Flow	Design Disc Flow	Reserve Factor	Disc Temp	Disc pH
		(mgd)	(mgd)	(mgd)		(°C)	
Spring Creek	PA0082279	0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

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

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Toxic:

- Discharge pH = 7.25 (average 2025 renewal application)
- Discharge Hardness = 100 mg/L (Default)
- Stream pH = 7.0 (Default)
- Stream Hardness = 100 mg/L (Default)
- Background NH₃-N = 0 mg/L (Default)

Node 1: Outfall 001 on Three Springs Creek (12866)
 Elevation: 696.99 ft (USGS National Map Viewer)
 Drainage Area: 23.6 mi.² (USGS PA StreamStats)
 River Mile Index: 3.35 (PA DEP eMapPA)
 Q₇₋₁₀ Low Flow Yield: 0.020 cfs/mi.²
 Discharge Flow: 0.17 MGD (NPDES permit)

Node 2: Just before confluence with Trib. 12875 to Three Springs Creek
 Elevation: 687.07 ft (USGS National Map Viewer)
 Drainage Area: 23.7 mi.² (USGS PA StreamStats)
 River Mile Index: 3.00 (PA DEP eMapPA)
 Q₇₋₁₀ Low Flow Yield: 0.020 cfs/mi.²
 Discharge Flow: 0.000 MGD

Recommended WQBELs & Monitoring Requirements

No. Samples/Month:

Pollutants	Mass Limits		Concentration Limits				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			



Toxic Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Facility: Spring Creek Joint Sewer Authority NPDES Permit No.: PA0082279 Outfall No.: 001
 Evaluation Type: Custom / Additives Wastewater Description: Three Springs Creek

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 _b
0.17	100	7.25						

Discharge Pollutant	Units	Max Discharge Conc	0 if left blank		0.5 if left blank		0 if left blank		1 if left blank	
			Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod
Total Dissolved Solids (PWS)	mg/L	178								
Chloride (PWS)	mg/L	35.6								
Bromide	mg/L	< 0.011								
Sulfate (PWS)	mg/L	27.1								
Total Copper	mg/L	0.0296								
Total Zinc	mg/L	0.036								
Total Nickel	mg/L	0.00158								



Stream / Surface Water Information

Spring Creek Joint Sewer Authority, NPDES Permit No. PA0082279, Outfall 001

Instructions Discharge **Stream**

Receiving Surface Water Name: **Three Springs Creek** No. Reaches to Model: **1**

- Statewide Criteria
- Great Lakes Criteria
- ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi ²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	012866	3.35	696.99	23.6			Yes
End of Reach 1	012866	3	687.07	23.7			Yes

Q 7-10

Location	RMI	LFY (cfs/mi ²)*	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	3.35	0.02										100	7		
End of Reach 1	3	0.02													

Q_n

Location	RMI	LFY (cfs/mi ²)*	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	3.35														
End of Reach 1	3														



Model Results

Spring Creek Joint Sewer Authority, NPDES Permit No. PA0082279, Outfall 001

Instructions **Results**

RETURN TO INPUTS

SAVE AS PDF

PRINT

All Inputs Results Limits

Hydrodynamics

Wasteload Allocations

AFC CCT (min): **5.438** PMF: **1** Analysis Hardness (mg/l): **100** Analysis pH: **7.07**

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	13.439	14.0	39.1	Chem Translator of 0.96 applied
Total Zinc	0	0		0	117.180	120	335	Chem Translator of 0.978 applied
Total Nickel	0	0		0	468.236	469	1,311	Chem Translator of 0.998 applied

CFC CCT (min): **5.438** PMF: **1** Analysis Hardness (mg/l): **100** Analysis pH: **7.07**

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	8.956	9.33	26.1	Chem Translator of 0.96 applied
Total Zinc	0	0		0	118.139	120	335	Chem Translator of 0.986 applied
Total Nickel	0	0		0	52.007	52.2	146	Chem Translator of 0.997 applied

THH CCT (min): **5.438** PMF: **1** Analysis Hardness (mg/l): **N/A** Analysis pH: **N/A**

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	

Total Copper	0	0	0	N/A	N/A	N/A
Total Zinc	0	0	0	N/A	N/A	N/A
Total Nickel	0	0	0	610	610	1,705

CRL CCT (min): PMF: Analysis Hardness (mg/l): Analysis pH:

Pollutants	Stream Conc (mg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0	0	0	N/A	N/A	N/A	
Chloride (PWS)	0	0	0	0	N/A	N/A	N/A	
Sulfate (PWS)	0	0	0	0	N/A	N/A	N/A	
Total Copper	0	0	0	0	N/A	N/A	N/A	
Total Zinc	0	0	0	0	N/A	N/A	N/A	
Total Nickel	0	0	0	0	N/A	N/A	N/A	

Recommended WQBELs & Monitoring Requirements

No. Samples/Month:

Pollutants	Mass Limits		Concentration Limits			Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX			

Other Pollutants without Limits or Monitoring

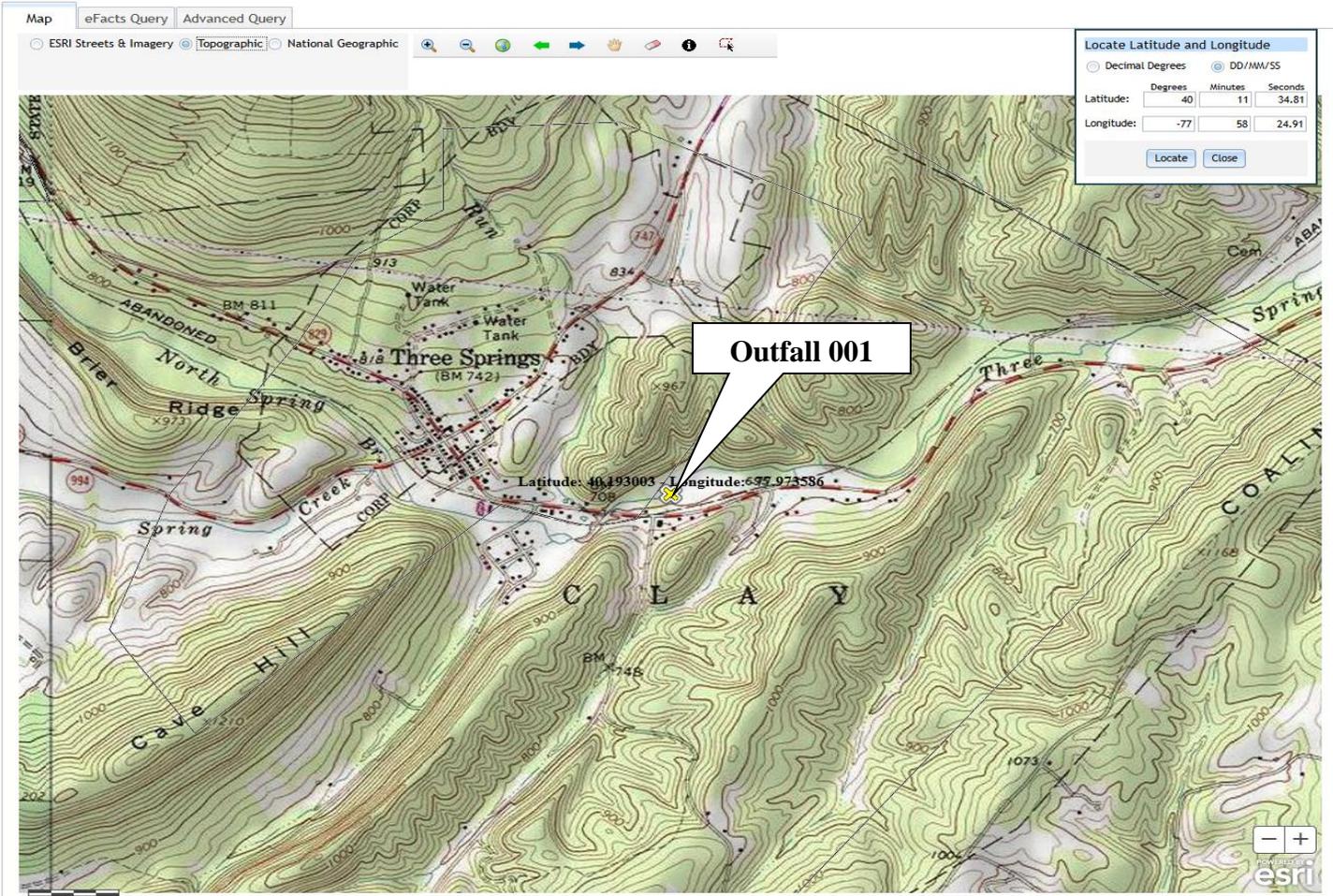
The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Total Copper	25.1	µg/L	Discharge Conc ≤ 10% WQBEL
Total Zinc	215	µg/L	Discharge Conc ≤ 10% WQBEL
Total Nickel	146	µg/L	Discharge Conc ≤ 10% WQBEL

Model Results

12/3/2025

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Step 1: You can modify computed basin characteristics here, then select the types of reports you wish to generate. Then click the "Build Report" button

Hide Basin Characteristics

Basin Characteristics can be edited here

Parameter	Value
DRNAREA	23.6
PRECIP	37
STRDEN	1.89
ROCKDEP	3.6
CARBON	5.16

Select available reports to display:

- Basin Characteristics Report
- Scenario Flow Reports
- Hydrologic Features Report

[Open Report](#)

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Step 1: You can modify computed basin characteristics here, then select the types of reports you wish to generate. Then click the "Build Report" button

Hide Basin Characteristics

Basin Characteristics can be edited here

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	5.16	percent
DRNAREA	Area that drains to a point on a stream	23.6	square miles
PRECIP	Mean Annual Precipitation	37	inches
ROCKDEP	Depth to rock	3.6	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	1.89	miles per square mile

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	5.16	percent	0	99
DRNAREA	Drainage Area	23.6	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	37	inches	35	50.4
ROCKDEP	Depth to Rock	3.6	feet	3.32	5.65
STRDEN	Stream Density	1.89	miles per square mile	0.51	3.1

Low-Flow Statistics Flow Report [Low Flow Region 2]

PII: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	1.2	ft ³ /s	38	38
30 Day 2 Year Low Flow	1.79	ft ³ /s	33	33
7 Day 10 Year Low Flow	0.432	ft ³ /s	51	51
30 Day 10 Year Low Flow	0.68	ft ³ /s	46	46
90 Day 10 Year Low Flow	1.28	ft ³ /s	36	36

Batch Processor Report About ? Help

Layers

- Base Maps
- Application Layers
- National Layers
- PA Map Layers

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Step 1: You can modify computed basin characteristics here, then select the types of reports you wish to generate. Then click the "Build Report" button

Hide Basin Characteristics

Basin Characteristics can be edited here

Parameter	Value
DRNAREA	23.7
PRECIP	37
STRDEN	1.89
ROCKDEP	3.6
CARBON	5.14

Select available reports to display:

- Basin Characteristics Report
- Scenario Flow Reports
- Hydrologic Features Report

[Open Report](#)

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Step 1: You can modify computed basin characteristics here, then select the types of reports you wish to generate. Then click the "Build Report" button

Hide Basin Characteristics

Basin Characteristics can be edited here

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	5.14	percent
DRNAREA	Area that drains to a point on a stream	23.7	square miles
PRECIP	Mean Annual Precipitation	37	inches
ROCKDEP	Depth to rock	3.6	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	1.89	miles per square mile

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	5.14	percent	0	99
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Low-Flow Statistics Flow Report [Low Flow Region 2]

PII: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	1.2	ft ³ /s	38	38
30 Day 2 Year Low Flow	1.8	ft ³ /s	33	33
7 Day 10 Year Low Flow	0.434	ft ³ /s	51	51
30 Day 10 Year Low Flow	0.683	ft ³ /s	46	46
90 Day 10 Year Low Flow	1.28	ft ³ /s	36	36

Batch Processor Report About ? Help

Layers

- Base Maps
- Application Layers
- National Layers
- PA Map Layers

Tools and References Used to Develop Permit	
<input checked="" type="checkbox"/>	WQM for Windows Model (see Attachment [redacted])
<input checked="" type="checkbox"/>	Toxics Management Spreadsheet (see Attachment [redacted])
<input checked="" 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, 386-0400-001, 10/97.
<input type="checkbox"/>	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
<input type="checkbox"/>	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
<input type="checkbox"/>	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
<input type="checkbox"/>	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
<input type="checkbox"/>	Pennsylvania CSO Policy, 386-2000-002, 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, 386-2000-008, 4/97.
<input type="checkbox"/>	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
<input type="checkbox"/>	Implementation Guidance Design Conditions, 386-2000-007, 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, 386-2000-016, 6/2004.
<input type="checkbox"/>	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
<input type="checkbox"/>	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
<input type="checkbox"/>	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
<input checked="" type="checkbox"/>	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
<input type="checkbox"/>	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
<input checked="" type="checkbox"/>	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
<input type="checkbox"/>	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
<input type="checkbox"/>	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 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, 386-2000-020, 10/97.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 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, 386-2000-010, 3/1999.
<input type="checkbox"/>	Design Stream Flows, 386-2000-003, 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, 386-2000-006, 10/98.
<input type="checkbox"/>	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
<input checked="" type="checkbox"/>	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
<input checked="" type="checkbox"/>	SOP: BCW-PMT-033
<input type="checkbox"/>	Other: [redacted]