

Application Type Renewal
Facility Type Municipal
Major / Minor Minor

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0080039
APS ID 15345
Authorization ID 1492676

Applicant and Facility Information

Applicant Name	<u>Carroll Valley Sewer & Water Authority</u>	Facility Name	<u>Carroll Valley STP</u>
Applicant Address	<u>5685 Fairfield Road</u> <u>Fairfield, PA 17320-9611</u>	Facility Address	<u>Sanders Road</u> <u>Carroll Valley, PA 17320-9611</u>
Applicant Contact	<u>David Hazlett</u>	Facility Contact	<u>Jed Fetter</u>
Applicant Phone	<u>(717) 642-8269</u>	Facility Phone	<u>(717) 642-5571</u>
Client ID	<u>73610</u>	Site ID	<u>252221</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Carroll Valley Borough</u>
Connection Status	<u>No Limitations</u>	County	<u>Adams</u>
Date Application Received	<u>May 17, 2024</u>	EPA Waived?	<u>No</u>
Date Application Accepted	<u>May 18, 2024</u>	If No, Reason	<u>DEP Discretion</u>
Purpose of Application	<u>NPDES permit renewal.</u>		

Summary of Review

Keller Engineers, Inc., on behalf of the Carroll Valley Sewer & Water Authority (Authority/Permittee), applied to the Pennsylvania Department of Environmental Protection (DEP) for issuance of the NPDES permit. The permit was reissued on February 24, 2020, and became effective on March 1, 2020. The permit expired on February 28, 2025. Upgrades to the treatment plant were recently completed.

Carroll Valley Sewer & Water Authority owns, operates, and maintains the wastewater treatment plant located in Carroll Valley Borough, Adams County. The aeration secondary treatment plant discharges treated municipal wastewater to Toms Creek, which is classified for Cold Water Fishes (CWF). The collection system has 100% sewers from Carroll Valley Borough.

The permit PA0080039 major amendment was issued on 1/11/2022 to increase the annual average design flow and hydraulic design capacity from 0.14 MGD to 0.25 MGD, and to replace the chlorine monitor & report requirement with UV light intensity (mW/cm²) disinfection. The Organic design capacity changed from 337 lbs BOD₅/day to 626 lbs BOD₅/day. The amendment construction project was done on 3/7/2025 and submitted on 3/10/2025.

WQM Part II No. 0102402 original was issued 1986, and 0102402 A-1 amendment was issued 4/19/2002 to extensions of pumping stations. WQM No. 0120403 was issued on 10/29/2020. WQM No. 0121403 was issued on 1/11/2022.

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

Changes from the previous permit: The E. Coli monitoring and report requirements will add to the proposed permit.

Based on the review outlined in this fact sheet, it is recommended that the permit be drafted. A public notice of the draft permit will be 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	March 12, 2025
X		<i>Maria D. Bebenek for</i> Daniel W. Martin, P.E. / Environmental Engineer Manager	March 18, 2025

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.25
Latitude	39° 45' 35.98"	Longitude	-77° 22' 57.32"
Quad Name	Iron Springs	Quad Code	
Wastewater Description: Sewage Effluent			
Receiving Waters	Unnamed Tributary to Toms Creek (CWF)	Stream Code	58685
NHD Com ID	53321454	RMI	3.11 miles
Drainage Area	12.4 mi. ²	Yield (cfs/mi ²)	0.086
Q ₇₋₁₀ Flow (cfs)	1.07	Q ₇₋₁₀ Basis	USGS StreamStats
Elevation (ft)	544	Slope (ft/ft)	
Watershed No.	13-D	Chapter 93 Class.	CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Pathogens,		
Source(s) of Impairment	Source Unknown,		
TMDL Status	Name		
Nearest Downstream Public Water Supply Intake	City of Frederick, MD		
PWS Waters	Monocacy River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	Approximate 35.0 miles

Changes Since Last Permit Issuance:

Drainage Area

The discharge is to Toms Creek at RMI 3.11 miles. A drainage area upstream of the discharge is estimated to be 12.4 mi.², according to USGS PA StreamStats available at <https://streamstats.usgs.gov/ss/>.

Stream Flow

According to USGS StreamStats available at <https://streamstats.usgs.gov/ss/>, the discharge point has a Q₇₋₁₀ of 1.07 cfs and a drainage area of 12.4 mi.², which results in a Q₇₋₁₀ low flow yield of 0.086 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):

$$\begin{aligned}
 Q_{7-10} &= 1.07 \text{ cfs} \\
 \text{Low Flow Yield} &= 1.07 \text{ cfs} / 12.4 \text{ mi.}^2 \approx 0.086 \text{ cfs/mi.}^2 \\
 Q_{30-10} &= 1.36 * 1.07 \text{ cfs} \approx 1.46 \text{ cfs} \\
 Q_{1-10} &= 0.64 * 1.07 \text{ cfs} \approx 0.68 \text{ cfs}
 \end{aligned}$$

The resulting dilution ratio (under Q₇₋₁₀ conditions) is: Q_{stream} / Q_{discharge} = 1.07 cfs / [0.25 MGD * (1.55 cfs/MGD)] = 2.76:1

Public Water Supply

There are no downstream public water supply intakes in Pennsylvania. According to the previous protection report, the nearest downstream public water supply intake is for the City of Frederick, Maryland on the Monocacy River, approximately 35.0 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: Carroll Valley - Main STP				
WQM Permit No.		Issuance Date		
0121403		1/11/2022		
0120403		10/29/2020		
0102402		4/19/2002		
0102402		1986		
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Ultraviolet	0.25
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.25	626	Not Overloaded	Aerobic Digestion	Other WWTP

Changes Since Last Permit Issuance:

Other Comments:

The WWTP train is as follows:

Mechanical Screen (1) ⇒ SBRs (2) ⇒ Sludge Digester/Holding (1) ⇒ Post Equalization Basin (1) ⇒ UV disinfection ⇒ Discharge

The facility incorporates the chemical addition of alum for precipitation of phosphorus.

Compliance History	
Summary of DMRs:	DMRs reported last 12 months in the next page.
Summary of Inspections:	1/03/2024: Mr. Hoy, DEP WQS, conducted compliance evaluation inspection. Effluent was clear. The field test results were within permitted limits. There were no violations noted during inspection. Recommendations were to place a NIST thermometer in the sample storage refrigerator and record temperature/time/date when remove samples for transportation and update the operation's certificate. Requests were that the influent & process control supplemental report is completed and submitted each month through eDMR as required by NPDES permit PA0080039 Part C IV.B, and submit all influent supplemental reports for 2023 by 2/2/2024.
Other Comments:	There are no open violations associated with this facility or permittee.

Other Comments:

Compliance History

DMR Data for Outfall 001 (from February 1, 2024 to January 31, 2025)

Parameter	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24
Flow (MGD) Average Monthly	0.115	0.102	0.079	0.094	0.087	0.106	0.076	0.078	0.117	0.180	0.173	0.180
Flow (MGD) Daily Maximum	0.162	0.179	0.101	0.156	0.125	0.324	0.159	0.11	0.156	0.46	0.351	0.450
pH (S.U.) Daily Minimum	6.7	6.9	6.58	7.0	7.0	6.8	6.9	6.8	6.7	6.8	6.9	7.1
pH (S.U.) Instantaneous Maximum	7.4	7.4	7.2	7.3	7.5	7.5	7.4	7.3	7.2	7.7	7.7	7.7
DO (mg/L) Daily Minimum	8.1	7.0	6.1	6.7	6.9	5.1	5.8	5.8	6.2	6.0	7.0	8.9
TRC (mg/L) Average Monthly	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.20
TRC (mg/L) Instantaneous Maximum	0.45	0.85	0.65	0.23	0.46	0.69	0.42	0.27	0.31	0.48	0.47	0.65
CBOD5 (lbs/day) Average Monthly	< 3.5	3.2	< 1.9	< 2.5	< 1.6	< 2.6	2.0	< 1.6	3.2	7.0	3.5	4.1
CBOD5 (lbs/day) Weekly Average	5.1	4.4	< 2.0	< 3.1	< 1.6	3.4	2.3	1.9	3.2	10.8	3.6	4.6
CBOD5 (mg/L) Average Monthly	< 4.0	4.2	< 2.4	< 2.5	< 2.6	< 3.1	3.3	< 2.5	3.2	3.1	2.7	3.4
CBOD5 (mg/L) Weekly Average	5.5	4.8	< 2.4	2.5	2.8	3.8	3.8	2.6	3.5	3.6	2.9	4.4
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	258	159	151	154	171	209	127	111	199	301	224	199
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	352	182	165	175	180	210	162	177	230	375	244	213
BOD5 (mg/L) Raw Sewage Influent Average Monthly	298	223	187	166	282	252	213	160	199	155	160	185
TSS (lbs/day) Average Monthly	15.0	4.7	4.0	5.7	1.5	3.7	3.0	1.0	5.7	6.1	3.9	5.8
TSS (lbs/day) Raw Sewage Influent Average Monthly	225	130	145	146	151	188	88	97	181	197	165	130

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TSS (lbs/day) Raw Sewage Influent Daily Maximum	296	145	158	156	179	244	96	157	193	252	224	181
TSS (lbs/day) Weekly Average	26.8	5.5	4.8	9.1	2.0	3.9	4.7	1.5	6.7	6.1	4.3	7.5
TSS (mg/L) Average Monthly	16.5	6.5	5.0	5.0	2.5	4.5	5.0	1.5	5.5	3.5	3.0	4.5
TSS (mg/L) Raw Sewage Influent Average Monthly	260	194	180	150	254	222	148	138	180	100	124	116
TSS (mg/L) Weekly Average	29.0	7.0	6.0	7.0	3.0	5.0	8.0	2.0	6.0	5.0	3.0	5.0
Fecal Coliform (No./100 ml) Geometric Mean	11	90	< 108	< 146	3	< 402	< 651	5.0	< 23	< 6	< 139	< 1
Fecal Coliform (No./100 ml) Instantaneous Maximum	20	157	< 214	291	4	1203	1300	8.0	44	10	276	< 1
Nitrate-Nitrite (mg/L) Annual Average		17.4										
Nitrate-Nitrite (lbs) Total Annual		7807.53 1										
Total Nitrogen (mg/L) Annual Average		18.4										
Total Nitrogen (lbs) Total Annual		8256.24										
Ammonia (lbs/day) Average Monthly	< 8.1	< 0.07	< 0.1	< 1.8	< 0.5	< 0.08	< 0.07	0.2	< 0.1	< 0.2	< 0.1	15.3
Ammonia (mg/L) Average Monthly	< 10.6	< 0.1	< 0.16	< 1.4	< 0.8	< 0.1	< 0.11	0.23	< 0.1	< 0.1	< 0.1	11.4
TKN (mg/L) Annual Average		1										
TKN (lbs) Total Annual		448.708 7										
Total Phosphorus (mg/L) Annual Average		2.2										
Total Phosphorus (lbs) Total Annual		987.159 1										

Existing Effluent Limitations and Monitoring Requirements

Flow design before completion of construction: 0.14 MGD

Outfall 001, March 1, 2020 through Completion of Construction. (Note: The construction was completed on 3/7/2025)

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	0.5	XXX	1.6	1/day	Grab
CBOD ₅	29.0	46.0 Wkly Avg	XXX	25.0	40.0	50.0	2/month	8-Hr Composite
TSS	35.0	52.0 Wkly Avg	XXX	30.0	45.0	60.0	2/month	8-Hr Composite
BOD ₅ Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/month	8-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	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	9.9	XXX	XXX	8.5	XXX	17.0	2/month	8-Hr Composite
Ammonia Nov 1 - Apr 30	29.7	XXX	XXX	25.5	XXX	51.0	2/month	8-Hr Composite
Nitrate-Nitrite as N (lbs/year)	XXX	Report Total Annual	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite
Total Kjeldahl Nitrogen (lbs/year)	XXX	Report Total Annual	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite
Total Phosphorus (lbs/year)	XXX	Report Total Annual	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite
Total Nitrogen (lbs/year)	XXX	Report Total Annual	XXX	Report Annl Avg	XXX	XXX	1/year	Calculation

**NPDES Permit Fact Sheet
Carroll Valley STP**

NPDES Permit No. PA0080039

After completion of construction Final flow design: 0.25 MGD

Outfall 001, Effective Period: Completion of Construction through February 28, 2025. (Note: The construction was completed on 3/7/2025)

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
UV Intensity (mW/cm ²)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
CBOD ₅	52.0	83.0 Wkly Avg	XXX	25.0	40.0	50.0	1/week	8-Hr Composite
TSS	63.0	94.0 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 - Oct 31	17.5	XXX	XXX	8.4	XXX	16.8	1/week	8-Hr Composite
Ammonia Nov 1 - Apr 30	52.5	XXX	XXX	25.0	XXX	50.0	1/week	8-Hr Composite

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

Development of Effluent Limitations

Outfall No. <u>001</u>	Design Flow (MGD) <u>0.25</u>
Latitude <u>39° 45' 35.98"</u>	Longitude <u>-77° 22' 57.32"</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)

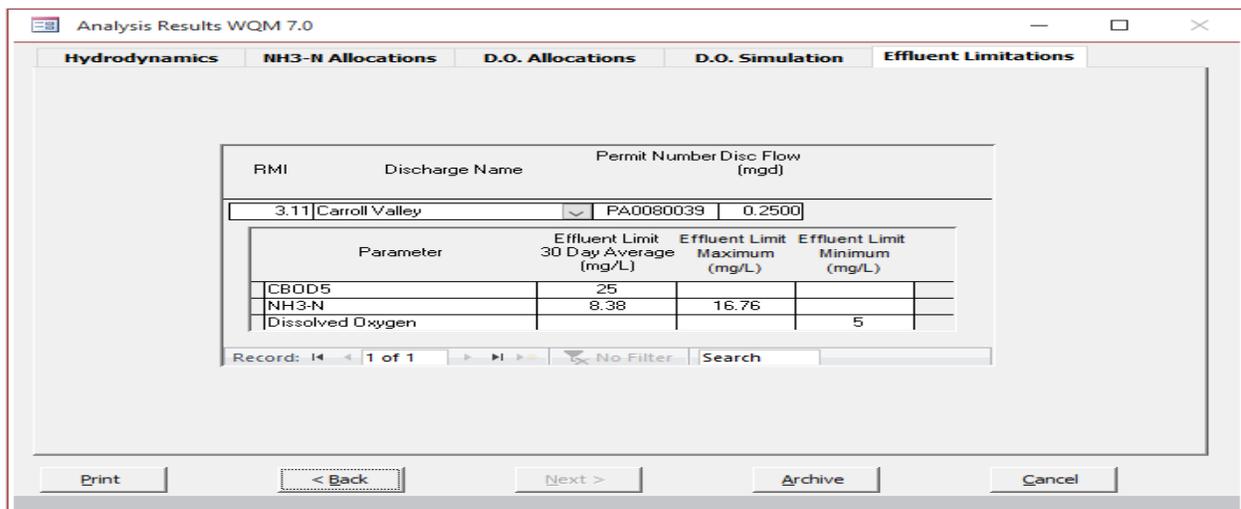
Comments: The facility utilizes UV disinfection after 3/7/2025.

Water Quality-Based Limitations

Ammonia (NH₃-N):

NH₃-N 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)



The model input data and results are attached. The printout of the WQM 7.0 (ver. 1.1) output indicates that at a discharge of 0.25 MGD, limits (rounded according to the NPDES Technical Guidance 362-0400-001) of 8.4 mg/L NH₃-N as a monthly average and 16.8 mg/L NH₃-N instantaneous maximum are necessary to protect the aquatic life from toxicity effects. These limits are same as after completed of construction and will remain in the proposed permit. Mass limits are calculated as follows:

$$\text{Summer average monthly mass limit: } 8.4 \text{ mg/L} \times 0.25 \text{ MGD} \times 8.34 = 17.5 \text{ lbs/day}$$

The winter effluent limit will be set at three-times the summer limits; therefore, the average monthly winter limit for NH₃-N will be 25.0 mg/L. For the same reason, the instantaneous maximum limit for the winter season will be 50.0 mg/L. Recent DMRs and inspection reports indicate that these limits are being attained easily.

$$\text{Winter average monthly mass limit: } 17.5 \text{ lbs/day} \times 3 = 52.5 \text{ lbs/day}$$

Carbonaceous Biochemical Oxygen Demand (CBOD₅):

The attached computer printout of the WQM 7.0 stream model (ver. 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. Therefore, the 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. Mass limits are calculated as follows:

$$\text{Average monthly mass limit: } 25.0 \text{ mg/L} \times 0.25 \text{ MGD} \times 8.34 = 52.13 \text{ (52.0) lbs/day}$$

$$\text{Average weekly mass limit: } 40.0 \text{ mg/L} \times 0.25 \text{ MGD} \times 8.34 = 83.4 \text{ (83.0) lbs/day}$$

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. Mass limits are calculated as follows:

$$\text{Average monthly mass limit: } 30.0 \text{ mg/L} \times 0.25 \text{ MGD} \times 8.34 = 62.55 \text{ (63.0) lbs/day}$$

$$\text{Average weekly mass limit: } 45.0 \text{ mg/L} \times 0.25 \text{ MGD} \times 8.34 = 93.83 \text{ (94.0) lbs/day}$$

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 6.0 and below 9.0 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.

UV:

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

Chesapeake Bay Strategy:

The Department formulated a strategy to comply with the EPA and Chesapeake Bay Foundation requirements by reducing point source loadings of Total Nitrogen (TN) and Total Phosphorus (TP). Sewage discharges have been prioritized by Central Office based on their delivered TN loadings to the Bay. The highest priority (Phases I, II, and III) dischargers will receive annual loading caps based on their design flow on August 29, 2005 and concentrations of 6.0 mg/L TN and 0.8 mg/L TP. These limits may be achieved through a combination of treatment technology, credits, or offsets. Phase IV (0.2 - 0.4 MGD) will be required to monitor and report TN and TP during permit renewal monthly and Phase V (below 0.2 MGD) will monitor during current permit renewal once a year. However, any facility in Phases IV and V that undergoes expansion is subjected to cap load right away.

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Carroll Valley STP**

NPDES Permit No. PA0080039

This plant is classified as a phase IV. For Phase IV sewage facilities (average annual design flow on August 29, 2005 \geq 0.2 MGD and $<$ 0.4 MGD), renewed or amended permits that include an increase in design flow will contain Cap Loads based on the lesser of a) existing TN and TP concentrations at current design average annual flow or b) 7,306 lbs./yr. TN and 974 lbs./yr. TP.

The 7,306 lbs/yr TN and 974 lbs/yr TP will remain in the proposed permit.

Influent BOD₅ and TSS Monitoring:

The proposed permit will continue influent BOD₅ and TSS weekly monitoring at the same frequency as is done for effluent in order to implement Chapter 94.12 and assess percent removal requirements, per DEP policy.

Toxic:

DEP's current permit renewal application for minor sewage facilities greater than 0.1 MGD requires sampling of Total Copper, Total Lead, and Total Zinc. Total Copper, Total Lead and Total Zinc were detected in effluent. No reasonable potential analysis is needed for this permit term based on the review of these sample results.

Additional Considerations

Flow Monitoring

The requirement to monitor the volume of effluent will remain in the amendment permit per 40 CFR § 122.44(i)(1)(ii).

Monitoring Frequency and Sample Type

The facility currently is required to collect daily effluent grab samples for D.O., and pH; two per month effluent 8-hr composite samples of CBOD₅, TSS, and Ammonia-Nitrogen; one per week effluent grab samples of Fecal Coliform & E Coli; annually effluent 8-hr composite samples of Nitrate-Nitrite as N, Total Kjeldahl Nitrogen, and TP; and annually effluent calculation samples of TN. Based on the best professional judgement of the author, the existing monitoring frequencies are sufficient and necessary. Therefore, the existing monitoring frequencies will remain the same as those specified in the proposed permit.

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 receiving stream has a tentative impairment for pathogens from an unknown source. The tentative impairment was created on November 20, 2012.

Class A Wild Trout Fisheries

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

[External] Carroll Valley WWTF Post Construction Certification

To: Hill, William F <WHill@keller-engineers.com>
Cc: Le, Hilary; Bebenek, Maria; Jed Fetter
Attachments: Carroll Valley WWTF Post Const. Certification.pdf (86 KB)

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Hilary & Cody:

Please see attached Carroll Valley Wastewater Treatment Facility Post Construction Certification. The Wastewater Treatment Facility is operational at this time; however the following items still need to be completed including, demolition of existing wastewater treatment tankage, structures, paving, and site restoration.

William F. Hill | P.E.
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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

**WATER QUALITY MANAGEMENT
POST CONSTRUCTION CERTIFICATION**

PERMITTEE IDENTIFIER	
Permittee	Carroll Valley Sewer & Water Authority
Municipality	Carroll Valley Borough
County	Adams
WQM Permit No.	0121403
Facility Type	Sewage
All of the above information should be taken directly from the Water Quality Management Permit.	
CERTIFICATION	
This certification must be completed and returned to the permits section of the DEP's regional office issuing the WQM permit within 30 days of completion of the project and received by DEP prior to operation, and if requested, as-built drawings, photographs (if available) and a discussion of any DEP-approved deviations from the design plans during construction.	
I, being a Registered Professional Engineer in Pennsylvania, do hereby certify to the best of my knowledge and belief, based upon personal observation and interviews, that the above facility approved under the Water Quality Management Permit has been constructed in accordance with the plans, specifications and modifications approved by DEP.	
Construction Completion Date (MM/DD/YYYY): <u>03/17/2025</u>	
<p>Engineer's Seal</p>	Professional Engineer
	Name <u>WILLIAM F. HILL</u> (Please Print or Type)
	Signature <u>William F. Hill</u>
	Date <u>03/18/2025</u>
	License Expiration Date <u>09/30/2025</u>
	Firm or Agency <u>KELLER ENGINEERS</u>
	Telephone <u>717-334-9137</u>
	Permittee or Authorized Representative
	Name _____ (Please Print or Type)
	Signature _____
Title _____	
Telephone _____	

Re: [External] Re: follow up Carroll Valley NPDES PA008039 upgrade project was issued on 1/11/2022

From: Jed Fetter <jfetter@carrollvalley.org>
To: Le, Hilary
You replied to this message on 3/4/2025 2:48 PM.

Good afternoon Hilary
We will be full operational tomorrow
Jed Fetter
Sent from my iPhone

On Feb 25, 2025, at 2:53 PM, Jed Fetter <jfetter@carrollvalley.org> wrote:
Absolutely! No problem at all
Sent from my iPhone

On Feb 25, 2025, at 1:50 PM, Le, Hilary <hle@pa.gov> wrote:

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Thanks Jed! Will you please via email me when the WWTP is full operation?

Hilary
From: Jed Fetter <jfetter@carrollvalley.org>
Sent: Tuesday, February 25, 2025 1:43 PM
To: Le, Hilary <hle@pa.gov>
Subject: [External] Re: follow up Carroll Valley NPDES PA008039 upgrade project was issued on 1/11/2022

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Good afternoon,
Yes, the plant project is almost complete. May 6 is our scheduled completion date. The new plant should be online within the next 2 to 3 weeks.

Jed Fetter
Sent from my iPhone

On Feb 25, 2025, at 1:11 PM, Le, Hilary <hle@pa.gov> wrote:

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	Daily 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	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
UV Intensity (mW/cm ²)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
CBOD ₅	52.0	83.0	XXX	25.0	40.0	50.0	1/week	8-Hr Composite
BOD ₅ Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
TSS	63.0	94.0	XXX	30.0	45.0	60.0	1/week	8-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	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	52.5	XXX	XXX	25.0	XXX	50.0	1/week	8-Hr Composite
Ammonia May 1 - Oct 31	17.5	XXX	XXX	8.4	XXX	16.8	1/week	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" (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
	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	7306	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	974	XXX	XXX	XXX	XXX	1/month	Calculation

Compliance Sampling Location:

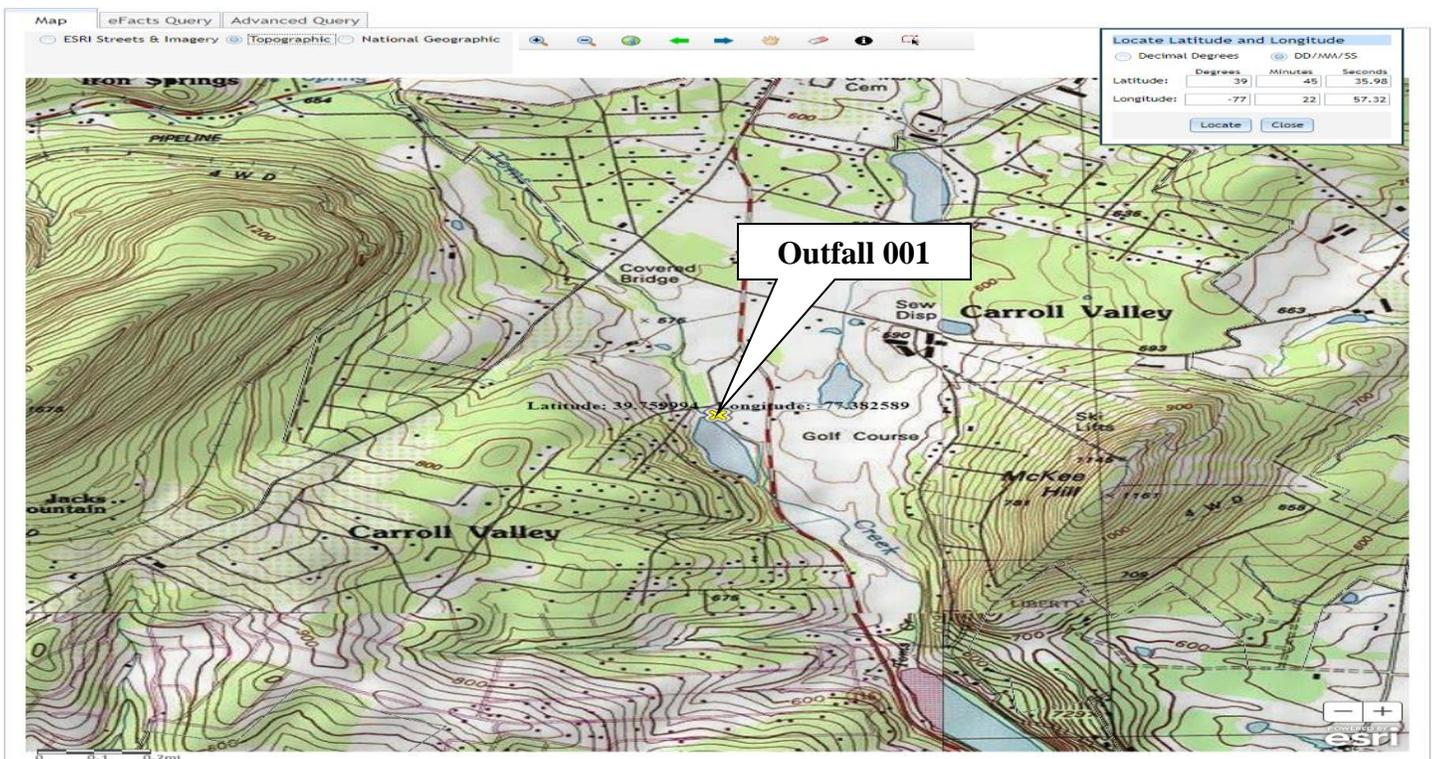
Other Comments:

*	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)

Two nodes were incorporated in the modeling effort.

Node 1: Outfall 001 on Tom's Creek (58685)
 Elevation: 544 ft (USGS National Map Viewer)
 Drainage Area: 12.4 mi.² (USGS PA StreamStats)
 River Mile Index: 3.11 (PA DEP eMapPA)
 Low Flow Yield: 0.086 cfs/mi.²
 Discharge Flow: 0.250 MGD (NPDES Application)

Node 2: Just before confluence with UNT 58767
 Elevation: 498 ft (USGS National Map Viewer)
 Drainage Area: 13.0 mi.² (USGS PA StreamStats)
 River Mile Index: 2.29 (PA DEP eMapPA)
 Low Flow Yield: 0.086 cfs/mi.²
 Discharge Flow: 0.000 MGD



USGS StreamStats
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SELECT A STATE / REGION
Pennsylvania

IDENTIFY A STUDY AREA
Basin Delineated

SELECT SCENARIOS

BUILD A REPORT Report Built

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

Show Basin Characteristics

Select available reports to display:

- Basin Characteristics Report
- Scenario Flow Reports

Open Report

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Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	0	percent
DRNAREA	Area that drains to a point on a stream	12.4	square miles
PRECIP	Mean Annual Precipitation	43	inches
ROCKDEP	Depth to rock	5	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	1.67	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
DRNAREA	Drainage Area	12.4	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	43	inches	35	50.4
STRDEN	Stream Density	1.67	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	5	feet	3.32	5.65
CARBON	Percent Carbonate	0	percent	0	99

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

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	2	ft ³ /s	38	38
30 Day 2 Year Low Flow	2.57	ft ³ /s	33	33
7 Day 10 Year Low Flow	1.07	ft ³ /s	51	51
30 Day 10 Year Low Flow	1.34	ft ³ /s	46	46
90 Day 10 Year Low Flow	1.94	ft ³ /s	36	36

Low-Flow Statistics Citations

Layers

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

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SELECT A STATE / REGION
Pennsylvania

IDENTIFY A STUDY AREA
Basin Delineated

SELECT SCENARIOS

BUILD A REPORT Report Built

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

Show Basin Characteristics

Select available reports to display:

- Basin Characteristics Report
- Scenario Flow Reports

Open Report

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Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	0	percent
DRNAREA	Area that drains to a point on a stream	13	square miles
PRECIP	Mean Annual Precipitation	43	inches
ROCKDEP	Depth to rock	5	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	1.71	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
DRNAREA	Drainage Area	13	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	43	inches	35	50.4
STRDEN	Stream Density	1.71	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	5	feet	3.32	5.65
CARBON	Percent Carbonate	0	percent	0	99

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

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	2.06	ft ³ /s	38	38
30 Day 2 Year Low Flow	2.65	ft ³ /s	33	33
7 Day 10 Year Low Flow	1.1	ft ³ /s	51	51
30 Day 10 Year Low Flow	1.38	ft ³ /s	46	46
90 Day 10 Year Low Flow	2	ft ³ /s	36	36

Layers

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

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)
3.11	Carroll Valley	PA0080039	0.2500

Parameter	Effluent Limit 30 Day Average (mg/L)	Effluent Limit Maximum (mg/L)	Effluent Limit Minimum (mg/L)
CBOD5	25		
NH3-N	8.38	16.76	
Dissolved Oxygen			5

Record: 1 of 1 | No Filter | Search

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rptEffLimits

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
130	0665	TONG CREEK

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Eff. Limit 30-day Ave. (mg/L)	Eff. Limit Maximum (mg/L)	Eff. Limit Minimum (mg/L)
3.110	Carroll Valley	PA0080039	0.250	CBOD5	25		
				NH3-N	8.38	16.76	
				Dissolved Oxygen			5

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rpt_WLA

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
130	0665	TONG CREEK

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
3.110	Carroll Valley	16.43	26.88	16.43	26.88	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
3.110	Carroll Valley	1.76	8.38	1.76	8.38	1	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5 Baseline (mg/L)	CBOD5 Multiple (mg/L)	NH3-N Baseline (mg/L)	NH3-N Multiple (mg/L)	Dissolved Oxygen Baseline (mg/L)	Dissolved Oxygen Multiple (mg/L)	Critical Reach	Percent Reduction
3.11	Carroll Valley	25	25	8.38	8.38	5	5	0	0

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rptDOSim

WQM 7.0 D.O. Simulation

SWP Basin	Stream Code	Stream Name
13D	5665	TONG CREEK

RM	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
3.110	0.250	21.331	7.000

Reach Width (ft)	Reach Depth (ft)	Reach W:Q Ratio	Reach Velocity (ft/s)
16.706	0.517	30.652	0.158

Reach CBO (ft (mg/L))	Reach N (ft (days))	Reach NH2-N (mg/L)	Reach N (ft (days))
0.02	1.497	2.25	0.775

Reach DO (mg/L)	Reach W (ft (days))	W Equation	Reach DO Goal (mg/L)
7.380	16.310	Traveling	5

Reach Travel Time (days)	Subreach Results	D.O.
0.316	CBOD5 (mg/L)	(mg/L)
	Reach W	(ft)
	0.020	7.81
	0.063	7.51
	0.065	7.22
	0.126	6.94
	0.158	6.68
	0.180	6.42
	0.221	6.17
	0.253	5.93
	0.285	5.71
	0.316	5.49

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rptModelSpecs

WQM 7.0 Modeling Specifications

Parameter	Both	Use Inputted Q1-10 and Q30-10 Flows
WLA Method	DMPR	<input type="checkbox"/>
Q1-10 Q1-10 Ratio	0.64	<input type="checkbox"/>
Q30-10 Q1-10 Ratio	1.26	<input type="checkbox"/>
D.O. Saturation	90.00%	<input checked="" type="checkbox"/>
D.O. Goal	5	<input checked="" type="checkbox"/>

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rptHydro

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
13D	5665	TONG CREEK

RM	Stream Flow (cfs)	Wt Flow (cfs)	Net Flow (cfs)	Dis. Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W:D Ratio	W:D Velocity (ft/s)	Reach Travel Time (days)	Analysis Temp (°C)	Analysis pH
3.110	1.07	0.00	1.07	3.668	0.01002	.517	16.777	30.65	0.16	0.316	21.33	7.00

Q1-10 Flow

3.110	0.68	0.00	0.68	3.668	0.01002	NA	NA	NA	0.13	0.376	21.61	7.00
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Q30-10 Flow

3.110	1.45	0.00	1.45	3.668	0.01002	NA	NA	NA	0.18	0.277	21.05	7.00
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rptGeneral

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RM	Deviation	Collage Area (sq m)	Slope (ft/ft)	P10's Withdrawal (mgd)	Apply FC
13D	5665	TONG CREEK	3.110	54.00	12.40	0.00000	0.00	<input checked="" type="checkbox"/>

Design Cond.	LFY (ft/s)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Flow (cfs)	Rch Time (days)	W:D Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Stream pH	Stream Temp (°C)
Q1-10	0.086	0.00	0.00	0.00	0.000	0.0	0.00	0.00	20.00	7.00	0.00
Q1-10	0.00	0.00	0.00	0.000							
Q30-10	0.00	0.00	0.00	0.000							

Discharge Data							
Name	Permit Number	Existing Dis. Flow (mgd)	Permitted Dis. Flow (mgd)	Design Dis. Flow (mgd)	Reserve Factor	Dis. Temp (°C)	Dis. pH
Carroll Valley	PA0080039	0.2500	0.2500	0.2500	0.000	25.00	7.00

Parameter Cap				
Parameter Name	Dis. Conc. (mg/L)	Trib Conc. (mg/L)	Stream Conc. (mg/L)	Fate Coef. (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH2-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	RMI	Elevation (ft)	Drainage Area (sq m)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply PC
130	5665	TONGS CREEK	2.290	496.00	13.00	0.0000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LPI (ft/min)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trw Time (days)	Rch Velocity (fps)	W/D Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary		Stream	
									Temp (°C)	pH	Temp (°C)	pH
Q146	0.066	0.00	0.00	0.00	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q146		0.00	0.00	0.00	0.000							
Q3646		0.00	0.00	0.00	0.000							

Discharge Data

Name	Permit Number	Existing Dis. Flow (mgd)	Permitted Dis. Flow (mgd)	Design Dis. Flow (mgd)	Reuse Factor	Dis. Temp (°C)	Dis. pH
Carroll Valley	PA0080039	0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

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

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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, 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 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, 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 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]