Pennsylvania Department of Environmental Protection

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0261661**
Facility Type	**Non-Municipal**	APS ID	**750112**
Major / Minor	**Minor**	Authorization ID	**1490878**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Pravin M. and Mangla P. Patel**	Facility Name	**The Red Carpet Inn**
Applicant Address	2845 Lebanon Road	Facility Address	2845 Lebanon Road
	Manheim, PA 17545		Manheim, PA 17545
Applicant Contact	Pravin Patel	Facility Contact	Pravin Patel
Applicant Phone	(717) 665-3118	Facility Phone	(717) 665-3118
Client ID	287849	Site ID	725742
Ch 94 Load Status	Not Overloaded	Municipality	Rapho Township
Connection Status	No Limitations	County	Lancaster
Date Application Received	July 2, 2024	EPA Waived?	Yes
Date Application Accepted	July 12, 2024	If No, Reason	

Purpose of Application: NPDES Permit Renewal.

Summary of Review

The Red Carpet Inn has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its National Pollutant Discharge Elimination System (NPDES) permit. The existing permit was issued March 26, 2020, and became effective on April 1, 2020, authorizing discharge of treated sewage from the Red Carpet Inn WWTP into Shearers Creek. The existing permit expiration date was March 31, 2025, and the permit has been administratively extended since that time.

Per the previous fact sheet, this facility was originally an onlot treatment system. The facility was converted to a surface discharge when the original dwelling was demolished and rebuilt as a large motel. The Red Carpet Inn WWTP is a 0.0048 mgd treatment facility, with the design flow based upon 100 gall/day/room and 400 gpd for the residence. The facility discharges into Shearers Creek, which is a tributary of Chiques Creek. Chiques Creek is approximately 5.5 miles from this facility. The point of first use has been identified by DEP biologists as effluent dominated during dry periods. Biologists have recommended that the receiving stream will need the maximum protection available.

Changes in this renewal: Monthly Net Total Nitrogen and Net Total Phosphorus monitoring requirements have been removed from the permit. E. Coli monitoring has been added to the permit.

Sludge use and disposal description and location(s): Sludge holding tank with offsite disposal.

Supplemental information for this facility is provided at the end of this fact sheet.

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*,

Approve	Deny	Signatures	Date
X		Benjamin R. Lockwood Benjamin R. Lockwood / Environmental Engineering Specialist	April 15, 2025
X		*Daniel W. Martin* Daniel W. Martin, P.E. / Environmental Engineer Manager	June 6, 2025

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

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.0048
Latitude	40º 13' 47.98"	Longitude	76º 25' 34.12"
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Shearers Creek (HQ-CWF)	Stream Code	8012
NHD Com ID	57462079	RMI	1.95
Drainage Area	5.58 mi^2	Yield (cfs/mi^2)	0.12
Q_{7-10} Flow (cfs)	0.67	Q_{7-10} Basis	Stream Gage #01576500
Elevation (ft)	497	Slope (ft/ft)	
Watershed No.	7-G	Chapter 93 Class.	HQ-CWF
Existing Use	N/A	Existing Use Qualifier	N/A
Exceptions to Use	N/A	Exceptions to Criteria	N/A
Assessment Status	Impaired		
Cause(s) of Impairment	Habitat Alterations, Pathogens		
Source(s) of Impairment	Habitat Modification – Other Than Hydromodification, Source Unknown		
TMDL Status	Pending	Name	Chiques Creek Alternate TMDL

Background/Ambient Data		Data Source
pH (SU)	8.3	WQN 206 – Chiques Creek
Temperature (°C)	21	WQN 206 – Chiques Creek
Hardness (mg/L)	250	WQN 206 – Chiques Creek
Other:		

Nearest Downstream Public Water Supply Intake		Wrightsville Borough Municipal Authority	
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	29

Changes Since Last Permit Issuance: Stream flows were determined by establishing a correlation to the yield of USGS gage station No. 01576500 on Conestoga River. The Q_{7-10} and drainage area at the gage station are 38.6 ft^3/s and 324 mi^2, respectively. The Q_{7-10} runoff rate at the gage station was calculated as follows:

- Q_{7-10} = (38.6 ft^3/s)/324 mi^2 = 0.12 $ft^3/s/mi^2$

The drainage area at the discharge point = 5.58 mi^2.

The Q_{7-10} at the discharge point = 5.58 mi^2 x 0.12 $ft^3/s/mi^2$ = 0.67 ft^3/s.

Other Comments: None

Treatment Facility Summary

Treatment Facility Name: Comfort Inn Wastewater

WQM Permit No.	Issuance Date
3611401	10/31/2011

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary With Ammonia And Phosphorus	Extended Aeration	Ultraviolet	0.0048

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0048	9.6	Not Overloaded	Holding Tank	Other WWTP

Changes Since Last Permit Issuance: None

Other Comments: This facility utilizes the Purestream Biologically Engineered Single Sludge Treatment (BESST) process. The treatment facility consists of: Surge Tank, Anoxic Tank, Aeration Tank, Clarifier, UV Disinfection, Outfall 001 to Shearers Creek.

Compliance History	
Summary of DMRs:	A summary of the DMR data is presented on the next page of the fact sheet.
Summary of Inspections:	6/9/2020: An administrative inspection was conducted. All treatment units were operable and there were no outstanding issues at the time of inspection. 1/26/2021: A Notice of Violation (NOV) was issued for failure to purchase Total Phosphorus credits.

Other Comments: There are no open violations for this Applicant.

Compliance History

DMR Data for Outfall 001 (from March 1, 2024 to February 28, 2025)

Parameter	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24
Flow (MGD) Average Monthly	0.000928	0.00106	0.001817	0.001797	0.002341	0.001948	0.002707	0.002158	0.001642	0.00117	0.001258	0.001682
Flow (MGD) Daily Maximum	0.004192	0.002357	0.004266	0.00366	0.005151	0.004299	0.005385	0.004606	0.00391	0.003047	0.003899	0.005077
pH (S.U.) Instantaneous Minimum	7.9	7.8	7.8	7.8	7.7	7.8	7.8	7.8	7.5	7.6	7.7	7.5
pH (S.U.) Instantaneous Maximum	8.2	8.2	8.1	8.1	8.2	8.2	8.2	8.3	8.1	8.1	8.2	8.2
DO (mg/L) Instantaneous Minimum	8.9	9.3	8.5	8.2	8.0	7.8	7.4	7.3	7.2	7.3	7.6	8.5
CBOD5 (mg/L) Average Monthly	< 2	< 2	< 2	< 2	< 3	< 3	< 3	< 2	< 2	< 2	< 2	< 2
CBOD5 (mg/L) Daily Maximum	< 2.4	< 2.4	< 2.4	< 2.4	3.2	3.7	3.1	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4
TSS (mg/L) Average Monthly	12	4	2	3	3	3	3	4	2	2	2	2
TSS (mg/L) Daily Maximum	20	4	2	4	3	3	4	5	2	2	2	2
Fecal Coliform (No./100 ml) Geometric Mean	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	3	< 1	< 1	< 1
Fecal Coliform (No./100 ml) Instantaneous Maximum	< 1	< 1	< 1	< 1	< 1	< 1	< 1	4	8	< 1	< 1	< 1
Nitrate-Nitrite (mg/L) Average Monthly	< 27.4	< 37.4	< 15.4	< 16.4	< 22.4	< 20.9	< 17.9	< 27.4	< 28.9	< 35.4	< 35.11	< 31.4
Nitrate-Nitrite (mg/L) Daily Maximum	< 33.4	< 39.4	< 17.4	< 21.4	< 24.4	< 22.4	< 18.4	< 32.4	< 35.4	< 39.4	38.82	< 42.4
Nitrate-Nitrite (lbs) Total Monthly	< 18	< 15	< 10	< 10	< 21	< 8	< 14	< 18	< 17	< 13	< 10	< 27
Total Nitrogen (mg/L) Average Monthly	< 28.9	< 39.9	< 22.2	< 16.9	< 24.9	< 23.4	< 18.4	< 27.9	< 29.4	< 37.9	< 41.36	< 33.9
Total Nitrogen (mg/L) Daily Maximum	< 35.9	< 41.9	< 26.4	< 21.9	< 26.9	< 24.9	< 18.9	< 32.9	< 35.9	< 41.9	< 43.4	< 44.9

Total Nitrogen (lbs) Effluent Net Total Monthly	4	1	00	-5	8	-6	00	4	2	NULL	-4	14
Total Nitrogen (lbs) Total Monthly	< 19	< 16	< 15	< 10	< 23	< 9	< 15	< 19	< 17	< 14	< 11	< 29
Total Nitrogen (lbs) Effluent Net Total Annual						< 174						
Total Nitrogen (lbs) Total Annual						< 174						
Ammonia (mg/L) Average Monthly	< 0.1	0.8	3.7	< 0.1	< 0.1	< 0.3	< 0.7	< 0.1	< 0.1	< 0.1	< 0.1	0.6
Ammonia (mg/L) Daily Maximum	< 0.1	1.4	7.2	< 0.1	< 0.1	0.47	1.2	< 0.1	< 0.1	< 0.1	0.11	0.87
Ammonia (lbs) Average Monthly	< 0.002	0.4	0.09	< 0.002	< 0.003	< 0.005	< 0.02	< 0.002	< 0.002	< 0.001	< 0.0009	0.02
Ammonia (lbs) Total Annual						< 4						
TKN (mg/L) Average Monthly	< 1.5	< 2.5	< 6.8	< 0.5	< 2.5	< 2.5	< 0.5	< 0.5	< 0.5	< 2.5	< 6.3	< 2.5
TKN (lbs) Total Monthly	< 1	< 1	< 5	< 0.3	< 2	< 1	< 0.4	< 0.3	< 0.3	< 1	< 0.9	< 2
Total Phosphorus (mg/L) Average Monthly	< 0.1	0.2	< 0.2	0.1	< 0.2	0.5	0.4	< 0.2	0.1	0.2	< 0.2	0.2
Total Phosphorus (mg/L) Daily Maximum	0.14	0.16	0.23	0.12	0.31	0.72	0.36	0.39	0.16	0.2	0.28	0.25
Total Phosphorus (lbs) Effluent Net Total Monthly	0.08	0.06	< 0.1	0.06	0.2	0.2	0.3	< 0.2	0.09	0.07	< 0.04	0.2
Total Phosphorus (lbs) Total Monthly	< 0.08	0.06	< 0.1	0.06	< 0.2	0.2	0.3	< 0.2	0.09	0.07	< 0.04	0.2
Total Phosphorus (lbs) Effluent Net Total Annual						-9.0						
Total Phosphorus (lbs) Total Annual						< 2						
Total Copper (mg/L) Average Quarterly			0.023			0.018			0.021			0.022
Total Copper (mg/L) Daily Maximum			0.023			0.018			0.021			0.022
Total Lead (mg/L) Average Quarterly			< 0.001			< 0.001			< 0.001			< 0.001

Total Lead (mg/L) Daily Maximum			< 0.001			< 0.001			< 0.001			< 0.001
Total Zinc (mg/L) Average Quarterly			0.0014			0.008			0.010			0.016
Total Zinc (mg/L) Daily Maximum			0.0014			0.008			0.010			0.016

Compliance History

Effluent Violations for Outfall 001, from: April 1, 2024 To: February 28, 2025

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
TSS	02/28/25	Avg Mo	12	mg/L	10	mg/L
Nitrate-Nitrite	09/30/24	Avg Mo	< 20.9	mg/L	10.0	mg/L
Nitrate-Nitrite	02/28/25	Avg Mo	< 27.4	mg/L	10.0	mg/L
Nitrate-Nitrite	04/30/24	Avg Mo	< 35.11	mg/L	10.0	mg/L
Nitrate-Nitrite	07/31/24	Avg Mo	< 27.4	mg/L	10.0	mg/L
Nitrate-Nitrite	06/30/24	Avg Mo	< 28.9	mg/L	10.0	mg/L
Nitrate-Nitrite	12/31/24	Avg Mo	< 15.4	mg/L	10.0	mg/L
Nitrate-Nitrite	05/31/24	Avg Mo	< 35.4	mg/L	10.0	mg/L
Nitrate-Nitrite	01/31/25	Avg Mo	< 37.4	mg/L	10.0	mg/L
Nitrate-Nitrite	11/30/24	Avg Mo	< 16.4	mg/L	10.0	mg/L
Nitrate-Nitrite	10/31/24	Avg Mo	< 22.4	mg/L	10.0	mg/L
Nitrate-Nitrite	08/31/24	Avg Mo	< 17.9	mg/L	10.0	mg/L
Nitrate-Nitrite	09/30/24	Daily Max	< 22.4	mg/L	20.0	mg/L
Nitrate-Nitrite	07/31/24	Daily Max	< 32.4	mg/L	20.0	mg/L
Nitrate-Nitrite	06/30/24	Daily Max	< 35.4	mg/L	20.0	mg/L

Nitrate-Nitrite	01/31/25	Daily Max	< 39.4	mg/L	20.0	mg/L
Nitrate-Nitrite	04/30/24	Daily Max	38.82	mg/L	20.0	mg/L
Nitrate-Nitrite	02/28/25	Daily Max	< 33.4	mg/L	20.0	mg/L
Nitrate-Nitrite	11/30/24	Daily Max	< 21.4	mg/L	20.0	mg/L
Nitrate-Nitrite	05/31/24	Daily Max	< 39.4	mg/L	20.0	mg/L
Nitrate-Nitrite	10/31/24	Daily Max	< 24.4	mg/L	20.0	mg/L
Total Nitrogen	08/31/24	Avg Mo	< 18.4	mg/L	5	mg/L
Total Nitrogen	06/30/24	Avg Mo	< 29.4	mg/L	5	mg/L
Total Nitrogen	05/31/24	Avg Mo	< 37.9	mg/L	5	mg/L
Total Nitrogen	12/31/24	Avg Mo	< 22.2	mg/L	5	mg/L
Total Nitrogen	10/31/24	Avg Mo	< 24.9	mg/L	5	mg/L
Total Nitrogen	04/30/24	Avg Mo	< 41.36	mg/L	5	mg/L
Total Nitrogen	11/30/24	Avg Mo	< 16.9	mg/L	5	mg/L
Total Nitrogen	02/28/25	Avg Mo	< 28.9	mg/L	5	mg/L
Total Nitrogen	07/31/24	Avg Mo	< 27.9	mg/L	5	mg/L
Total Nitrogen	09/30/24	Avg Mo	< 23.4	mg/L	5	mg/L
Total Nitrogen	01/31/25	Avg Mo	< 39.9	mg/L	5	mg/L
Total Nitrogen	11/30/24	Daily Max	< 21.9	mg/L	10	mg/L
Total Nitrogen	01/31/25	Daily Max	< 41.9	mg/L	10	mg/L
Total Nitrogen	12/31/24	Daily Max	< 26.4	mg/L	10	mg/L
Total Nitrogen	10/31/24	Daily Max	< 26.9	mg/L	10	mg/L
Total Nitrogen	09/30/24	Daily Max	< 24.9	mg/L	10	mg/L

Total Nitrogen	07/31/24	Daily Max	< 32.9	mg/L	10	mg/L
Total Nitrogen	06/30/24	Daily Max	< 35.9	mg/L	10	mg/L
Total Nitrogen	05/31/24	Daily Max	< 41.9	mg/L	10	mg/L
Total Nitrogen	04/30/24	Daily Max	< 43.4	mg/L	10	mg/L
Total Nitrogen	08/31/24	Daily Max	< 18.9	mg/L	10	mg/L
Total Nitrogen	02/28/25	Daily Max	< 35.9	mg/L	10	mg/L
Ammonia	12/31/24	Avg Mo	3.7	mg/L	1.0	mg/L
Ammonia	12/31/24	Daily Max	7.2	mg/L	2.0	mg/L

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .0048
Latitude 40º 13' 47.98" **Longitude** 76º 25' 43.12"
Wastewater Description: Sewage Effluent

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	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Water Quality-Based Limitations

$CBOD_5$, NH_3-N

Pursuant to 40 CFR § 122.44(d)(1)(i), more stringent requirements should be considered when pollutants are discharged at the levels which have the reasonable potential to cause or contribute to excursions above water quality standards.

WQM 7.0 ver. 1.1b is a water quality model designed to assist DEP in determining appropriate water quality based effluent limits (WQBELs) for carbonaceous biochemical oxygen demand ($CBOD_5$), ammonia (NH_3-N) and dissolved oxygen (D.O.). DEP's Technical Guidance No. 391-2000-007 provides the technical methods contained in WQM 7.0 for determining wasteload allocations and for determining recommended NPDES effluent limits for point source discharges. The model was utilized for this permit renewal. The model output indicated a $CBOD_5$ average monthly limit of 25 mg/l, an NH_3-N average monthly limit of 25 mg/l, and a D.O. minimum limit of 5.0 mg/l were protective of water quality. The flow data used to run the model was acquired from USGS PA StreamStats and is included as an attachment. The existing $CBOD_5$ limit and NH_3-N limit are more stringent, and will remain in the permit renewal.

Toxics

Effluent sample results for toxic pollutants reported on the renewal application were entered into DEP's Toxics Management Spreadsheet Version 1.4 to develop appropriate permit requirements for toxic pollutants of concern. The Toxics Management Spreadsheet combines the functions of PENTOXSD and DEP's Toxics Screening Analysis. Stream pH and hardness inputs were determined using data from WQN Station 206 on Chiques Creek. The 90th percentile of data from Oct 1998 – Aug 2022 resulted in a pH of 8.3 and a stream hardness of 250 mg/l. Based on effluent sample results reported on the application, the Toxics Management Spreadsheet did not recommend and new limits or monitoring requirements.

This 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. The results are attached to this fact sheet. The Toxics Management Spreadsheet uses the following logic:

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

The Toxics Management Spreadsheet did not require any toxics monitoring requirements or limitations. The existing permit has limitations for Total Copper, Total Lead, and Total Zinc, which will remain in the renewal due to anti-backsliding requirements.

Additional Considerations

Chesapeake Bay Total Maximum Daily Load (TMDL)

DEP developed 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). This strategy can be located in the *Pennsylvania Chesapeake Watershed Implementation Plan* (WIP), dated January 11, 2011. Subsequently, an update to the WIP was published as the Phase 2 WIP. As part of the Phase 2 WIP, a *Phase 2 Watershed Implementation Plan Wastewater Supplement* (Phase 2 Supplement) was developed, providing an update on TMDL implementation for point sources and DEP's current implementation strategy for wastewater. A new update to the WIP was published as the Phase 3 WIP in August 2019. As part of the Phase 3 WIP, a *Phase 3 Watershed Implementation Plan Wastewater Supplement* (Phase 3 Supplement) was developed, and was most recently revised on December 17, 2019, and is the basis for the development of any Chesapeake Bay related permit parameters. Sewage discharges have been prioritized based on their design flow to the Bay. The highest priority (Phases 1, 2, and 3) dischargers will receive annual Cap Loads based on their design flow on August 29, 2005 and concentrations of 6 mg/l TN and 0.8 mg/l TP. These limits may be achieved through a combination of treatment technology, credits, or offsets. For Phase 4 and 5 facilities, Cap Loads are not currently being implemented for renewed or amended permits for facilities that do not increase design flow.

This facility is considered a Phase 5 non-significant facility with a design flow less than 0.2 MGD but greater than 0.002 MGD. According to the Phase 3 WIP, TN and TP monitoring is recommended for this facility, which is consistent with the existing permit. A TN limit and a TP limit are already included in the existing permit and will remain in the permit. DEP no longer offers any tools to calculate monthly loads for Net TN and Net TP. Therefore, this reporting requirement is no longer needed and will be removed from the permit.

Chiques Creek Alternate Restoration Plan

This facility discharges to Chiques Creek. Chiques Creek was included on Pennsylvania's 1996 303(d) List of Impaired Waters due to nutrient impairments. A Total Maximum Daily Load (TMDL) for the Chiques Creek Watershed was approved by the United States Environmental Protection Agency (EPA) on April 9, 2001. Due to several deficiencies within the TMDL, it was withdrawn with approval from EPA on October 28, 2015. DEP, Susquehanna River Basin Commission (SRBC) and watershed stakeholders have been in the process of developing a large scale monitoring and restoration plan. The goal of this Alternate Restoration Plan (ARP) is to address impacts to the Chiques Creek Watershed due to suspended solids/siltation and nutrient pollution. During the ongoing ARP development, this discharge permit will be renewed to conform with existing guidance. This permit will include a Total Phosphorus (TP) limit of 2.0 mg/l. The TP limit of 2.0 mg/l is derived from 25 Pa. Code § 96.5(c). This section states that "when it is determined that the discharge of phosphorus, alone or in combination with the discharge of other pollutants, contributes or threatens to impair existing or designated uses in a free flowing surface water, phosphorus discharges from point source discharges shall be limited to an average monthly concentration of 2 mg/l." The existing TP limit of 0.5 mg/l is more stringent and will remain in the renewal. A continued evaluation of dischargers to Chiques Creek will be performed as described in the NPDES Part C Conditions.

Fecal Coliform

PA Code § 92a.47.(a)(4) requires a monthly average limit of 200/100 mL as a geometric mean and an instantaneous maximum limit not greater than 1,000/100 mL from May through September for fecal coliform. PA Code § 92a.47.(a)(5) requires a monthly average limit of 2,000/100 mL as a geometric mean and an instantaneous maximum limit not greater than 10,000/100 mL from October through April for fecal coliform. The existing permit requires a year-round limit of 200/100 mL as a geometric mean. This year-round limit will remain in the renewal permit.

E. Coli

PA Code § 92a.61 requires IMAX reporting of E. Coli. Per DEP's SOP No. BCW-PMT-033, sewage dischargers with a design flow of 0.002 – 0.05 mgd will include E. Coli monitoring with a frequency of 1/year. This parameter has been added to the renewal permit.

Sampling Frequency & Sample Type

The monitoring requirements were established based on BPJ and/or Table 6-3 of DEP's Technical Guidance No. 362-0400-001.

Anti-Degradation

The effluent limits for this discharge have been developed to ensure that existing instream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. No Exceptional Value Waters are impacted by this discharge. This facility discharges to Shearers Creek, which is a High Quality water.

A Point of First Use (POFU) survey was completed on an Unnamed Tributary (UNT) to Shearers Creek on August 23, 2010. The findings for the survey included that Shearers Creek and its tributaries are classified as HQ under Chapter 93(b), and the stream is small. This facility discharging 6,000 gpd makes the UNT effluent dominated. DEP's Guidance "Water Quality Antidegradation Implementation Guidance" has been followed due to these classifications. An antidegradation analysis was performed in the May 26, 2011 Fact Sheet, and provided as an attachment to this fact sheet.

Intermittent Streams

DEP's Guidance "Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales and Storm Sewers" was utilized for the development of effluent limitations for this permit. The $CBOD_5$ limit of 10 mg/l average monthly, TSS limit of 10 mg/l average monthly, TN limit of 5 mg/l average monthly, and the TP limit of 0.5 mg/l average monthly were all derived from this guidance. These effluent limitations will remain in the renewal permit.

303(d) Listed Streams

The discharge is located on a stream segment that is designated as impaired. There is an aquatic life impairment for habitat alterations from habitat modification – other than hydromodification. There is a recreational impairment for pathogens from an unknown source.

Class A Wild Trout Fisheries

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

Anti-Backsliding

Pursuant to 40 CFR § 122.44(l)(1), all proposed permit requirements addressed in this fact sheet are at least as stringent as the requirements implemented in the existing NPDES permit unless any exceptions are addressed by DEP in this fact sheet.

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	Average Weekly	Minimum	Average Monthly	Daily Maximum	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
DO	XXX	XXX	7.0 Inst Min	XXX	XXX	XXX	1/day	Grab
CBOD5	XXX	XXX	XXX	10	20	25	2/month	24-Hr Composite
TSS	XXX	XXX	XXX	10	20	25	2/month	24-Hr Composite
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
E. Coli	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
Nitrate-Nitrite as N	XXX	XXX	XXX	10	20	25	2/month	24-Hr Composite
Total Nitrogen	XXX	XXX	XXX	5	10	12.5	2/month	Calculation
Ammonia	XXX	XXX	XXX	1.0	2.0	2.5	2/month	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	0.5	1	1.25	2/month	24-Hr Composite
Total Copper	XXX	XXX	XXX	0.053 Avg Qrtly	0.106	0.13	1/quarter	24-Hr Composite
Total Lead	XXX	XXX	XXX	0.094 Avg Qrtly	0.188	0.235	1/quarter	24-Hr Composite

Outfall 001, Continued (from 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	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Total Zinc	XXX	XXX	XXX	0.244 Avg Qrtly	0.488	0.61	1/quarter	24-Hr Composite

Compliance Sampling Location: Outfall 001

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, to comply with Pennsylvania's Chesapeake Bay Tributary Strategy.

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	1.0	2.0	2.5	2/month	24-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	10	20	25	2/month	24-Hr Composite
Total Nitrogen	Report	Report	XXX	5	10	12.5	2/month	Calculation
Total Phosphorus	Report	Report	XXX	0.5	1	1.25	2/month	24-Hr Composite
Net Total Nitrogen	XXX	181	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	XXX	0	XXX	XXX	XXX	XXX	1/month	Calculation

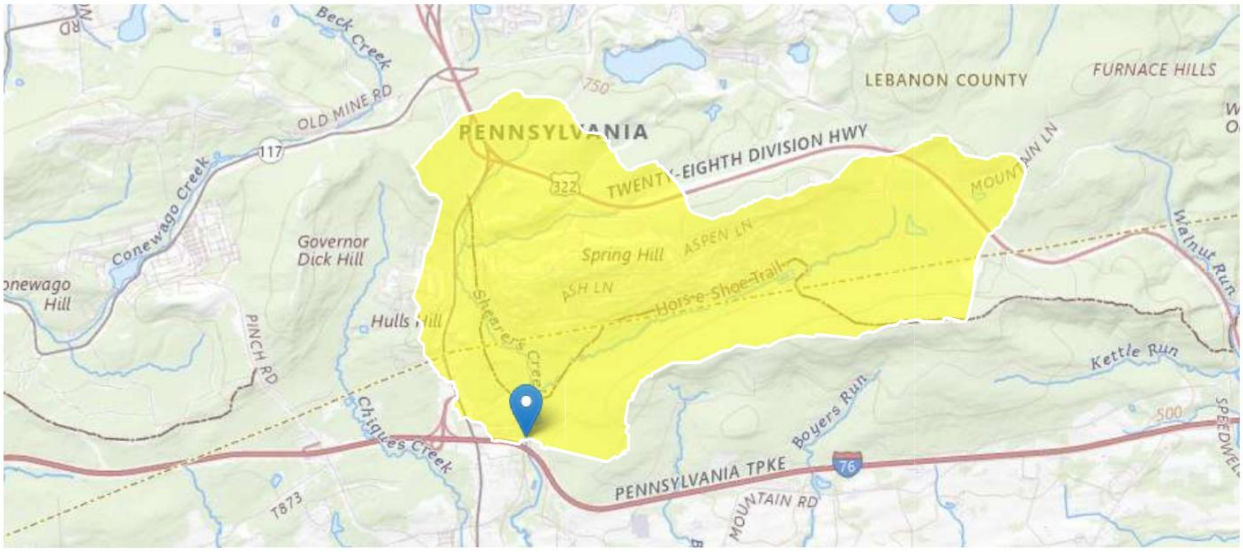
Compliance Sampling Location: Outfall 001

Other Comments: None

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☒	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☒	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
☐	Pennsylvania CSO Policy, 386-2000-002, 9/08.
☒	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
☒	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
☐	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
☒	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.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
☒	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
☒	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
☐	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.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
☐	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.
☐	Design Stream Flows, 386-2000-003, 9/98.
☐	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.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	SOP: BCW-PMT-033
☐	Other:

The Red Carpet Inn PA0261661 Outfall 001

Region ID: PA
Workspace ID: PA20250409201343474000
Clicked Point (Latitude, Longitude): 40.22979, -76.42616
Time: 2025-04-09 16:14:24 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	6.3234	degrees
DRNAREA	Area that drains to a point on a stream	5.58	square miles
ROCKDEP	Depth to rock	4	feet
URBAN	Percentage of basin with urban development	0.9931	percent

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
BSLOPD	Mean Basin Slope degrees	6.3234	degrees	1.7	6.4
DRNAREA	Drainage Area	5.58	square miles	4.78	1150
ROCKDEP	Depth to Rock	4	feet	4.13	5.21
URBAN	Percent Urban	0.9931	percent	0	89

Low-Flow Statistics Disclaimers [Low Flow Region 1]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.795	ft^3/s
30 Day 2 Year Low Flow	1.07	ft^3/s
7 Day 10 Year Low Flow	0.342	ft^3/s
30 Day 10 Year Low Flow	0.484	ft^3/s
90 Day 10 Year Low Flow	0.737	ft^3/s

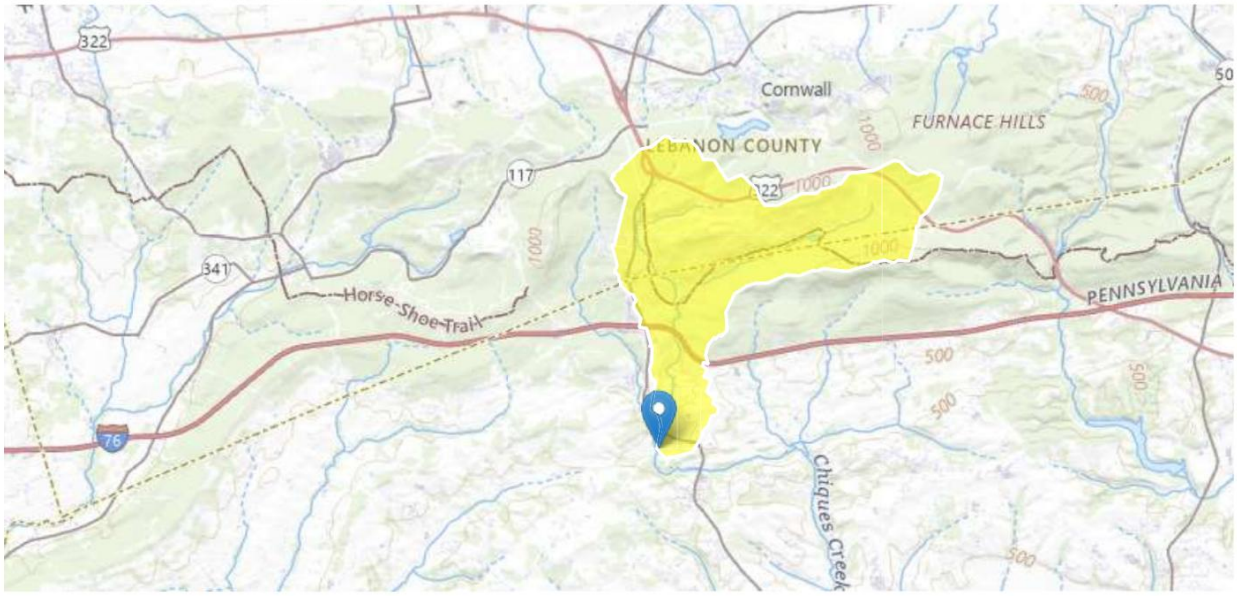
Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

Application Version: 4.28.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

The Red Carpet Inn PA0261661 RMI = 0.0

Region ID: PA
Workspace ID: PA20250409201652017000
Clicked Point (Latitude, Longitude): 40.20766, -76.42950
Time: 2025-04-09 16:17:34 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	5.908	degrees
DRNAREA	Area that drains to a point on a stream	6.63	square miles
ROCKDEP	Depth to rock	4.1	feet
URBAN	Percentage of basin with urban development	1.5327	percent

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
BSLOPD	Mean Basin Slope degrees	5.908	degrees	1.7	6.4
DRNAREA	Drainage Area	6.63	square miles	4.78	1150
ROCKDEP	Depth to Rock	4.1	feet	4.13	5.21

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
URBAN	Percent Urban	1.5327	percent	0	89

Low-Flow Statistics Disclaimers [Low Flow Region 1]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.975	ft^3/s
30 Day 2 Year Low Flow	1.31	ft^3/s
7 Day 10 Year Low Flow	0.423	ft^3/s
30 Day 10 Year Low Flow	0.596	ft^3/s
90 Day 10 Year Low Flow	0.918	ft^3/s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

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Application Version: 4.28.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
07G	8012	SHEARERS CREEK	**1.950**	497.00	5.58	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.100	0.00	0.67	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Red Carpet Inn	PA0261661	0.0048	0.0048	0.0048	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc 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

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
07G	8012	SHEARERS CREEK	**1.950**	497.00	5.58	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.100	0.00	0.67	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Red Carpet Inn	PA0261661	0.0048	0.0048	0.0048	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc 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

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
07G	8012	SHEARERS CREEK

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
1.950	0.67	0.00	0.67	.0074	0.00505	.479	12.22	25.52	0.12	1.029	20.05	7.00
Q1-10 Flow												
1.950	0.43	0.00	0.43	.0074	0.00505	NA	NA	NA	0.09	1.316	20.09	7.00
Q30-10 Flow												
1.950	0.91	0.00	0.91	.0074	0.00505	NA	NA	NA	0.14	0.868	20.04	7.00

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
07G	8012	SHEARERS 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
1.950	Red Carpet Inn	16.64	50	16.64	50	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
1.950	Red Carpet Inn	1.88	25	1.88	25	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
1.95	Red Carpet Inn	25	25	25	25	5	5	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
07G	8012	SHEARERS CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
1.950	0.005	20.055	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
12.218	0.479	25.522	0.116
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.25	0.098	0.27	0.703
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.207	20.028	Owens	5
Reach Travel Time (days)			
1.029			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.103	2.23	0.25	8.23
0.206	2.21	0.24	8.23
0.309	2.19	0.22	8.23
0.412	2.16	0.21	8.23
0.514	2.14	0.19	8.23
0.617	2.12	0.18	8.23
0.720	2.10	0.17	8.23
0.823	2.08	0.15	8.23
0.926	2.06	0.14	8.23
1.029	2.04	0.13	8.23

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
07G	8012	SHEARERS CREEK

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
1.950	Red Carpet Inn	PA0261661	0.005	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			5

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **The Red Carpet Inn** NPDES Permit No.: **PA0261661** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Sewage Effluent**

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_h
0.0048	100	7						

					0 if left blank		*0.5 if left blank*		*0 if left blank*			*1 if left blank*	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L											
	Chloride (PWS)	mg/L											
	Bromide	mg/L	<										
	Sulfate (PWS)	mg/L											
	Fluoride (PWS)	mg/L	<										
Group 2	Total Aluminum	µg/L											
	Total Antimony	µg/L	<										
	Total Arsenic	µg/L	<										
	Total Barium	µg/L											
	Total Beryllium	µg/L	<										
	Total Boron	µg/L	<										
	Total Cadmium	µg/L	<										
	Total Chromium (III)	µg/L											
	Hexavalent Chromium	µg/L											
	Total Cobalt	µg/L											
	Total Copper	mg/L		0.025									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<										
	Dissolved Iron	µg/L											
	Total Iron	µg/L											
	Total Lead	µg/L		0.001									
	Total Manganese	µg/L											
	Total Mercury	µg/L	<										
	Total Nickel	µg/L											
	Total Phenols (Phenolics) (PWS)	µg/L											
	Total Selenium	µg/L	<										
	Total Silver	µg/L	<										
	Total Thallium	µg/L	<										
	Total Zinc	mg/L		0.015									
	Total Molybdenum	µg/L											
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										

Group 3	Carbon Tetrachloride	µg/L	<										
	Chlorobenzene	µg/L											
	Chlorodibromomethane	µg/L	<										
	Chloroethane	µg/L	<										
	2-Chloroethyl Vinyl Ether	µg/L	<										
	Chloroform	µg/L	<										
	Dichlorobromomethane	µg/L	<										
	1,1-Dichloroethane	µg/L	<										
	1,2-Dichloroethane	µg/L	<										
	1,1-Dichloroethylene	µg/L	<										
	1,2-Dichloropropane	µg/L	<										
	1,3-Dichloropropylene	µg/L	<										
	1,4-Dioxane	µg/L	<										
	Ethylbenzene	µg/L	<										
	Methyl Bromide	µg/L	<										
	Methyl Chloride	µg/L	<										
	Methylene Chloride	µg/L	<										
	1,1,2,2-Tetrachloroethane	µg/L	<										
	Tetrachloroethylene	µg/L	<										
	Toluene	µg/L	<										
	1,2-trans-Dichloroethylene	µg/L	<										
	1,1,1-Trichloroethane	µg/L	<										
	1,1,2-Trichloroethane	µg/L	<										
	Trichloroethylene	µg/L	<										
	Vinyl Chloride	µg/L	<										
Group 4	2-Chlorophenol	µg/L	<										
	2,4-Dichlorophenol	µg/L	<										
	2,4-Dimethylphenol	µg/L	<										
	4,6-Dinitro-o-Cresol	µg/L	<										
	2,4-Dinitrophenol	µg/L	<										
	2-Nitrophenol	µg/L	<										
	4-Nitrophenol	µg/L	<										
	p-Chloro-m-Cresol	µg/L	<										
	Pentachlorophenol	µg/L	<										
	Phenol	µg/L	<										
	2,4,6-Trichlorophenol	µg/L	<										
Group 5	Acenaphthene	µg/L	<										
	Acenaphthylene	µg/L	<										
	Anthracene	µg/L	<										
	Benzidine	µg/L	<										
	Benzo(a)Anthracene	µg/L	<										
	Benzo(a)Pyrene	µg/L	<										
	3,4-Benzofluoranthene	µg/L	<										
	Benzo(ghi)Perylene	µg/L	<										
	Benzo(k)Fluoranthene	µg/L	<										
	Bis(2-Chloroethoxy)Methane	µg/L	<										
	Bis(2-Chloroethyl)Ether	µg/L	<										
	Bis(2-Chloroisopropyl)Ether	µg/L	<										
	Bis(2-Ethylhexyl)Phthalate	µg/L	<										
	4-Bromophenyl Phenyl Ether	µg/L	<										
	Butyl Benzyl Phthalate	µg/L	<										
	2-Chloronaphthalene	µg/L	<										
	4-Chlorophenyl Phenyl Ether	µg/L	<										
	Chrysene	µg/L	<										
	Dibenzo(a,h)Anthrancene	µg/L	<										
	1,2-Dichlorobenzene	µg/L	<										
	1,3-Dichlorobenzene	µg/L	<										
	1,4-Dichlorobenzene	µg/L	<										
	3,3-Dichlorobenzidine	µg/L	<										
	Diethyl Phthalate	µg/L	<										
	Dimethyl Phthalate	µg/L	<										
	Di-n-Butyl Phthalate	µg/L	<										
	2,4-Dinitrotoluene	µg/L	<										

	2,6-Dinitrotoluene	µg/L	<										
	Di-n-Octyl Phthalate	µg/L	<										
	1,2-Diphenylhydrazine	µg/L	<										
	Fluoranthene	µg/L	<										
	Fluorene	µg/L	<										
	Hexachlorobenzene	µg/L	<										
	Hexachlorobutadiene	µg/L	<										
	Hexachlorocyclopentadiene	µg/L	<										
	Hexachloroethane	µg/L	<										
	Indeno(1,2,3-cd)Pyrene	µg/L	<										
	Isophorone	µg/L	<										
	Naphthalene	µg/L	<										
	Nitrobenzene	µg/L	<										
	n-Nitrosodimethylamine	µg/L	<										
	n-Nitrosodi-n-Propylamine	µg/L	<										
	n-Nitrosodiphenylamine	µg/L	<										
	Phenanthrene	µg/L	<										
	Pyrene	µg/L	<										
	1,2,4-Trichlorobenzene	µg/L	<										
Group 6	Aldrin	µg/L	<										
	alpha-BHC	µg/L	<										
	beta-BHC	µg/L	<										
	gamma-BHC	µg/L	<										
	delta BHC	µg/L	<										
	Chlordane	µg/L	<										
	4,4-DDT	µg/L	<										
	4,4-DDE	µg/L	<										
	4,4-DDD	µg/L	<										
	Dieldrin	µg/L	<										
	alpha-Endosulfan	µg/L	<										
	beta-Endosulfan	µg/L	<										
	Endosulfan Sulfate	µg/L	<										
	Endrin	µg/L	<										
	Endrin Aldehyde	µg/L	<										
	Heptachlor	µg/L	<										
	Heptachlor Epoxide	µg/L	<										
	PCB-1016	µg/L	<										
	PCB-1221	µg/L	<										
	PCB-1232	µg/L	<										
	PCB-1242	µg/L	<										
	PCB-1248	µg/L	<										
	PCB-1254	µg/L	<										
	PCB-1260	µg/L	<										
	PCBs, Total	µg/L	<										
	Toxaphene	µg/L	<										
	2,3,7,8-TCDD	ng/L	<										
Group 7	Gross Alpha	pCi/L											
	Total Beta	pCi/L	<										
	Radium 226/228	pCi/L	<										
	Total Strontium	µg/L	<										
	Total Uranium	µg/L	<										
	Osmotic Pressure	mOs/kg											

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Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

The Red Carpet Inn, NPDES Permit No. PA0261661, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Susquehanna River**

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	008012	1.95	497	5.58			Yes
End of Reach 1	008012	0	445	6.63			Yes

Q $_{7\text{-}10}$

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	1.95	0.1	0.67									250	8.3		
End of Reach 1	0	0.1	0.8									250	8.3		

Q $_{h}$

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	1.95														
End of Reach 1	0														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

The Red Carpet Inn, NPDES Permit No. PA0261661, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All ○ Inputs ○ Results ○ Limits

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 8.503 PMF: 1 Analysis Hardness (mg/l): 248.36 Analysis pH: 8.22

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 Copper	0	0		0	31.667	33.0	3,009	Chem Translator of 0.96 applied
Total Lead	0	0		0	171.152	260	23,713	Chem Translator of 0.658 applied
Total Zinc	0	0		0	253.280	259	23,626	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): 8.503 PMF: 1 Analysis Hardness (mg/l): 248.36 Analysis pH: 8.22

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 Copper	0	0		0	19.485	20.3	1,852	Chem Translator of 0.96 applied
Total Lead	0	0		0	6.670	10.1	924	Chem Translator of 0.658 applied
Total Zinc	0	0		0	255.352	259	23,626	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 8.503 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 Copper	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 2.246 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 Copper	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

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

☑ ***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 Copper	1.85	mg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	924	µg/L	Discharge Conc ≤ 10% WQBEL
Total Zinc	15.1	mg/L	Discharge Conc ≤ 10% WQBEL

Comfort Inn
PA0261661
Spreadsheet to evaluate Non-Degradation of Water Quality

Parameter	Discharge Flow	WQ Objective	Stream Flow	Mean Concentration	Combined Flow				Non degrad		
	Q discharge	C total	Q upstream	C upstream	Q total	C LTA	Units	Multiplier	C AML	Units	
CBOD5	0.0074	0.91	1.9782	0.88	1.9856	8.90	mg/L	1.72	15.31	mg/L	CBOD5
TSS	0.0074	9	1.9782	8	1.9856	275.40	mg/L	1.72	473.69	mg/L	TSS
NH3-N	0.0074	0.029	1.9782	0.027	1.9856	0.56	mg/L	1.72	0.97	mg/L	NH3-N
NO2/NO3-N	0.0074	0.51	1.9782	0.49	1.9856	5.84	mg/L	1.72	10.04	mg/L	NO2/NO3-N
Phosphorus	0.0074	0.024	1.9782	0.023	1.9856	0.29	mg/L	1.72	0.50	mg/L	Phosphorus
TRC	0.0074	0	1.9782	0	1.9856	0.00	mg/L	1.72	0.00	mg/L	TRC
Lead Total	0.0074	1.4	1.9782	1.2	1.9856	54.68	ug/L	1.72	94.05	ug/L	Lead Total
Copper Total	0.0074	4.6	1.9782	4.5	1.9856	31.24	ug/L	1.72	53.73	ug/L	Copper Total
Iron Total	0.0074	230	1.9782	199	1.9856	8488.41	ug/L	1.72	14600.06	ug/L	Iron Total
Sulfate	0.0074	25	1.9782	22	1.9856	824.20	mg/L	1.72	1417.63	mg/L	Sulfate
Aluminum Total	0.0074	115	1.9782	107	1.9856	2246.20	ug/L	1.72	3863.47	ug/L	Aluminum Total
TDS	0.0074	96	1.9782	91	1.9856	1428.00	mg/L	1.72	2456.16	mg/L	TDS
Zinc Total	0.0074	8.7	1.9782	8.2	1.9856	141.90	ug/L	1.72	244.07	ug/L	Zinc Total
	CFS		Qhm-CFS		CFS						

ABACT Tech Limits-Sewage cases				
			2000 to	
		<2000 gpd	50,000 gpd	>50,000gpd
Parameter		Limit	Limit	Limit
CBOD5	5/1 to 10/31	10	10	10
CBOD5	11/1 to 4/30	20	20	10
TSS		20	10	10
NH3-N	5/1 to 10/31	5	3	1.5
NH3-N	11/1 to 4/30	15	9	4.5
Disinfection		UV/ND	UV/ND	UV/ND

Notes

Q Discharge 0.0048 mgd = 0.0074 cfs

Q Upstream $Q_{7\text{-}10}$ 0.22 cfs = 1.9782 Q_{hm} cfs

Source of information:
WQ Objective: TABLE 3
Upstream Concentration: TABLE 3
Multiplier from LTA to AMV @CV of 0.5 TABLE on page 64

$$Q_{hm} = 7.43 \times (Q_{7\text{-}10})^{.874}$$

- **Preliminary Limitations are the more stringent of ABACT, Non-degradation or WQBEL for each parameter of concern.**
- **WQ Objective C total and Mean Concentration C upstream abstracted from Table 3 of the Water Quality Antidegradation Implementation Guidance**
- **Average Monthly Limit has a default value of 1.72 (Water Quality Antidegradation Implementation Guidance, page 64)**