Pennsylvania Department of Environmental Protection

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0246867**
Wastewater Type	**Sewage**	APS ID	**594510**
Facility Type	**SFTF**	Authorization ID	**1491486**

NPDES PERMIT FACT SHEET INDIVIDUAL SFTF/SRSTP

Applicant, Facility and Project Information

Applicant Name	**Plaza Management Inc.**	Facility Name	**Riverside Apartments**
Applicant Address	5609 Pinehurst Way	Facility Address	4 Benvenue Road
	Mechanicsburg, PA 17050-8524		Duncannon, PA 17020-9101
Applicant Contact	Dusan Bratic	Facility Contact	Dusan Bratic
Applicant Phone	(717) 319-8594	Facility Phone	(717) 319-8594
Client ID	251132	Site ID	603626
SIC Code	6514	Municipality	Reed Township
SIC Description	Fin, Ins & Real Est - Dwelling Operators, Except Apartments	County	Dauphin
Date Application Received	July 5, 2024	WQM Required	
Date Application Accepted	July 19, 2024	WQM App. No.	
Project Description	Renewal of NPDES permit		

Summary of Review

1.0 General Discussion

This factsheet supports the renewal of an existing NPDES permit for the discharge of treated domestic sewage from a wastewater treatment plant that serves an existing apartment building complex. The site includes two buildings which contains a total of five apartment units and two commercial spaces. The wastewater treatment system replaced an existing malfunctioning on-lot disposal system. The treatment facility has a design capacity of 0.0018MGD. The treatment plant is a Chromaglass treatment system with tablet a chlorinator and a sampling tank prior to discharge to Susquehanna River which is classified for warm water fishes (WWF). The facility was transferred from Allen McCormick to Mr. Dusan Bratic in 2006, but the plant has not been operated since the transfer because the house is vacant. The facility is not discharging hence there is no data to review. It is unclear if the treatment units are still operable. The treatment system will need to be evaluated and certified by a professional engineer prior to putting it back online. The existing NPDES permit was issued on December 27, 2019, with an effective date of January 1, 2020, and expiration date of December 31, 2024

1.1 Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania*

Approve	Deny	Signatures	Date
X		*J. Pascal Kwedza* J. Pascal Kwedza, P.E. / Environmental Engineer	May 23, 2025
X		*Maria D. Bebenek for* Daniel W. Martin, P.E. / Environmental Engineer Manager	June 12, 2025
X		*Maria D. Bebenek* Maria D. Bebenek, P.E. / Program Manager	June 12, 2025

Summary of Review
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.

1.2 Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.0018
Latitude	40º 24' 8"	Longitude	-77º 0' 36""
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Susquehanna River (WWF)	Stream Code	06685
NHD Com ID	66208063	RMI	86.07
Drainage Area	19702 mi	Yield (cfs/mi^2)	0.1
Q_{7-10} Flow (cfs)	1970	Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	6-C	Chapter 93 Class.	Warm Water Fishes
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Background/Ambient Data		Data Source
pH (SU)		
Temperature (°F)		
Hardness (mg/L)		
Other:		

Nearest Downstream Public Water Supply Intake	Veolia Water PA		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	10

Changes Since Last Permit Issuance: None

1.3 Water Supply Intake:

The nearest downstream water supply intake is approximately 10 miles downstream by Veolia Water PA. on the Susquehanna River in Susquehanna Twp., Dauphin County. The discharge is not expected to have any impact on the intake.

1.4 Existing Effluent Limitations and Monitoring Requirements

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/month	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	Upon Request	Grab
DO	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	Upon Request	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.63	1/month	Grab
CBOD5	XXX	XXX	XXX	25	XXX	50	1/month	Grab
TSS	XXX	XXX	XXX	30	XXX	60	1/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/month	Grab

1.5 Streamflow:

Streamflows for the water quality analysis were determined by correlating with the yield of USGS gauging station No. 01570500 on Susquehanna River in Harrisburg. The Q_{7-10} and drainage area at the gage is 2610 ft^3/s and 24100 mi^2 respectively. The discharge is into a side channel of Susquehanna River that is unassessed and runs approximately 0.25 miles after discharge point, before it comingles with main stem. The side channel is created by Haldeman Island. The resulting yields are as follows:

- Q_{7-10} = (2610 ft^3/s)/ 24100 mi^2 = 0.10 $ft^3/s/ mi^2$
- Q_{30-10} / Q_{7-10} = 1.36
- Q_{1-10} / Q_{7-10} = 0.64

The drainage area at discharge taken from the previous protection report = 19702 mi^2
The Q_{7-10} at discharge = 19702 mi^2 x 0.10 $ft^3/s/mi^2$ = 1970 ft^3/s.

1.6 Development of Effluent Limitations

1.6.1 The existing secondary treatment limits in the permit are less stringent than the technology limits recommended in DEP's Standard Operating Procedure (SOP) for Clean Water Program New and Reissuance Small Flow Treatment Facility Individual NPDES Permit Applications SOP No. BCW-PMT-003 Final, November 9, 2012, Revised, November 9, 2023 Version 1.8, and the existing general permit for Small Flow Treatment Facilities. The treatment facility is a Chromaglass treatment system which cannot meet the technology limits recommended in the SOP. Therefore, the existing limitation of 25mg/l CBOD5 and 30mg/l TSS will remain in the permit. Total Residual Chlorine (TRC) average monthly limit of 0.5mg/l and Instantaneous maximum limit of 1.63mg/l were developed based on TRC Spreadsheet calculated with a discharge flow of 0.0018mgd and partial mix factors of 0.015AFC and 0.103CFC taken from Toxic Management Spreadsheet (TMS) The TRC calculation results are presented in attachment B. The existing summer Fecal Coliform limit of 200/100 ml and winter limit of 2,000/100 ml are in accordance with Chapter 92a.47.(4) and Chapter 92a.47.(5) respectively. Monthly average flow measurement is required. Limitation on pH and DO are not required in the SOP; however, the existing minimum DO limit of 5mg/l and pH limit of 6-9 S.U with monitoring upon request will remain in the permit. The existing 1/month monitoring frequency for $CBOD_5$, TSS, TRC and Fecal Coliform will remain in the permit.

1.6.2 Per the SOP referenced above, Water quality modeling using TMS and/or WQM models are not required for discharges from SFTFs.

1.6.3 The facility discharges less than 2000 gpd and is exempted from Bay nutrient evaluations and requirements. The discharge is on 303d listed stream segment but SFTFs are exempted from TMDL considerations.

1.6.4 The effluent limits for this discharge have been developed to ensure that the existing instream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. This discharge is not expected to impact any High-Quality Waters. No Exceptional Value Waters are impacted by this discharge.

1.7 The following conditions are listed in Part C of the permit:

- Annual Maintenance Report Requirement
- Measurement requirement of depth of septage and scum in all treatment units
- Septic & Treatment tank pumping requirement
- Chlorine Minimization
- Prohibition of Stormwater Discharges
- Collected screenings and solids Handling
- Abandonment of the treatment facility for public sewers

2.0 Proposed Effluent Limitations and Monitoring Requirements

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

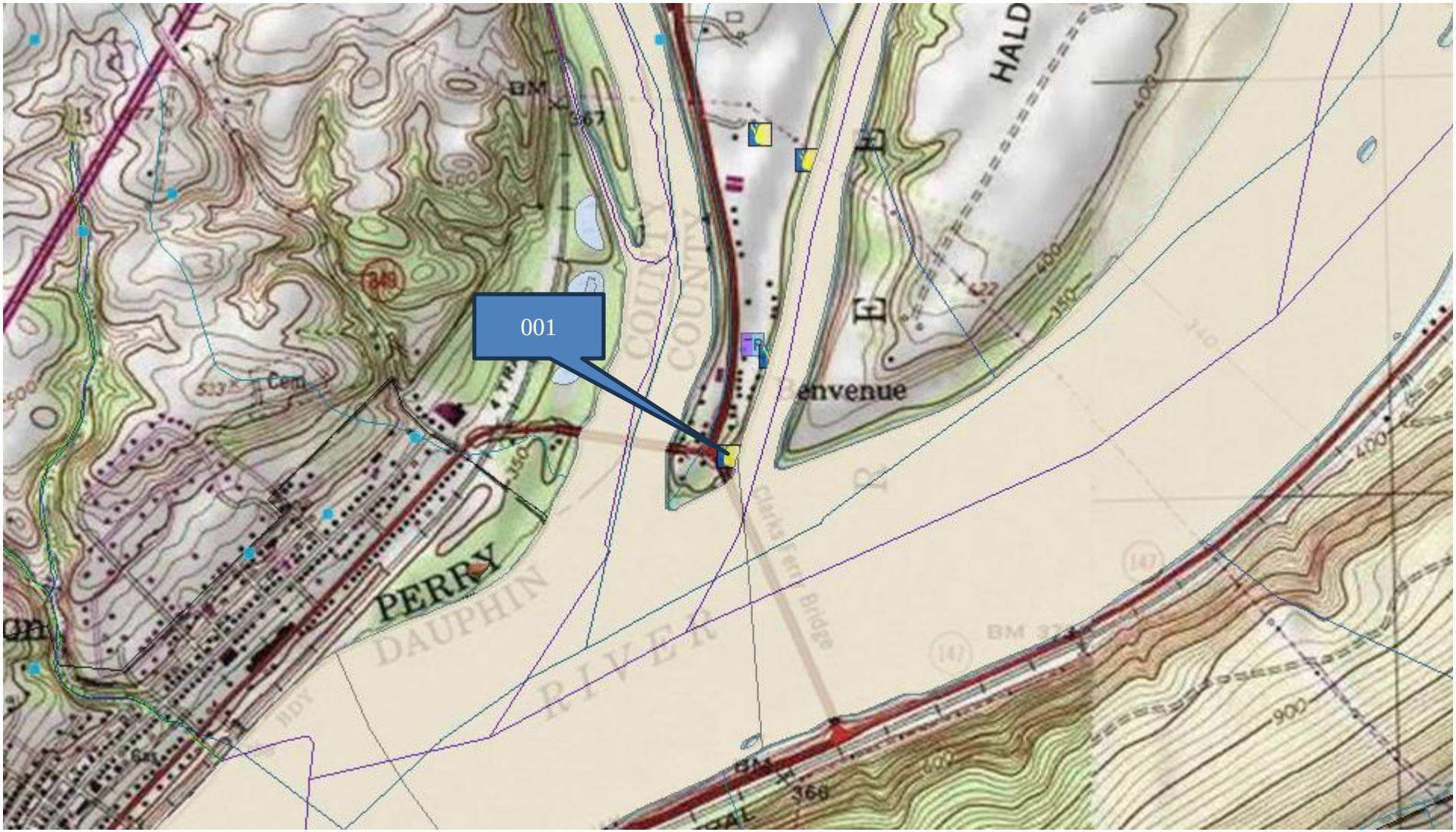
Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/month	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	Upon Request	Grab
DO	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	Upon Request	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.63	1/month	Grab
CBOD5	XXX	XXX	XXX	25	XXX	50	1/month	Grab
TSS	XXX	XXX	XXX	30	XXX	60	1/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/month	Grab

Compliance Sampling Location: At Outfall 001

Attachments

A. Topographical Map



B. TRC Calculations

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

1970	= Q stream (cfs)	0.5	= CV Daily
0.0018	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	0.015	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	0.103	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)	0	=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 3385.227	1.3.2.ii	WLA cfc = #######
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 1261.416	5.1d	LTA_cfc = #######

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.500	BAT/BPJ
		INST MAX LIMIT (mg/l) = 1.635	

WLA afc	**(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...** **...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	**(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))...** **...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)
LTA_cfc	wla_cfc*LTAMULT_cfc
AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))
AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)
INST MAX LIMIT	**1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)**