

Application Type Renewal
Wastewater Type Sewage
Facility Type SFTF

**NPDES PERMIT FACT SHEET
INDIVIDUAL SFTF/SRSTP**

Application No. PA0246867
APS ID 594510
Authorization ID 1235902

Applicant, Facility and Project Information

Applicant Name	<u>Plaza Management Inc.</u>	Facility Name	<u>Riverside Apartments</u>
Applicant Address	<u>5609 Pinehurst Way</u>	Facility Address	<u>4 Benvenue Road</u>
	<u>Mechanicsburg, PA 17050-8524</u>		<u>Duncannon, PA 17020-9101</u>
Applicant Contact	<u>Dusan Bratic</u>	Facility Contact	<u>Dusan Bratic</u>
Applicant Phone	<u>(717) 319-8594</u>	Facility Phone	<u>(717) 319-8594</u>
Client ID	<u>251132</u>	Site ID	<u>603626</u>
SIC Code	<u>6514</u>	Municipality	<u>Reed Township</u>
SIC Description	<u>Fin, Ins & Real Est - Dwelling Operators, Except Apartments</u>	County	<u>Dauphin</u>
Date Application Received	<u>July 9, 2018</u>	WQM Required	<u></u>
Date Application Accepted	<u>July 23, 2018</u>	WQM App. No.	<u></u>
Project Description	<u></u>		

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 that will contain a total of five apartment units and two commercial spaces. The wastewater treatment system replaced malfunctioning existing on-lot disposal system. The treatment facility has design capacity of 0.0018MGD. Treatment plant is a Chromaglass treatment system with tablet chlorinator and 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 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.

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, P.E. / Environmental Engineer	October 4, 2019
		Daniel W. Martin, P.E. / Environmental Engineer Manager	
		Maria D. Bebenek, P.E./Program Manager	

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 Existing Limits

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	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.63	1/day	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

1.3 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 Q₇₋₁₀ and drainage area at the gage is 2610 ft³/s and 24100 mi² 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:

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

The drainage area at discharge taken from the previous protection report = 19702 mi²
The Q₇₋₁₀ at discharge = 19702 mi² x 0.10 ft³/s/mi² = 1970 ft³/s.

For WQM modelling purposes, 25% of the flow will be used

Q₇₋₁₀ model = 1970 ft³/s. x 0.25 = 492.5 ft³/s

1.4 Discharge, Receiving Waters and Water Supply Information

Outfall No.	<u>001</u>	Design Flow (MGD)	<u>.0018</u>
Latitude	<u>40° 24' 8"</u>	Longitude	<u>-77° 0' 36"</u>
Quad Name	_____	Quad Code	_____
Wastewater Description: <u>Sewage Effluent</u>			
Receiving Waters	<u>Susquehanna River (WWF)</u>	Stream Code	<u>06685</u>
NHD Com ID	<u>66208063</u>	RMI	<u>86.07</u>
Drainage Area	<u>19702 mi</u>	Yield (cfs/mi ²)	<u>0.1</u>
Q ₇₋₁₀ Flow (cfs)	<u>1970</u>	Q ₇₋₁₀ Basis	_____
Elevation (ft)	_____	Slope (ft/ft)	_____
Watershed No.	<u>6-C</u>	Chapter 93 Class.	<u>Warm Water Fishes</u>
Existing Use	_____	Existing Use Qualifier	_____
Exceptions to Use	_____	Exceptions to Criteria	_____
Assessment Status	<u>Impaired</u>		
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	<u>Suez Water PA</u>		
PWS Waters	<u>Susquehanna River</u>	Flow at Intake (cfs)	_____
PWS RMI	_____	Distance from Outfall (mi)	<u>10</u>

Changes Since Last Permit Issuance: None

Other Comments:

1.5 Water Supply Intake:

The nearest downstream water supply intake is approximately 10 miles downstream by Suez Water Co. on the Susquehanna River in Susquehanna Twp., Dauphin County. The discharge has no impact on the intake.

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 for New and Reissuance Individual SFTF NPDES permits, last revised May 17, 2019 version 1.8(SOP), and with the existing DEP 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 0.008AFC and 0.059CFC taken from PENTOXSD model, 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 will remain in the permit and only tested upon request. The existing 1/month monitoring frequency for CBOD₅, TSS, and Fecal Coliform will remain in the permit. TRC monitoring frequency will be reduced to 1/month for consistency with small flow systems.
- 1.6.2 Per the SOP referenced above, Water quality modeling using PENTOXSD 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

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	2,000 Geo Mean	XXX	10,000	1/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/month	Grab

Compliance Sampling Location: At Outfall 001

Attachments

A. Topographical map



Copy of TRC_CALC1

TRC EVALUATION				
Input appropriate values in A3:A9 and D3:D9				
492.5	= Q stream (cfs)		0.5	= CV Daily
0.0018	= Q discharge (MGD)		0.5	= CV Hourly
30	= no. samples		0.008	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream		0.059	= 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 = 451.380	1.3.2.iii	WLA_cfc = 3245.318
PENTOXSD TRG	5.1a	LTAMULT_afc = 0.373	5.1c	LTAMULT_cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc = 168.195	5.1d	LTA_cfc = 1886.676
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	$(.019/e^{-k \cdot AFC_tc}) + [(AFC_Yc \cdot Qs \cdot 0.019 / Qd \cdot e^{-k \cdot AFC_tc}) \dots]$ $\dots + Xd + (AFC_Yc \cdot Qs \cdot Xs / Qd) \cdot (1 - FOS / 100)$			
LTAMULT_afc	$EXP((0.5 \cdot LN(cvh^2 + 1)) - 2.326 \cdot LN(cvh^2 + 1)^{0.5})$			
LTA_afc	$wla_afc \cdot LTAMULT_afc$			
WLA_cfc	$(.011/e^{-k \cdot CFC_tc}) + [(CFC_Yc \cdot Qs \cdot 0.011 / Qd \cdot e^{-k \cdot CFC_tc}) \dots]$ $\dots + Xd + (CFC_Yc \cdot Qs \cdot Xs / Qd) \cdot (1 - FOS / 100)$			
LTAMULT_cfc	$EXP((0.5 \cdot LN(cvd^2 / no_samples + 1)) - 2.326 \cdot LN(cvd^2 / no_samples + 1)^{0.5})$			
LTA_cfc	$wla_cfc \cdot LTAMULT_cfc$			
AML_MULT	$EXP(2.326 \cdot LN((cvd^2 / no_samples + 1)^{0.5}) - 0.5 \cdot LN(cvd^2 / no_samples + 1))$			
AVG_MON_LIMIT	$MIN(BAT_BPJ, MIN(LTA_afc, LTA_cfc) \cdot AML_MULT)$			
INST_MAX_LIMIT	$1.5 \cdot ((av_mon_limit / AML_MULT) / LTAMULT_afc)$			