

Application Type Renewal
Wastewater Type Sewage
Facility Type SFTF

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

Application No. PA0088340
APS ID 316145
Authorization ID 1343144

Applicant, Facility and Project Information

Applicant Name	<u>Larry Acchione</u>	Facility Name	<u>TJs Restaurant</u>
Applicant Address	<u>800 Shady Maple</u> <u>Enola, PA 17025</u>	Facility Address	<u>2620 Susquehanna Trail</u> <u>Newport, PA 17074-8217</u>
Applicant Contact	<u>Larry Acchione</u>	Facility Contact	<u>Larry Acchione</u>
Applicant Phone	<u>(717) 737-6204</u>	Facility Phone	<u>(717) 737-6204</u>
Client ID	<u>141296</u>	Site ID	<u>528375</u>
SIC Code	<u>6514</u>	Municipality	<u>Buffalo Township</u>
SIC Description	<u>Fin, Ins & Real Est - Dwelling Operators, Except Apartments</u>	County	<u>Perry</u>
Date Application Received	<u>February 17, 2021</u>	WQM Required	<u></u>
Date Application Accepted	<u>March 1, 2021</u>	WQM App. No.	<u></u>
Project Description	<u>This is an application for NPDES renewal.</u>		

Approve	Deny	Signatures	Date
X		Nicholas Hong, P.E. / Environmental Engineer Nick Hong (via electronic signature)	April 12, 2021
X		Daniel W. Martin, P.E. / Environmental Engineer Manager /s/ Maria Bebenek for Dan Martin	April 21, 2021
X		Maria Bebenek, P.E. / Environmental Program Manager /s/	April 21, 2021

Summary of Review

The application submitted by the applicant requests a NPDES renewal permit for the TJ's Restaurant, Inc. located at 2620 Susquehanna Trail, Newport, PA 17045 in Perry County, municipality of Buffalo Township. The existing permit became effective on July 1, 2016 and expires on June 30, 2021. The application for renewal was received by DEP Southcentral Regional Office (SCRO) on March 1, 2021.

The purpose of this Fact Sheet is to present the basis of information used for establishing the proposed NPDES permit effluent limitations. The Fact Sheet includes a description of the facility, a description of the facility's receiving waters, a description of the facility's receiving waters attainment/non-attainment assessment status, and a description of any changes to the proposed monitoring/sampling frequency. Section 6 provides the justification for the proposed NPDES effluent limits derived from technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), total maximum daily loading (TMDL), antidegradation, anti-backsliding, and/or whole effluent toxicity (WET). A brief summary of the outlined descriptions has been included in the Summary of Review section.

The subject facility is a 0.00032 MGD (320 GPD) average annual design flow treatment facility. The hydraulic design flow of the facility is 0.00090 MGD (900 GPD). The applicant does not anticipate any proposed upgrades to the treatment facility in the next five years. The NPDES application has been processed as a Small Flow Treatment Facility due to the type of sewage and the design flow rate for the facility. The applicant disclosed the Act 14 requirement to Perry County Commissioners and Buffalo Township and the notice was received by the parties on December 29, 2020. A planning approval letter was not necessary as the facility is neither new or expanding.

Utilizing the DEP's web-based Emap-PA information system, the receiving waters has been determined to be Bucks Run. The sequence of receiving streams that Bucks Run discharges into are the Susquehanna River which eventually drains into the Chesapeake Bay. Due to the low flow rate generated by the facility, the subject site is not subject to the Chesapeake Bay implementation requirements. The receiving water has protected water usage for warm water fishes (WWF) and migratory fishes (MF). No Class A Wild Trout fisheries are impacted by this discharge. The absence of high quality and/or exceptional value surface waters removes the need for an additional evaluation of anti-degradation requirements.

Bucks Run is a Category 2 stream listed in the 2020 Integrated List of All Waters (formerly 303d Listed Streams). This stream is an attaining stream that supports aquatic life and recreational uses. The receiving waters is not subject to a total maximum daily load (TMDL) plan to improve water quality in the subject facility's watershed.

The existing permit and proposed permit differ as follows:

- **There are no changes to the monitoring frequency or effluent limits.**

Sludge use and disposal description and location(s): Sludge is disposed by Dillsburg Excavating and Septic in Dillsburg, PA on an as needed basis.

The proposed permit will expire five (5) years from the effective date.

Based on the review in this report, it is recommended that the permit be drafted. 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 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.

Any additional information or public review of documents associated with the discharge or facility may be available at PA DEP Southcentral Regional Office (SCRO), 909 Elmerton Avenue, Harrisburg, PA 17110. To make an appointment for file review, contact the SCRO File Review Coordinator at 717.705.4700.

1.0 Applicant

1.1 General Information

This fact sheet summarizes PA Department of Environmental Protection's review for the NPDES renewal for the following subject facility.

Facility Name: TJ's Restaurant, Inc.
NPDES Permit # PA0088340
Physical Address: 2620 Susquehanna Trail
Newport, PA 17045
Mailing Address: 800 Shady Lane
Enola, PA 17025
Contact: Larry Acchione
Consultant: Michael Kern
Quality Water Resources, Inc.
gwr@pa.net
717-225-4555

1.2 Permit History

Description of Facility

During the previous renewal several attempts from DEP to obtain clarity on the design flow rate for the facility failed. The design flow rate in question was 0.00032 MGD. The facility/consultant suggested that the hydraulic design flow rate should be 0.0009 MGD. In 2016, no documentation was submitted to support the 0.0009 MGD flow rate. The fact sheet was subsequently renewed with hesitation from DEP.

Upon review in April 2021, the WQM issued on November 20, 2014 confirmed the hydraulic design flow at 0.00090 MGD.

Permit submittal included the following information.

- NPDES Application. The consultant submitted the application using the Minor Sewage Facility application. The appropriate forms for the facility is the Small Flow Sewage Facility application. The application form was accepted for use for the renewal. Future renewals should utilize the Small Flow Treatment Facility application forms.

2.0 Treatment Facility Summary

2.1.1 Site location

The physical address for the facility is 2620 Susquehanna Trail, Newport, PA 17045. A topographical and an aerial photograph of the facility are depicted as Figure 1 and Figure 2.

Figure 1: Topographical map of the subject facility

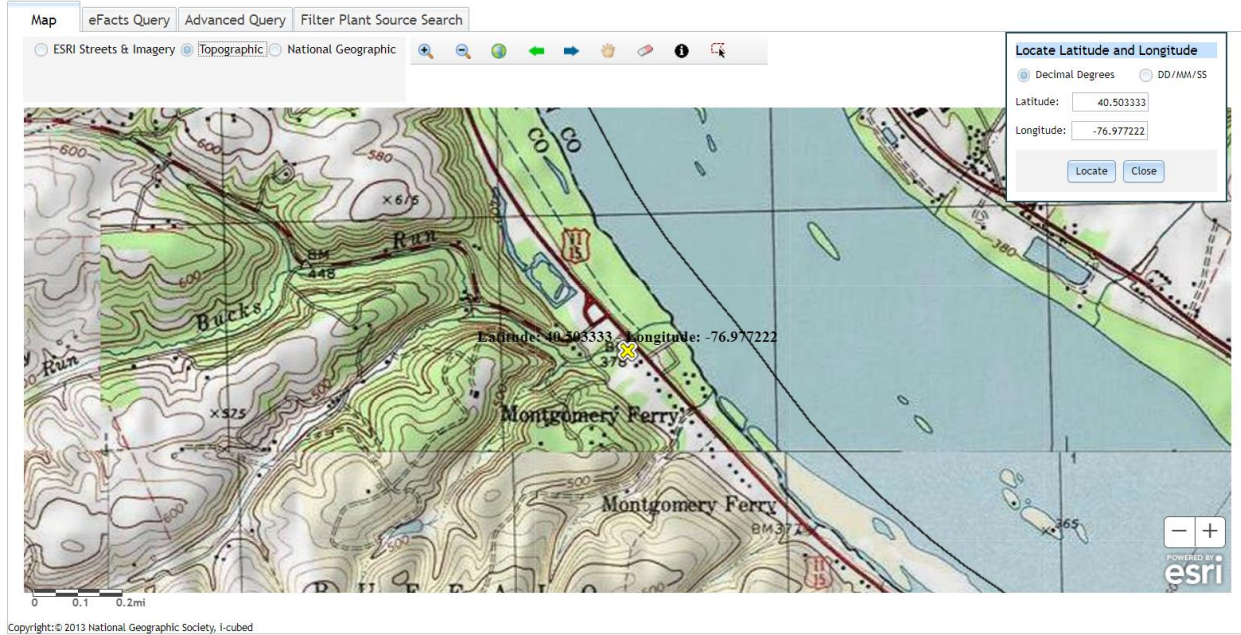
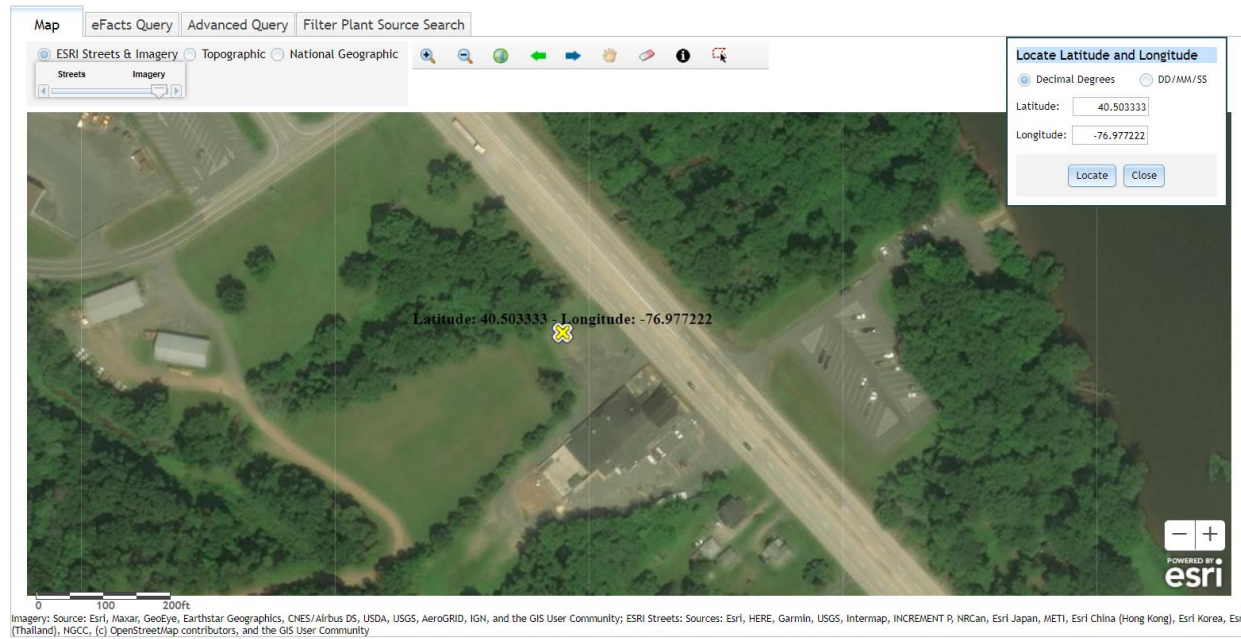


Figure 2: Aerial Photograph of the subject facility



2.1.2 Sources of Wastewater/Stormwater

The facility stated that they do not receive industrial/commercial users.

2.2 Description of Wastewater Treatment Process

The subject facility is a 0.00032 MGD (annual average) design flow facility. The subject facility treats wastewater using a grease trap, a septic tank, an equalization tank, a Bio Microbics High Strength Fast Unit, a chlorine contact tank, and a post aeration unit prior to discharge through the outfall. The facility is being evaluated for flow, pH, dissolved oxygen, TRC, CBOD5, TSS, and fecal coliform. The existing permits limits for the facility is summarized in Section 2.4.

The treatment process is summarized in the table.

Treatment Facility Summary				
Treatment Facility Name: TJs Restuarant & Bar				
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Activated Sludge	Hypochlorite	0.0003
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0009	2	Not Overloaded	Combination	Other WWTP

2.3 Facility Outfall Information

The facility has the following outfall information for wastewater.

Outfall No. 001 Design Flow (MGD) .00032
 Latitude 40° 30' 12.47" Longitude -76° 58' 38.14"
 Wastewater Description: Sewage Effluent

2.3.1 Operational Considerations- Chemical Additives

Chemical additives are chemical products introduced into a waste stream that is used for cleaning, disinfecting, or maintenance and which may be detected in effluent discharged to waters of the Commonwealth. Chemicals excluded are those used for neutralization of waste streams, the production of goods, and treatment of wastewater.

The subject facility utilizes the following chemicals as part of their treatment process.

- Calcium hypochlorite for disinfection

2.4 Existing NPDES Permits Limits

The existing NPDES permit limits are summarized in the table.

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. A. For Outfall 001, Latitude 40° 30' 12.47", Longitude 76° 58' 38.14", River Mile Index 0.13, Stream Code 16880
 Receiving Waters: Bucks Run
 Type of Effluent: Sewage Effluent

1. The permittee is authorized to discharge during the period from July 1, 2016 through June 30, 2021.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

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	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	9.0	XXX	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	25	XXX	50	1/month	Grab
Total Suspended Solids	XXX	XXX	XXX	30	XXX	60	1/month	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/month	Grab
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/month	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

3.0 Facility NPDES Compliance History

3.1 Summary of Inspections

A summary of the most recent inspections during the existing permit review cycle is as follows.

The DEP inspector noted the following during the inspection.

05/09/2016:

- The process blower nearest 11 & 15 was out of service. The facility stated the unit was inoperable and needed to be replaced. This was the same unit that was noted as being removed during the inspection on 5/14/15. An air leak was noted in the piping underneath the blower that was in service. The facility stated that one blower does not produce sufficient air to properly aerate the system.
- The facility was advised to replace the pH probe.

03/15/2019:

- A notice of violation was issued by DEP due to violations of TRC from April 2017 to December 2017.

05/26/2020:

- An administrative inspection was conducted by telephone. The purpose of the inspection was to follow-up on the facility during the COVID-19 related restrictions. The facility has been closed since March 14, 2020 due to COVID. The facility had been conducting minor maintenance and upkeep inside the store. The treatment facility is receiving minimal or no flow forward. The facility anticipates

re-opening in June 2020 if restrictions are lifted. The facility stated that they are adding bio-augmentation chemicals to the treatment plant during the shutdown. The treatment plant is capable of operating normally with all treatment units online. No significant operational changes were made to the treatment facility other than bio-augmentation. The facility has spare parts on hand and no significant maintenance issues since the previous inspection.

01/28/2021:

- A notice of violation was issued by DEP for reminding the facility to submit a NPDES renewal application.

3.2 Summary of DMR Data

A review of approximately 1-year of DMR data shows that the monthly average flow data for the facility below the design capacity of the treatment system. The maximum average flow data for the DMR reviewed was 0.000480 MGD (480 GPD). The design capacity of the treatment system is 0.0009 MGD.

The off-site laboratory used for the analysis of the parameters was Microbac Laboratories, Inc., 4359 Linglestown Road, Harrisburg, PA 17112.

Summary of Monitoring Data for 2020										
Sample Collection Date	Flow	pH (S.U.)		DO (mg/l)	TRC		CBOD (mg/l)	TSS (mg/l)	Fecal (mg/l)	
		Min 6.0	Max 9.0		Min 5.0	Ave 0.5			IMAX 1.6	Ave 25
Existing NPDES permit	Report	Min 6.0	Max 9.0	Min 5.0	Ave 0.5	IMAX 1.6	Ave 25	Ave 30	May-Sept 200	Oct - Apr 2000
January	0.000480	6.60	6.81	6.80	0.40	0.60	31.5	7.75	<1	<1
February	0.000470	6.56	6.76	7.00	0.48	0.70	11	5.5	<1	<1
March	0.000480	6.50	6.56	7.10	0.49	0.60	3	6	<1	<1
April	No Flow	NS	NS	NS	NS	No Data	3	44	<1	<1
May	0.000050	6.55	6.55	7.40	0.50	No Data	4	15	<1	<1
June	0.000440	6.13	6.17	7.90	0.45	0.60	<3	7.5	<1	<1
July	0.000420	6.12	6.20	7.90	0.46	0.60	8.8	8.5	<1	<1
August	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	<1
September	0.000420	6.10	6.20	7.90	0.45	NS	<4	5.5	1	<1
October	0.000400	6.14	6.20	8.00	0.48	0.70	<9	<5	<1	3.1
November	0.000380	6.09	6.16	8.10	0.45	0.70	<4	13	<1	<1
December	0.000380	6.15	6.45	7.80	0.51	0.70	<4	17	<1	<1
Notes:										
- Highlighted are non-compliance with NPDES effluent limits										

3.3 Non-Compliance

3.3.1 Non-Compliance- NPDES Effluent

A summary of the non-compliance to the permit limits for the existing permit cycle is as follows.

From the DMR data beginning in January 2020 to December 2020, the following were observed effluent non-compliance with NPDES permit limits. Refer to Section 3.2 for the sampling data.

- Exceedance of CBOD in January 2020. The sampling results was 31.5 mg/l and the permit limit was 25 mg/l.
- Exceedance of TSS in April 2020. The sampling results was 44 mg/l and the permit limit was 30 mg/l.
- Since the DMR from August 2020 was not available, the sampling data was not available for the summary table.

3.3.2 Non-Compliance- Enforcement Actions

A summary of the non-compliance enforcement actions for the current permit cycle is as follows:

Beginning in July 1, 2016 to March 23, 2021, the following table summarizes observed enforcement actions.

**Summary of Enforcement Actions
Beginning July 1, 2016 and Ending March 23, 2021**

ENF ID	ENF TYPE	ENF TYPE DESC	ENF CREATION DATE	VIOLATIONS	# OF VIOLATIONS	ENF FINALSTATUS	ENF CLOSED DATE
391695	NOV	Notice of Violation	01/28/2021	92A.75(A)	1	Comply/Closed	02/17/2021
373302	NOV	Notice of Violation	03/25/2019	92A.41(A)10A; 92A.44	2	Comply/Closed	04/05/2019

3.4 Summary of Biosolids/Sewage Sludge Disposal

A summary of the biosolids disposed of from the facility is as follows.

The facility reported on the NPDES renewal application that biosolids/sewage sludge is disposed by Dillsburg Excavating and Septic on an as needed basis.

3.5 Open Violations

No open violations existed as of April 2021.

4.0 Receiving Waters and Water Supply Information Detail Summary

4.1 Receiving Waters

The receiving waters has been determined to be Bucks Run. The sequence of receiving streams that Bucks Run discharges into are the Susquehanna River which eventually drains into the Chesapeake Bay.

4.2 Public Water Supply (PWS) Intake

The closest PWS to the subject facility is Suez Water (PWS ID #7220015) located approximately 19 miles downstream of the subject facility on the Susquehanna River. Based upon the distance and the flow rate of the facility, the PWS should not be impacted.

4.3 Class A Wild Trout Streams

Class A Wild Trout Streams are waters that support a population of naturally produced trout of sufficient size and abundance to support long-term and rewarding sport fishery. DEP classifies these waters as high-quality coldwater fisheries.

The information obtained from EMAP suggests that no Class A Wild Trout Fishery will be impacted by this discharge.

4.4 2020 Integrated List of All Waters (303d Listed Streams)

Section 303(d) of the Clean Water Act requires States to list all impaired surface waters not supporting uses even after appropriate and required water pollution control technologies have been applied. The 303(d) list includes the reason for impairment which may be one or more point sources (i.e. industrial or sewage discharges) or non-point sources (i.e. abandoned mine lands or agricultural runoff and the pollutant causing the impairment such as metals, pH, mercury or siltation).

States or the U.S. Environmental Protection Agency (EPA) must determine the conditions that would return the water to a condition that meets water quality standards. As a follow-up to listing, the state or EPA must develop a Total Maximum Daily Load (TMDL) for each waterbody on the list. A TMDL identifies allowable pollutant loads to a waterbody from both point and non-point sources that will prevent a violation of water quality standards. A TMDL also includes a margin of safety to ensure protection of the water.

The water quality status of Pennsylvania's waters uses a five-part categorization (lists) of waters per their attainment use status. The categories represent varying levels of attainment, ranging from Category 1, where all designated water uses are met to Category 5 where impairment by pollutants requires a TMDL for water quality protection.

The receiving waters is listed in the 2020 Pennsylvania Integrated Water Quality Monitoring and Assessment Report as a Category 2 waterbody. The surface waters is an attaining stream that supports aquatic life and recreational uses. The designated use has been classified as protected waters for warm water fishes (WWF) and migratory fishes (MF).

4.5 Low Flow Stream Conditions

Water quality modeling estimates are based upon conservative data inputs. The data are typically estimated using either a stream gauge or through USGS web based StreamStats program. The NPDES effluent limits are based upon the combined flows from both the stream and the facility discharge.

A conservative approach to estimate the impact of the facility discharge using values which minimize the total combined volume of the stream and the facility discharge. The volumetric flow rate for the stream is based upon the seven-day, 10-year low flow (Q710) which is the lowest estimated flow rate of the stream during a 7 consecutive day period that occurs once in 10 -year time period. The facility discharge is based upon a known design capacity of the subject facility.

The low flow yield and the Q710 for the subject facility was estimated using StreamStats.

The low flow yield is 0.019 ft³/s/mi² and the Q710 is 0.0841 ft³/s.

4.6 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	<u>001</u>	Design Flow (MGD)	<u>.00032</u>
Latitude	<u>40° 30' 13.21"</u>	Longitude	<u>-76° 58' 38.45"</u>
Quad Name	<u></u>	Quad Code	<u></u>
Wastewater Description: <u>Sewage Effluent</u>			

Receiving Waters	<u>Bucks Run (WWF)</u>	Stream Code	<u>16880</u>
NHD Com ID	<u>54974453</u>	RMI	<u>0.11</u>
Drainage Area	<u>4.3</u>	Yield (cfs/mi ²)	<u>0.019</u>
Q ₇₋₁₀ Flow (cfs)	<u>0.0841</u>	Q ₇₋₁₀ Basis	<u>StreamStats</u>
Elevation (ft)	<u>377</u>	Slope (ft/ft)	<u></u>
Watershed No.	<u>6-C</u>	Chapter 93 Class.	<u>WWF, MF</u>
Existing Use	<u>Same as Chapter 93 class</u>	Existing Use Qualifier	<u></u>
Exceptions to Use	<u></u>	Exceptions to Criteria	<u></u>
Assessment Status	<u>Attaining uses support aquatic life and recreational uses.</u>		
Cause(s) of Impairment	<u>Not appl.</u>		
Source(s) of Impairment	<u>Not appl.</u>		
TMDL Status	<u>Not appl.</u>	Name	<u></u>

Background/Ambient Data		Data Source	
pH (SU)	<u>Not appl.</u>		<u></u>
Temperature (°F)	<u>Not appl.</u>		<u></u>
Hardness (mg/L)	<u>Not appl.</u>		<u></u>
Other:	<u></u>		<u></u>

Nearest Downstream Public Water Supply Intake	<u>Suez Water</u>		
PWS Waters	<u>Susquehanna River</u>	Flow at Intake (cfs)	<u></u>
PWS RMI	<u>76</u>	Distance from Outfall (mi)	<u>19</u>

5.0: Overview of Presiding Water Quality Standards

5.1 General

There are at least six (6) different policies which determines the effluent performance limits for the NPDES permit. The policies are technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), antidegradation, total maximum daily loading (TMDL), anti-backsliding, and whole effluent toxicity (WET) The effluent performance limitations enforced are the selected permit limits that is most protective to the designated use of the receiving waters. An overview of each of the policies that are applicable to the subject facility has been presented in Section 6.

5.2.1 Technology-Based Limitations

TBEL treatment requirements under section 301(b) of the Act represent the minimum level of control that must be imposed in a permit issued under section 402 of the Act (40 CFR 125.3). Available TBEL requirements for the state of Pennsylvania are itemized in PA Code 25, Chapter 92a.47.

The presiding sources for the basis for the effluent limitations are governed by either federal or state regulation. The reference sources for each of the parameters is itemized in the tables. The following technology-based limitations apply, subject to water quality analysis and best professional judgement (BPJ) where applicable:

Parameter	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)

5.3 Water Quality-Based Limitations

WQBEL are based on the need to attain or maintain the water quality criteria and to assure protection of designated and existing uses (PA Code 25, Chapter 92a.2). The subject facility that is typically enforced is the more stringent limit of either the TBEL or the WQBEL.

Determination of WQBEL is calculated by spreadsheet analysis or by a computer modeling program developed by DEP. DEP permit engineers utilize the following computing programs for WQBEL permit limitations: (1) MS Excel worksheet for Total Residual Chlorine (TRC); (2) WQM 7.0 for Windows Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen Version 1.0 (WQM Model) and (3) Toxics using DEP Toxics Management Spreadsheet for Toxics pollutants.

5.3.1 Water Quality Modeling 7.0

The facility was subject to TRC modeling. The modeling results recommend an average monthly TRC limit of 0.5 mg/l and an instantaneous maximum of 1.6 mg/l.

5.3.2 Toxics Modeling

The facility is not subject to toxics modeling.

5.3.3 Whole Effluent Toxicity (WET)

The facility is not subject to WET.

5.4 Total Maximum Daily Loading (TMDL)

5.4.1 TMDL

The goal of the Clean Water Act (CWA), which governs water pollution, is to ensure that all of the Nation's waters are clean and healthy enough to support aquatic life and recreation. To achieve this goal, the CWA created programs designed to regulate and reduce the amount of pollution entering United States waters. Section 303(d) of the CWA requires states to assess their waterbodies to identify those not meeting water quality standards. If a waterbody is not meeting standards, it is listed as impaired and reported to the U.S. Environmental Protection Agency. The state then develops a plan to clean up the impaired waterbody. This plan includes the development of a Total Maximum Daily Load (TMDL) for the pollutant(s) that were found to be the cause of the water quality violations. A Total Maximum Daily Load (TMDL) calculates the maximum amount of a specific pollutant that a waterbody can receive and still meet water quality standards.

Pennsylvania has committed to restoring all impaired waters by developing TMDLs and TMDL alternatives for all impaired waterbodies. The TMDL serves as the starting point or planning tool for restoring water quality.

5.4.1.1 Local TMDL

The subject facility does not discharge into a local TMDL.

5.4.1.2 Chesapeake Bay TMDL Requirement

The Chesapeake Bay Watershed is a large ecosystem that encompasses approximately 64,000 square miles in Maryland, Delaware, Virginia, West Virginia, Pennsylvania, New York and the District of Columbia. An ecosystem is composed of interrelated parts that interact with each other to form a whole. All of the plants and animals in an ecosystem depend on each other in some way. Every living thing needs a healthy ecosystem to survive. Human activities affect the Chesapeake Bay ecosystem by adding pollution, using resources and changing the character of the land.

Most of the Chesapeake Bay and many of its tidal tributaries have been listed as impaired under Section 303(d) of the federal Water Pollution Control Act ("Clean Water Act"), 33 U.S.C. § 1313(d). While the Chesapeake Bay is outside the boundaries of Pennsylvania, more than half of the State lies within the watershed. Two major rivers in Pennsylvania are part of the Chesapeake Bay Watershed. They are (a) the Susquehanna River and (b) the Potomac River. These two rivers total 40 percent of the entire Chesapeake Bay watershed.

The overall management approach needed for reducing nitrogen, phosphorus and sediment are provided in the Bay TMDL document and the Phase I, II, and III WIPs which is described in the Bay TMDL document and Executive Order 13508.

The Bay TMDL is a comprehensive pollution reduction effort in the Chesapeake Bay watershed identifying the necessary pollution reductions of nitrogen, phosphorus and sediment across the seven Bay watershed jurisdictions of Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia and the District of Columbia to meet applicable water quality standards in the Bay and its tidal waters.

The Watershed Implementation Plans (WIPs) provides objectives for how the jurisdictions in partnership with federal and local governments will achieve the Bay TMDL's nutrient and sediment allocations.

Phase 3 WIP provides an update on Chesapeake Bay TMDL implementation activities for point sources and DEP's current implementation strategy for wastewater. The latest revision of the supplement was December 17, 2019.

The Chesapeake Bay TMDL (Appendix Q) categorizes point sources into four sectors:

- Sector A- significant sewage dischargers;
- Sector B- significant industrial waste (IW) dischargers;
- Sector C- non-significant dischargers (both sewage and IW facilities); and
- Sector D- combined sewer overflows (CSOs).

All sectors contain a listing of individual facilities with NPDES permits that were believed to be discharging at the time the TMDL was published (2010). All sectors with the exception of the non-significant dischargers have individual wasteload allocations (WLAs) for TN and TP assigned to specific facilities. Non-significant dischargers have a bulk or aggregate allocation for TN and TP based on the facilities in that sector that were believed to be discharging at that time and their estimated nutrient loads.

Based upon the supplement the subject facility has been categorized as a Sector C discharger. The supplement defines Sector C as a non-significant discharger that includes sewage facilities (Phase 4 facilities: ≥ 0.2 MGD and < 0.4 MGD and Phase 5 facilities: > 0.002 MGD and < 0.2 MGD), small flow/single residence sewage treatment facilities (≤ 0.002 MGD), and non-significant IW facilities, all of which may be covered by statewide General Permits or may have individual NPDES permits.

At this time, there are approximately 850 Phase 4 and 5 sewage facilities, approximately 715 small flow sewage treatment facilities covered by a statewide General Permit, and approximately 300 non-significant IW facilities.

Due to the low flow rate generated by this facility, this facility is not subject to Sector C monitoring requirements.

5.5 Anti-Degradation Requirement

Chapter 93.4a of the PA regulations requires that surface water of the Commonwealth of Pennsylvania may not be degraded below levels that protect the existing uses. The regulations specifically state that *Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected*. Antidegradation requirements are implemented through DEP's guidance manual entitled Water Quality Antidegradation Implementation Guidance (Document #391-0300-02).

The policy requires DEP to protect the existing uses of all surface waters and the existing quality of High Quality (HQ) and Exceptional Value (EV) Waters. Existing uses are protected when DEP makes a final decision on any permit or approval for an activity that may affect a protected use. Existing uses are protected based upon DEP's evaluation of the best available information (which satisfies DEP protocols and Quality Assurance/Quality Control (QA/QC) procedures) that indicates the protected use of the waterbody.

For a new, additional, or increased point source discharge to an HQ or EV water, the person proposing the discharge is required to utilize a nondischarge alternative that is cost-effective and environmentally sound when compared with the cost of the proposed discharge. If a nondischarge alternative is not cost-effective and environmentally sound, the person must use the best available combination of treatment, pollution prevention, and wastewater reuse technologies and assure that any discharge is nondegrading. In the case of HQ waters, DEP may find that after satisfaction of intergovernmental coordination and public participation requirements lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In addition, DEP will assure that cost-effective and reasonable best management practices for nonpoint source control in HQ and EV waters are achieved.

The subject facility's discharge will be to a non-special protection waters and the permit conditions are imposed to protect existing instream water quality and uses. Neither HQ waters or EV waters is impacted by this discharge.

5.6 Anti-Backsliding

Anti-backsliding is a federal regulation which prohibits a permit from being renewed, reissued, or modified containing effluent limitations which are less stringent than the comparable effluent limitations in the previous permit (40 CFR 122.I.1 and 40 CFR 122.I.2). A review of the existing permit limitations with the proposed permit limitations confirm that the facility is consistent with anti-backsliding requirements. The facility has proposed effluent limitations that are as stringent as the existing permit.

6.0 NPDES Parameter Details

The basis for the proposed sampling and their monitoring frequency that will appear in the permit for each individual parameter are itemized in this Section. The final limits are the more stringent of technology based effluent treatment (TBEL) requirements, water quality based (WQBEL) limits, TMDL, antidegradation, anti-degradation, or WET.

The reader will find in this section:

- a) a justification of recommended permit monitoring requirements and limitations for each parameter in the proposed NPDES permit;
- b) a summary of changes from the existing NPDES permit to the proposed permit; and
- c) a summary of the proposed NPDES effluent limits.

6.1 Recommended Monitoring Requirements and Effluent Limitations

A summary of the recommended monitoring requirements and effluent limitations are itemized in the tables. The table is categorized by Conventional Pollutants and Disinfection.

6.1.1 Conventional Pollutants and Disinfection

Summary of Proposed NPDES Parameter Details for Conventional Pollutants and Disinfection			
TJ's Restaurant; PA0088340			
Parameter	Permit Limitation Required by ¹ :	Recommendation	
pH (S.U.)	TBEL	Monitoring:	The monitoring frequency shall be daily as a grab sample (Table 6-3).
		Effluent Limit:	Effluent limits may range from pH = 6.0 to 9.0
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 95.2(1).
Dissolved Oxygen	BPJ	Monitoring:	The monitoring frequency shall be daily as a grab sample (Table 6-3).
		Effluent Limit:	Effluent limits shall be greater than 5.0 mg/l.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by best professional judgement.
CBOD	TBEL	Monitoring:	The monitoring frequency shall be 1x/month as grab sample (Table 6-3).
		Effluent Limit:	Effluent limits shall not exceed 25 mg/l as an average monthly.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(1). .
TSS	TBEL	Monitoring:	The monitoring frequency shall be 1x/month as grab sample (Table 6-3).
		Effluent Limit:	Effluent limits shall not exceed 30 mg/l as an average monthly.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(1). The permit limit for TSS is generally assigned similar effluent limits as CBOD or BOD.
TRC	TBEL	Monitoring:	The monitoring frequency shall be on a daily basis as a grab sample (Table 6-3).
		Effluent Limit:	The average monthly limit should not exceed 0.5 mg/l and/or 1.6 mg/l as an instantaneous maximum.
		Rationale:	Chlorine in both combined (chloramine) and free form is extremely toxic to freshwater fish and other forms of aquatic life (Implementation Guidance Total Residual Chlorine 1). The TRC effluent limitations to be imposed on a discharger shall be the more stringent of either the WQBEL or TBEL requirements and shall be expressed in the NPDES permit as an average monthly and instantaneous maximum effluent concentration (Implementation Guidance Total Residual Chlorine 4). Based on the stream flow rate (lowest 7-day flow rate in 10 years) and the design flow rate of the subject facility calculated by the TRC Evaluation worksheet, the TBEL is more stringent than the WQBEL. The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.48(b)(2)
Fecal Coliform	TBEL	Monitoring:	The monitoring frequency shall be 1x/month as a grab sample (Table 6-3).
		Effluent Limit:	Summer effluent limits shall not exceed 200 No./100 mL as a geometric mean. Winter effluent limits shall not exceed 2000 No./100 mL as a geometric mean.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(4) and 92a.47(a)(5).

Notes:

- 1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other
- 2 Monitoring frequency based on flow rate of 0.00032 MGD.
- 3 Table 6-3 (Self Monitoring Requirements for Sewage Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97
- 4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)
- 5 Phase 2 Watershed Implementation Plan Wastewater Supplement, Revised September 6, 2017

6.2 Summary of Changes From Existing Permit to Proposed Permit

A summary of how the proposed NPDES permit differs from the existing NPDES permit is summarized as follows.

- There are no changes to the monitoring frequency or effluent limits.

6.3.1 Summary of Proposed NPDES Effluent Limits

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.

The proposed NPDES effluent limitations are summarized in the table below.

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. A. For Outfall 001, Latitude 40° 30' 12.47", Longitude 76° 58' 38.14", River Mile Index 0.11, Stream Code 16880

Receiving Waters: Bucks Run (WWF)

Type of Effluent: Sewage Effluent

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

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/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	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

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

6.3.2 Summary of Proposed Permit Part C Conditions

The subject facility has the following Part C conditions.

- SFTF Maintenance
- Chlorine Minimization

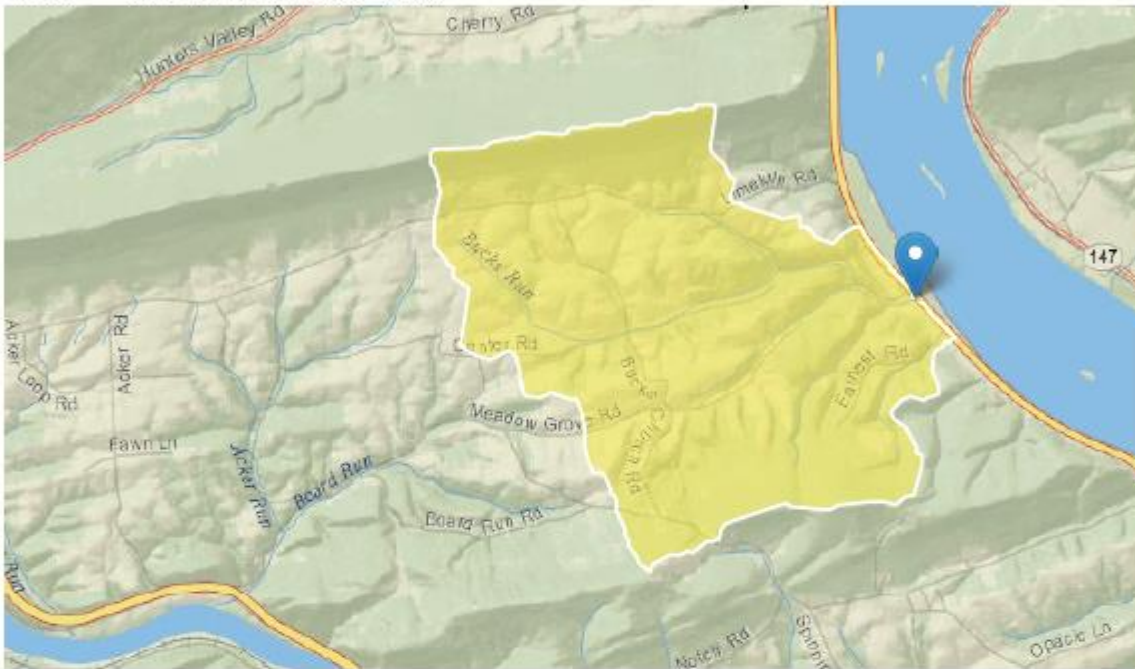
Tools and References Used to Develop Permit	
<input type="checkbox"/>	WQM for Windows Model (see Attachment [redacted])
<input type="checkbox"/>	Toxics Management Spreadsheet (see Attachment [redacted])
<input checked="" type="checkbox"/>	TRC Model Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	Temperature Model Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
<input type="checkbox"/>	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
<input type="checkbox"/>	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
<input type="checkbox"/>	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
<input type="checkbox"/>	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
<input type="checkbox"/>	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
<input type="checkbox"/>	Pennsylvania CSO Policy, 385-2000-011, 9/08.
<input type="checkbox"/>	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
<input type="checkbox"/>	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
<input type="checkbox"/>	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
<input type="checkbox"/>	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
<input type="checkbox"/>	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
<input type="checkbox"/>	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
<input type="checkbox"/>	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
<input type="checkbox"/>	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
<input type="checkbox"/>	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
<input type="checkbox"/>	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
<input type="checkbox"/>	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
<input type="checkbox"/>	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
<input type="checkbox"/>	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 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, 391-2000-019, 10/97.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 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, 391-2000-022, 3/1999.
<input type="checkbox"/>	Design Stream Flows, 391-2000-023, 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, 391-2000-024, 10/98.
<input type="checkbox"/>	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
<input type="checkbox"/>	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
<input checked="" type="checkbox"/>	SOP: New and Reissuance Small Flow Treatment Facility Individual NPDES Permit Applications, rev 5/17/2019
<input type="checkbox"/>	Other: [redacted]

4/12/2021

StreamStats

StreamStats Report

Region ID: PA
 Workspace ID: PA20210412132643118000
 Clicked Point (Latitude, Longitude): 40.50365, -76.97740
 Time: 2021-04-12 09:26:59 -0400



TJ's Restaurant PA0088340 Modeling Point #1 April 2021

Basin Characteristics			
Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	4.3	square miles
PRECIP	Mean Annual Precipitation	40	inches
STRDEN	Stream Density -- total length of streams divided by drainage area	2.14	miles per square mile
ROCKDEP	Depth to rock	3.9	feet
CARBON	Percentage of area of carbonate rock	0	percent

4/12/2021

StreamStats

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	4.3	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	40	inches	35	50.4
STRDEN	Stream Density	2.14	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	3.9	feet	3.32	5.65
CARBON	Percent Carbonate	0	percent	0	99

Low-Flow Statistics Disclaimers [Low Flow Region 2]

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 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.237	ft ³ /s
30 Day 2 Year Low Flow	0.355	ft ³ /s
7 Day 10 Year Low Flow	0.0841	ft ³ /s
30 Day 10 Year Low Flow	0.129	ft ³ /s
90 Day 10 Year Low Flow	0.238	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/>)

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4/12/2021

StreamStats

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Application Version: 4.5.1

StreamStats Services Version: 1.2.22

NSS Services Version: 2.1.1

TJ's Restaurant Inc.
PA0088340

March 2021

1A	B	C	D	E	F	G
2	TRC EVALUATION					
3	Input appropriate values in B4:B8 and E4:E7					
4	0.0841	= Q stream (cfs)		0.5	= CV Daily	
5	0.00032	= Q discharge (MGD)		0.5	= CV Hourly	
6	30	= no. samples		1	= AFC_Partial Mix Factor	
7	0.3	= Chlorine Demand of Stream		1	= CFC_Partial Mix Factor	
8	0	= Chlorine Demand of Discharge		15	= AFC_Criteria Compliance Time (min)	
9	0.5	= BAT/BPJ Value		720	= CFC_Criteria Compliance Time (min)	
	0	= % Factor of Safety (FOS)		0	= Decay Coefficient (K)	
10	Source	Reference	AFC Calculations	Reference	CFC Calculations	
11	TRC	1.3.2.iii	WLA_afc = 54.212	1.3.2.iii	WLA_cfc = 52.845	
12	PENTOXSD TRG	5.1a	LTAMULT_afc = 0.373	5.1c	LTAMULT_cfc = 0.581	
13	PENTOXSD TRG	5.1b	LTA_afc = 20.201	5.1d	LTA_cfc = 30.722	
14						
15	Source	Effluent Limit Calculations				
16	PENTOXSD TRG	5.1f	AML MULT = 1.231			
17	PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.500		BAT/BPJ	
18			INST MAX LIMIT (mg/l) = 1.635			
	WLA_afc	$(.019/e^{-k^2 AFC_tc}) + [(AFC_Yc^*Qs^*.019/Qd^*e^{-k^2 AFC_tc})] \dots$ $\dots + Xd + (AFC_Yc^*Qs^*Xs/Qd)]^{(1-FOS/100)}$				
	LTAMULT_afc	$EXP((0.5^2 LN(cvh^2+1))-2.326^2 LN(cvh^2+1)^{0.5})$				
	LTA_afc	wla_afc^2 LTAMULT_afc				
	WLA_cfc	$(.011/e^{-k^2 CFC_tc}) + [(CFC_Yc^*Qs^*.011/Qd^*e^{-k^2 CFC_tc})] \dots$ $\dots + Xd + (CFC_Yc^*Qs^*Xs/Qd)]^{(1-FOS/100)}$				
	LTAMULT_cfc	$EXP((0.5^2 LN(cvd^2/no_samples+1))-2.326^2 LN(cvd^2/no_samples+1)^{0.5})$				
	LTA_cfc	wla_cfc^2 LTAMULT_cfc				
	AML MULT	$EXP(2.326^2 LN((cvd^2/no_samples+1)^{0.5})-0.5^2 LN(cvd^2/no_samples+1))$				
	AVG MON LIMIT	MIN(BAT_BPJ, MIN(LTA_afc, LTA_cfc)^2 AML_MULT)				
	INST MAX LIMIT	1.5^2 ((av_mon_limit/AML_MULT)/LTAMULT_afc)				