pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northeast Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

Application Type	**Renewal**	Application No.	**PA0034517**
Facility Type	**Industrial**	APS ID	**579423**
Major / Minor	**Minor**	Authorization ID	**1369291**

Applicant and Facility Information

Applicant Name	**East Stroudsburg Borough**	Facility Name	**East Stroudsburg Borough Water Filtration Plant**
Applicant Address	24 Analomink Street	Facility Address	Fawn Road
	East Stroudsburg, PA 18301-2801		East Stroudsburg, PA 18301
Applicant Contact	Brian Bond, Borough Manager	Facility Contact	Cal Miller, Operator
Applicant Phone	(570) 421-8300	Facility Phone	(570) 421-4900
Client ID	71386	Site ID	305
SIC Code	4941	Municipality	Smithfield Township
SIC Description	Trans. & Utilities - Water Supply	County	Monroe
Date Application Received	September 10, 2021	EPA Waived?	Yes
Date Application Accepted	September 15, 2021	If No, Reason	

Purpose of Application: Renewal existing NPDES Permit.

Summary of Review

The applicant is requesting renewal of their NPDES permit to discharge up to 0.090 MGD of treated process wastewater from the East Stroudsburg Borough Water Filtration Plant to Sambo Creek, a CWF-MF (Cold-water Fishes, Migratory Fishes) designated receiving stream in State Water Plan Basin 1-E (Brodhead Creek). As per the Department's current existing use list, the receiving stream does not have an existing use classification that is more protective than its designated use. The discharge is not expected to affect public water supplies.

The East Stroudsburg Borough Water Filtration Plant collects, treats, and distributes up to 2.1 MGD of water from the Borough's surface water reservoirs. The process wastewater authorized to be discharged from the site is supernatant from the sludge decanting basins. Water to be treated in the sludge decanting basins includes both the sand filter backwash and solids laden water from settling tank drains and the flocculation basin. The clear supernatant is drawn off the decanting basin via floating decanters. The supernatant is either recycled back to the head of the treatment process or discharged through Outfall 001. The Borough currently discharges to Sambo Creek on a regularly scheduled basis in accordance with the provisions of the NPDES Permit. The schematic of the water flow can be seen on page 8 of this fact sheet.

The limitations for pH, Total Suspended Solids (TSS), Total Iron, Total Aluminum, and Total Manganese have been carried over from the previous permit. These limitations are BPT technology-based limits from the "Technology-Based Control Requirements for Water Treatment Plant Wastes" (technical guidance document 362-2183-003).

The Total Residual Chlorine (TRC) Calculation Spreadsheet recommends a stricter average monthly limitation than the previous permit. The permittee will be required to meet the new water quality-based limit for TRC starting two years after the effective date of the permit. TRC limitations from the previously issued permit are in effect for the first two years after the permit effective date. The eDMR data from October 2021 to August 2022 shows that the facility is already very close to meeting the proposed new limit. The eDMR data can be seen on page 7 of this fact sheet.

Approve	Deny	Signatures	Date
X		/s/ Allison Seyfried / Project Manager	November 9, 2022
X		/s/ Amy M. Bellanca, P.E. / Environmental Engineer Manager	11-28-22

Summary of Review

Pollutant sampling results submitted with the permit application were entered into the Toxic Management Spreadsheet (TMS). The TMS recommended limits for Total Mercury, Total Cadmium, and Total Silver. The permittee was given the opportunity to conduct a minimum of 10 additional effluent samples for these parameters. In response, the permittee provided a letter informing the Department that there was an error on the original Analysis Results Tables that was submitted. The "<" symbol was mistakenly omitted in the table for the Total Mercury entry, which triggered limits to be recommended. The letter also states that the permittee/consultant learned from the lab how the testing results were metal are reported and what the results (and associated footnotes) mean. This allowed them to revise the table to reflect more accurate values for the effluent and influent concentrations by using estimated "J" values. The actual lab results were also provided so the Department could observe where the permittee was getting their data from.

The revised data was used to re-run the modeling. Limitations were no longer recommended.

DRBC Docket No. D-2007-039 CP-3 and Draft DRBC Docket D-2007-039 CP-4 both do not contain more stringent or additional requirements beyond the NPDES permit.

All monitoring frequencies have been maintained from the previous permit.

The previous permit utilized stream gage 01440400 (Brodhead Creek near Analomink, PA) as a reference gage to develop the Low Flow Yield (LFY) of 0.115 cfs/mi^2, which was used to model the discharge. A $Q_{7\text{-}10}$ Flow of 0.33 cfs was calculated using this gage. However, the Brodhead Creek is larger than the creek that this facility discharges to. The drainage area at Outfall 001 is too small for USGS StreamStats estimate accurate low flow values. Therefore, the statewide default LFY of 0.1 cfs/mi^2 was used to model the discharge. For modeling inputs, RMI values were obtained using the "PA Historic Streams" feature of eMapPA, drainage areas were delineated using USGS's StreamStats Interactive Map, and elevations were obtained using the elevation profile feature of StreamStats. Please also note that stricter TRC limitations were still recommended even utilizing the stream gage from the previous permit.

The "Sedimentation Cleaning Record Keeping" (now called "Sedimentation Basin Cleaning") condition in Part C of the existing permit has been carried over and updated to the newest version.

The existing permit expired on June 30, 2022 and the application for renewal was received on time.

A Water Management System Inspection query indicated that on December 21, 2018 a Compliance Evaluation was performed.

There are no open violations for this client that warrant withholding issuance of this permit.

DRBC Docket 2007-039CP-3.pdf | Draft DRBC Docket 2007-039 CP-4.pdf | TMS PA0034517 Updated 11.2.2022.p | 2022-03-04 PADEP Ltr Signed.pdf

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 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)	0.09
Latitude	41º 2' 41.79"	Longitude	-75º 10' 52.86"
Quad Name	Stroudsburg	Quad Code	1144
Wastewater Description:	IW Process Effluent without ELG		
Receiving Waters	Sambo Creek (CWF, MF)	Stream Code	4925
NHD Com ID	26141088	RMI	3.54
Drainage Area	2.86 mi^2	Yield (cfs/mi^2)	0.1
Q_{7-10} Flow (cfs)	0.286	Q_{7-10} Basis	State-wide default
Elevation (ft)	720.3	Slope (ft/ft)	-
Watershed No.	1-E	Chapter 93 Class.	CWF, MF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	-		
Source(s) of Impairment	-		
TMDL Status	-	Name	-
Nearest Downstream Public Water Supply Intake	Easton Area Water System		
PWS Waters	Delaware River	Flow at Intake (cfs)	-
PWS RMI	110.4	Distance from Outfall (mi)	~ 35

Modeling with State-Wide default LFY:

$$\frac{0.1\ ft^3/sec}{mi^2} \times 2.86\ mi^2 = \mathbf{\frac{0.286\ ft^3}{sec}}$$

Modeling Using StreamStats:

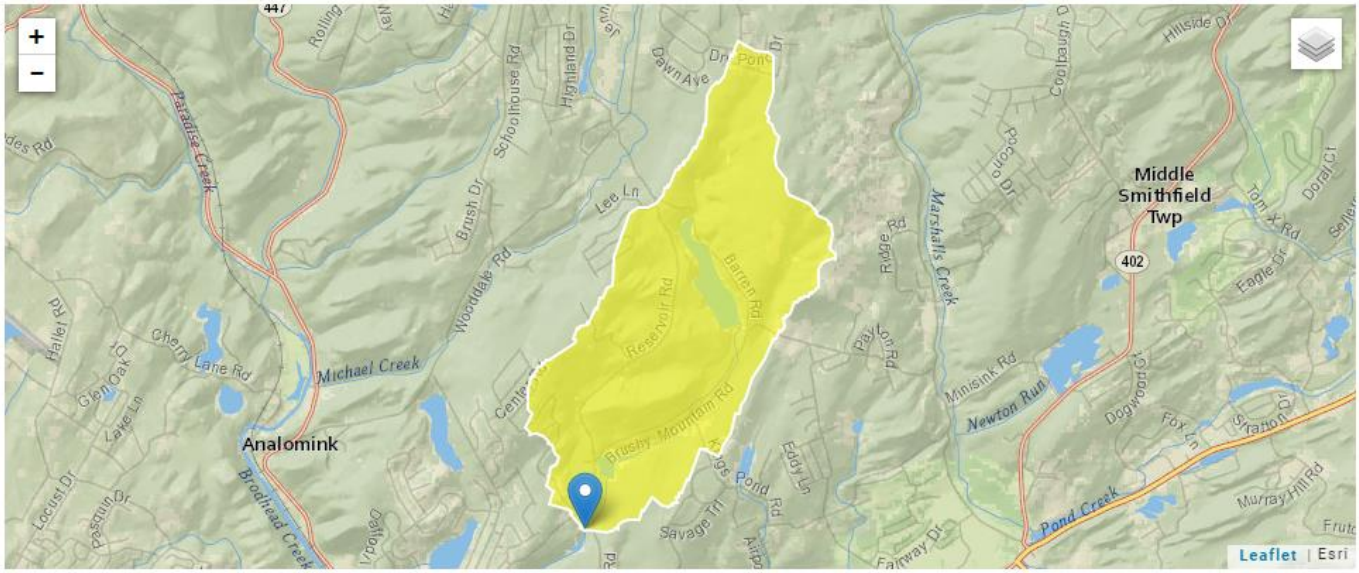
At Outfall 001 on Sambo Creek:

RMI	**Elevation (ft)**	**Drainage Area** (mi^2)	**Q_{7-10} Flow (cfs)**
3.54	720.3	2.86	0.149

$$Low\ Flow\ Yield\ using\ StreamStats = \frac{0.149\ ft^3/sec}{2.86\ mi^2} = \mathbf{0.05\ \frac{ft^3/sec}{mi^2}}$$

StreamStats Report

Region ID:	PA
Workspace ID:	PA20220126132325448000
Clicked Point (Latitude, Longitude):	41.04465, -75.18157
Time:	2022-01-26 08:23:45 -0500



Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2.86	square miles	4.84	982

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

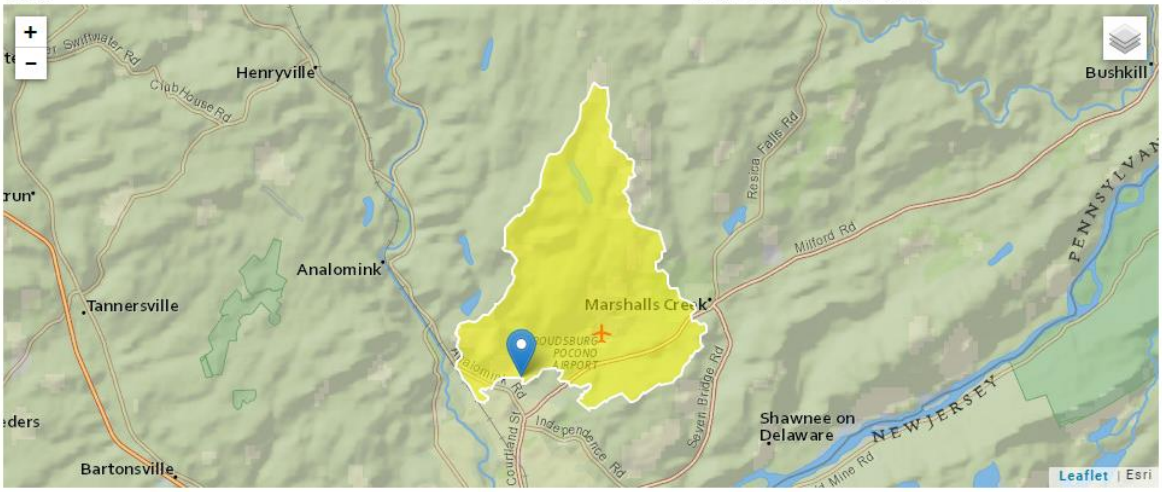
Statistic	Value	Unit
7 Day 2 Year Low Flow	0.408	ft^3/s
30 Day 2 Year Low Flow	0.585	ft^3/s
7 Day 10 Year Low Flow	0.149	ft^3/s

At confluence with Unnamed Tributary to Sambo Creek (4926)

RMI	Elevation (ft)	Drainage Area (mi^2)
1.958	449.8	8.91

StreamStats Report

Region ID:	PA
Workspace ID:	PA20220126133612241000
Clicked Point (Latitude, Longitude):	41.02632, -75.18352
Time:	2022-01-26 08:36:32 -0500



Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	8.91	square miles

Modeling Using USGS Stream Gage 01440400 – Brodhead Creek near Analomink, PA

Low-Flow Statistics

Statistic Name	Value	Units	Preferred?	Years of Record	Standard Error, percent	Citation	Comments
1 Day 10 Year Low Flow	6.9	cubic feet per second	✔	50		49	Statistic Date Range 4/1/1958 - 3/31/2008
7 Day 2 Year Low Flow	13.5	cubic feet per second	✔	50		49	Statistic Date Range 4/1/1958 - 3/31/2008
7 Day 10 Year Low Flow	7.4	cubic feet per second	✔	50		49	Statistic Date Range 4/1/1958 - 3/31/2008

Characteristic Name	Value	Units
Drainage Area	65.9	square miles

$$Low\ Flow\ Yield\ at\ Stream\ Gage = \frac{7.4\ ft^3/sec}{65.9\ mi^2} = \mathbf{0.112\ \frac{ft^3/sec}{mi^2}}$$

$$Q_{7-10}\ at\ Outfall\ 001\ (utilizing\ Stream\ Gage\ data) = 0.\mathbf{112}\ \frac{\mathbf{ft^3/sec}}{\mathbf{mi^2}} \times \mathbf{2.86\ mi^2} = \mathbf{0.32\ ft^3/sec}$$

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.286	= Q stream (cfs)	0.5	= CV Daily
0.09	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= 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)		=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 0.674	1.3.2.iii	WLA cfc = 0.650
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.251	5.1d	LTA_cfc = 0.378

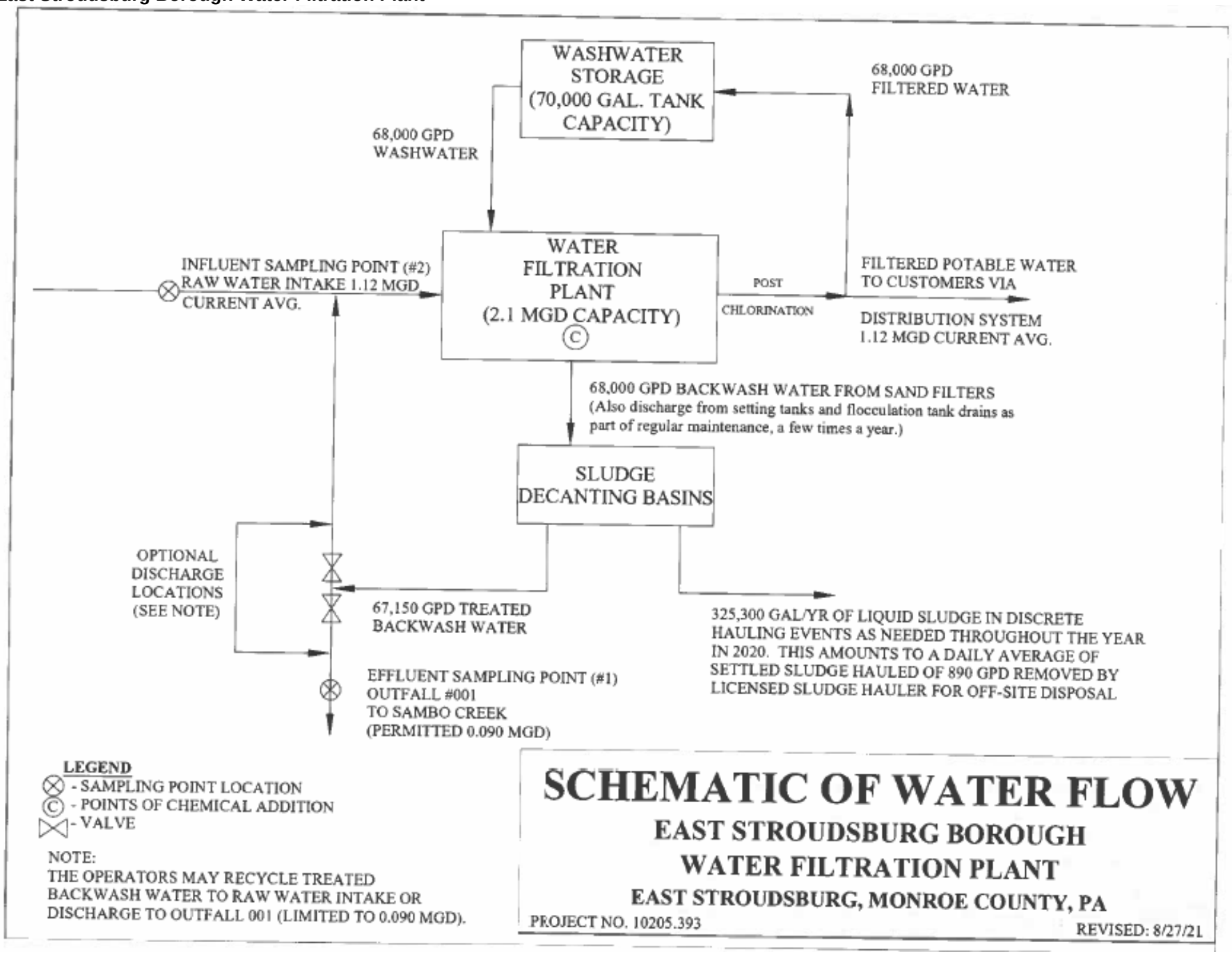
Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.309	AFC
		INST MAX LIMIT (mg/l) = 1.011	

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)

Compliance History

DMR Data for Outfall 001 (from October 1, 2021 to September 30, 2022)

Parameter	SEP-22	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21
Flow (MGD) Average Monthly		0.050	0.050	0.056	0.049	0.06	0.050	0.050	0.050	0.0475	0.050	0.050
Flow (MGD) Daily Maximum		0.050	0.050	0.08	0.050	0.08	0.050	0.050	0.050	0.050	0.050	0.050
pH (S.U.) Minimum		7.58	7.27	7.01	7.54	7.29	7.06	6.98	6.98	6.62	6.59	6.59
pH (S.U.) Maximum		8.01	7.37	7.71	8.21	8.10	7.58	7.89	7.45	7.05	6.69	6.92
TRC (mg/L) Average Monthly		0.07	0.40	0.06	0.07	0.3	0.28	0.36	0.26	0.07	0.07	0.06
TRC (mg/L) Daily Maximum		0.12	0.44	0.11	0.21	0.54	0.39	0.90	0.53	0.18	0.08	0.21
TSS (mg/L) Average Monthly		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
TSS (mg/L) Daily Maximum		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Aluminum (mg/L) Average Monthly		0.178	0.120	0.196	0.0235	0.74	0.117	0.394	0.127	0.113	0.168	0.274
Total Aluminum (mg/L) Daily Maximum		0.182	0.140	0.200	0.0325	1.13	0.117	0.626	0.148	0.119	0.216	0.304
Total Iron (mg/L) Average Monthly		0.021	0.0185	< 0.020	0.0250	0.024	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	0.043
Total Iron (mg/L) Daily Maximum		0.021	0.0350	< 0.020	0.0250	0.028	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	0.045
Total Manganese (mg/L) Average Monthly		0.104	0.081	0.063	0.0305	0.058	< 0.020	0.149	< 0.020	0.062	0.0626	0.177
Total Manganese (mg/L) Daily Maximum		0.104	0.141	0.080	0.0320	0.078	< 0.020	0.205	< 0.020	0.104	0.0774	0.187


WASHWATER STORAGE (70,000 GAL. TANK CAPACITY)
68,000 GPD FILTERED WATER
68,000 GPD WASHWATER
WATER FILTRATION PLANT (2.1 MGD CAPACITY) ©
INFLUENT SAMPLING POINT (#2)
RAW WATER INTAKE 1.12 MGD
CURRENT AVG.
POST CHLORINATION
FILTERED POTABLE WATER TO CUSTOMERS VIA DISTRIBUTION SYSTEM
1.12 MGD CURRENT AVG.
68,000 GPD BACKWASH WATER FROM SAND FILTERS
(Also discharge from setting tanks and flocculation tank drains as part of regular maintenance, a few times a year.)
SLUDGE DECANTING BASINS
OPTIONAL DISCHARGE LOCATIONS (SEE NOTE)
67,150 GPD TREATED BACKWASH WATER
325,300 GAL/YR OF LIQUID SLUDGE IN DISCRETE HAULING EVENTS AS NEEDED THROUGHOUT THE YEAR IN 2020. THIS AMOUNTS TO A DAILY AVERAGE OF SETTLED SLUDGE HAULED OF 890 GPD REMOVED BY LICENSED SLUDGE HAULER FOR OFF-SITE DISPOSAL
EFFLUENT SAMPLING POINT (#1)
OUTFALL #001
TO SAMBO CREEK
(PERMITTED 0.090 MGD)
LEGEND
⊗ - SAMPLING POINT LOCATION
© - POINTS OF CHEMICAL ADDITION
⋈ - VALVE
NOTE:
THE OPERATORS MAY RECYCLE TREATED BACKWASH WATER TO RAW WATER INTAKE OR DISCHARGE TO OUTFALL 001 (LIMITED TO 0.090 MGD).
SCHEMATIC OF WATER FLOW
EAST STROUDSBURG BOROUGH
WATER FILTRATION PLANT
EAST STROUDSBURG, MONROE COUNTY, PA
PROJECT NO. 10205.393
REVISED: 8/27/21