pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0092185**
Facility Type	**Non-Municipal**	APS ID	**1055879**
Major / Minor	**Minor**	Authorization ID	**1383582**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Brady Hills MHC, LLC**	Facility Name	**Brady Hills MHP**
Applicant Address	316 West 2nd Street, Suite 1104	Facility Address	153 Lilac Lane
	Los Angeles, CA 90012		Slippery Rock, PA 16057
Applicant Contact	Will Raschke, Environmental Manager wraschke@ftipm.com	Facility Contact	Marvin McAfoose, STP Operator mcafoose92@hotmail.com
Applicant Phone	(626) 768-9536	Facility Phone	(724) 699-4070
Client ID	317064	Site ID	243864
Ch 94 Load Status	Not Overloaded	Municipality	Brady Township
Connection Status	No limitations	County	Butler County
Date Application Received	January 31, 2022	EPA Waived?	Yes
Date Application Accepted	February 3, 2022	If No, Reason	-
Purpose of Application	Renewal of an existing NPDES Permit for an existing discharge of treated sanitary wastewater from a non-municipal sewer system.		

Summary of Review

Act 14 - Proof of Notification was submitted and received.

A Part II Water Quality Management permit is not required at this time.

The applicant should be able to meet the limits of this permit, which will protect the uses of the receiving stream.

I. OTHER REQUIREMENTS:

- A. Stormwater into Sewers
- B. Right of Way
- C. Solids Handling
- D. Public Sewerage Availability
- E. Effluent Chlorine Optimization and Minimization
- F. Little or No Assimilative Capacity

SPECIAL CONDITIONS:

II. Solids Management

There are 2 open violations in efacts associated with the subject Client ID (317064) as of 12/20/2022 (see Attachment 3).

Approve	Deny	Signatures	Date
X		Stephen A. McCauley Stephen A. McCauley, E.I.T. / Environmental Engineering Specialist	12/20/2022
X		Adam J. Pesek (Lead Reviewer) *Vacant* / Environmental Engineer Manager	12/21/2022

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.04
Latitude	40º 59' 59.1"	Longitude	-79º 58' 47.4"
Quad Name	-	Quad Code	-
Wastewater Description:	Sewage Effluent		
Receiving Waters	Big Run (CWF)	Stream Code	34103
NHD Com ID	126223781	RMI	4.26
Drainage Area	1.13	Yield (cfs/mi^2)	0.084
Q_{7-10} Flow (cfs)	0.094	Q_{7-10} Basis	calculated
Elevation (ft)	1263	Slope (ft/ft)	0.0142
Watershed No.	20-C	Chapter 93 Class.	CWF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Impaired*		
Cause(s) of Impairment	Cause Unknown		
Source(s) of Impairment	Abandoned Mine Drainage (AMD)		
TMDL Status	-	Name	-

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

Nearest Downstream Public Water Supply Intake	PA American Water Company - Ellwood City		
PWS Waters	Connoquenessing Creek	Flow at Intake (cfs)	27.6
PWS RMI	0.2	Distance from Outfall (mi)	29.0

* - This discharge consists of treated non-municipal sewage only and does not contribute to the impairment of the receiving stream. However, since the stream is impaired for AMD metals, per the SOP, monitoring for Total Aluminum, Total Iron, and Total Manganese will be added with this renewal.

Sludge use and disposal description and location(s): All sludge is pumped by K&M Septic and sent to a larger STP, which disposes waste sludge to an approved landfill.

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.

Narrative: This Fact Sheet details the determination of draft NPDES permit limits for an existing discharge of 0.04 MGD of treated sewage from an existing non-municipal STP in Brady Township, Butler County. The previous renewal used the maximum phased construction flow of 0.05 MGD for limit calculations. Based on an email with the STP operator (see Attachment 4), there are no plans to expand the current treatment units that are designed for a flow of 0.04 MGD. Based on that information, the limit calculations for this renewal were based on the permitted flow of 0.04 MGD. However, the limits that were previously set based on the 0.05 MGD flow will be retained since they are attainable. The biggest effect of the flow change is the monitoring frequency for E. Coli.

Treatment permitted under Water Quality Management Permit No. 1097409 T-1 consists of the following:

A 3,000-gallon equalization tank, a channel grinder with a manually-cleaned bypass bar screen, followed by a flow splitter box, two parallel treatment trains consisting of the following:

East train: A 15,700 gallon extended aeration tank, a 4,765 gallon settling tank and a 4,765 gallon settling tank in series, a 1,700 gallon sludge holding tank, and a 2,125 gallon sludge holding tank

West train: A 14,200 gallon extended aeration tank, a 5,010 gallon settling tank and a 5,970 gallon settling tank in series, a 1,500 gallon sludge holding tank, and a 2,125 gallon sludge holding tank.

The two treatment trains combine for tablet chlorine disinfection with a 2,200 gallon contact tank, followed by tablet dechlorination with a 200 gallon dechlorination tank.

1. Streamflow: Big Run at Outfall 001:

Yieldrate:	0.084	cfsm	from previous fact sheet
Drainage Area:	1.13	sq. mi.	from previous fact sheet
% of stream allocated:	100%	Basis:	No nearby discharges
Q_{7-10}:	0.094	cfs	calculated

2. Wasteflow:

Maximum discharge: 0.04 MGD = 0.061 cfs

Runoff flow period: 24 hours Basis: Runoff with flow equalization

The calculated stream flow (Q7-10) is less than 3 times the permitted discharge flow. However, since this is an existing discharge, the more stringent treatment requirements cannot be achieved, and the receiving stream is not impaired by the discharge, the standards in DEP guidance (391-2000-014) will not be applied.

Flow will be required to be monitored as authorized under Chapter 92a.61, and as recommended in the SOP.

3. Parameters:

The following parameters were evaluated: pH, Total Suspended Solids, Fecal Coliform, E. Coli, Total Phosphorus, Total Nitrogen, NH_3-N, $CBOD_5$, Dissolved Oxygen, and Total Residual Chlorine.

a. pH

Between 6.0 and 9.0 at all times

Basis: Application of Chapter 93.7 technology-based limits.

The measurement frequency will remain as 1/day as recommended in the SOP, based on Table 6-3 in the "Technical Guidance for the Development and Specification of Effluent Limitations" (362-0400-001).

b. Total Suspended Solids

Limits are 30.0 mg/l as a monthly average and 60.0 as an instantaneous maximum.

Basis: Application of Chapter 92a47 technology-based limits.

c. Fecal Coliform

05/01 - 09/30:	200/100ml	(monthly average geometric mean)
	1,000/100ml	(instantaneous maximum)
10/01 - 04/30:	2,000/100ml	(monthly average geometric mean)
	10,000/100ml	(instantaneous maximum)

Basis: Application of Chapter 92a47 technology-based limits

d. E. Coli

Monitoring was added for E. Coli at a frequency of 1/year.

Basis: Application of Chapter 92a.61 as recommended by the SOP for flows greater than 0.002 MGD and less than 0.05 MGD.

e. Total Phosphorus

Chapter 96.5 does not apply. The previous monitoring for Total Phosphorus will be retained in accordance with the SOP, based on Chapter 92a.61. However, the monitoring frequency will be reduced from 2/month to 1/year since the receiving stream is not impaired, per the SOP.

f. Total Nitrogen

The previous monitoring for Total Nitrogen will be retained in accordance with the SOP, based on Chapter 92a.61. However, the monitoring frequency will be reduced from 2/month to 1/year since the receiving stream is not impaired, per the SOP.

g. Ammonia-Nitrogen (NH_3-N)

Median discharge pH to be used:	7.2	Standard Units (S.U.)
	Basis:	eDMR data from previous 12 months
Discharge temperature:	25°C	(default value used in the absence of data)
Median stream pH to be used:	7.0	Standard Units (S.U.)
	Basis:	default value used in the absence of data
Stream Temperature:	20˚C	(default value used for CWF modeling)
Background NH_3-N concentration:	0.1	mg/l
	Basis:	Default value
Calculated NH_3-N Summer limits:	5.1	mg/l (monthly average)
	10.2	mg/l (instantaneous maximum)
Calculated NH_3-N Winter limits:	15.3	mg/l (monthly average)

30.6 mg/l (instantaneous maximum)

Result: WQ modeling resulted in the summer limits above (see Attachment 1). The calculated limits are less restrictive than in the previous permit. Since the previous limits are attainable, they will be retained. The winter limits are calculated as three times the summer limits.

h. $CBOD_5$

Median discharge pH to be used: 7.2 Standard Units (S.U.)

Basis: eDMR data from previous 12 months

Discharge temperature: 25°C (default value used in the absence of data)

Median stream pH to be used: 7.0 Standard Units (S.U.)

Basis: default value used in the absence of data

Stream Temperature: 20˚C (default value used for CWF modeling)

Background $CBOD_5$ concentration: 2.0 mg/l

Basis: Default value

Calculated $CBOD_5$ limits: 25.0 mg/l (monthly average)
50.0 mg/l (instantaneous maximum)

Result: WQ modeling resulted in the calculated limits above (see Attachment 1). The limits are the same as in the previous permit and will be retained.

j. Dissolved Oxygen (DO)

The Dissolved Oxygen minimum of 4.0 mg/l will be retained with this renewal. The technology-based minimum is recommended by the WQ Model (see Attachment 2) and the SOP based on Chapter 93.7, under the authority of Chapter 92a.61.

The measurement frequency was previously set to 1/day as recommended in the SOP, based on Table 6-3 in the "Technical Guidance for the Development and Specification of Effluent Limitations" (362-0400-001), and will be retained.

k. Total Residual Chlorine (TRC)

☐ Ultraviolet (UV) light monitoring

☒ TRC limits: 0.23 mg/l (monthly average)
0.75 mg/l (instantaneous maximum)

Basis: The TRC limits above were calculated using the Department's TRC Calculation Spreadsheet (see Attachment 2). The limits are slightly less restrictive than the previous NPDES Permit. Since the more restrictive limits are being attained, they will be retained.

The measurement frequency will remain as 1/day as recommended in the SOP, based on Table 6-3 in the "Technical Guidance for the Development and Specification of Effluent Limitations" (362-0400-001).

4. Reasonable Potential Analysis for Receiving Stream:

A Reasonable Potential Analysis was not performed in accordance with State practices for Outfall 001 using the Department's Toxics Management Spreadsheet since no sampling other than sewage-related parameters was performed for this facility with the renewal application.

5. Reasonable Potential for Downstream Public Water Supply (PWS):

The Department's Toxics Management Spreadsheet does not calculate limits for parameters that are based on PWS criteria (TDS, Chloride, Bromide, and Sulfate). Since no relevant sampling was provided, mass-balance calculations were not performed.

Nearest Downstream potable water supply (PWS): PA American Water Company - Ellwood City

Distance downstream from the point of discharge: 29.0 miles (approximate)

Result: No limits or monitoring is necessary as there is significant dilution available.

6. Anti-Backsliding:

Since all the permit limits in this renewal are the same or more restrictive than the previous NPDES Permit, anti-backsliding is not applicable.

7. Attachment List:

Attachment 1 - WQ Modeling Printouts

Attachment 2 - TRC_Calc Spreadsheet

Attachment 3 - WMS Open Violations By Client

Attachment 4 - Operator Email Concerning Expansion

(The Attachments above can be found at the end of this document)

Compliance History

DMR Data for Outfall 001 (from November 1, 2021 to October 31, 2022)

Parameter	OCT-22	SEP-22	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21
Flow (MGD) Average Monthly	0.017	0.0106	0.0082	0.0083	0.0093	0.0098	0.006	0.012	0.020	0.020	0.017	0.015
pH (S.U.) Minimum	6.7	7.0	7.3	7.1	7.2	7.2	7.2	7.1	7.1	6.91	6.9	6.8
pH (S.U.) Maximum	7.3	7.7	7.6	7.63	7.92	7.5	7.4	7.5	7.5	7.6	7.4	7.4
DO (mg/L) Minimum	5.03	5.11	5.11	5.09	5.02	5.09	5.08	5.05	5.22	5.06	5.04	5.02
TRC (mg/L) Average Monthly	0.021	0.04	0.03	0.02	0.03	0.04	0.03	0.04	0.04	0.05	0.02	0.02
TRC (mg/L) Instantaneous Maximum	0.07	0.21	0.14	0.06	0.10	0.08	0.09	0.11	0.09	0.11	0.07	0.06
CBOD5 (mg/L) Average Monthly	3.84	2.4	2.2	5.24	2.07	2.27	6.59	4.79	6.25	6.69	14.2	8.97
TSS (mg/L) Average Monthly	9.25	4.5	2.75	5.5	3.75	2.75	7.25	9.25	4.1	8.0	9.0	18.25
Fecal Coliform (No./100 ml) Geometric Mean	6.2	9	2.0	3	1	2.5	1	6	49	2419	1.76	31
Fecal Coliform (No./100 ml) Instantaneous Maximum	37.3	85.7	4.1	8.5	1	6.3	1	36	2419	2419	3.1	980
Total Nitrogen (mg/L) Average Monthly	29.98	26.91	21.75	17.69	34.8	38.09	6.24	11.6	6.99	7.43	8.32	24.9
Ammonia (mg/L) Average Monthly	4.78	0.27	2.83	0.68	0.18	0.1	2.39	2.25	4.4	5.62	4.46	3.54
Total Phosphorus (mg/L) Average Monthly	3.1	3.27	3.33	2.45	2.14	2.18	0.50	1.08	0.79	3.14	1.56	4.94

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	XXX	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0 Daily Max	XXX	1/day	Grab
DO	XXX	XXX	4.0 Daily Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.2	XXX	0.65	1/day	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30.0	XXX	60	2/month	8-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
Total Nitrogen	XXX	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	12.0	XXX	24	2/month	8-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	4.0	XXX	8	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite
Total Aluminum	XXX	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	Grab

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	Maximum	Instant. Maximum		
Total Iron	XXX	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	Grab
Total Manganese	XXX	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	Grab

Compliance Sampling Location: at Outfall 001, after disinfection.

Flow is monitor only based on Chapter 92a.61. The limits for pH and Dissolved Oxygen are technology-based on Chapter 93.7. The Total Residual Chlorine (TRC) limits are water quality-based on Chapter 93.7. The limits for $CBOD_5$, Total Suspended Solids (TSS), and Fecal Coliforms are technology-based on Chapter 92a.47. The limits for Ammonia-Nitrogen are water quality-based on Chapter 93.7. Monitoring for E. Coli, Total Nitrogen, Total Phosphorus, Total Aluminum, Total Iron, and Total Manganese is based on Chapter 92a.61.

Attachment 1

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20C	34103	BIG RUN

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)
4.260	Brady Hills MHC	PA0092185	0.040	CBOD5	25		
				NH3-N	5.13	10.26	
				Dissolved Oxygen			4

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20C	34103	BIG RUN

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
4.260	0.040	21.973	7.068
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
5.293	0.375	14.119	0.079
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
11.08	1.152	2.02	0.815
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.569	25.503	Owens	6
Reach Travel Time (days)			
1.021			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.102	9.74	1.86	7.71
0.204	8.56	1.71	7.90
0.306	7.53	1.58	7.95
0.408	6.62	1.45	7.95
0.510	5.82	1.34	7.95
0.612	5.12	1.23	7.95
0.715	4.50	1.13	7.95
0.817	3.95	1.04	7.95
0.919	3.48	0.96	7.95
1.021	3.06	0.88	7.95

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	6		

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
20C	34103	BIG RUN	**4.260**	1263.00	1.13	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	0.084	0.00	0.00	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
Brady Hills MHC	PA0092185	0.0400	0.0000	0.0000	0.000	25.00	7.20

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	4.00	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
20C	34103	BIG RUN	**2.940**	1164.00	2.00	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	0.084	0.00	0.00	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
		0.0000	0.0000	0.0000	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	3.00	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
20C	34103	BIG RUN

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												
4.260	0.09	0.00	0.09	.0619	0.01420	.375	5.29	14.12	0.08	1.021	21.97	7.07
Q1-10 Flow												
4.260	0.06	0.00	0.06	.0619	0.01420	NA	NA	NA	0.07	1.171	22.52	7.09
Q30-10 Flow												
4.260	0.13	0.00	0.13	.0619	0.01420	NA	NA	NA	0.09	0.914	21.62	7.06

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
20C	34103	BIG RUN

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
4.260	Brady Hills MHC	12.51	24.79	12.51	24.79	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
4.260	Brady Hills MHC	1.66	5.13	1.66	5.13	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)		
4.26	Brady Hills MHC	25	25	5.13	5.13	4	4	0	0

Attachment 2

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.094	= Q stream (cfs)	0.5	= CV Daily
0.04	= 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)	0	=Decay Coefficient (K)

Source	Reference	AFC Calculations		Reference	CFC Calculations	
TRC	1.3.2.iii	WLA afc =	0.504	1.3.2.iii	WLA cfc =	0.483
PENTOXSD TRG	5.1a	LTAMULT afc =	0.373	5.1c	LTAMULT cfc =	0.581
PENTOXSD TRG	5.1b	LTA_afc=	0.188	5.1d	LTA_cfc =	0.281

Source		Effluent Limit Calculations		
PENTOXSD TRG	5.1f	AML MULT =	1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) =	0.231	AFC
		INST MAX LIMIT (mg/l) =	0.755	

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)**

Attachment 3

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

WATER MANAGEMENT SYSTEM
OPEN VIOLATIONS BY CLIENT

Client ID: 317064
Client: All

Open Violations: 2

CLIENT ID	CLIENT	PF ID	FACILITY	PF KIND	PF STATUS	INSP PROGRAM	PROGRAM SPECIFIC ID
317064	BRADY HILLS MHC LLC	563334	BRADY HILLS MHP	Water Purveyor	Active	Water Planning and Conservation	100830-001
317064	BRADY HILLS MHC LLC	248516	BRADY HILLS MHP	Sewage Non-Publicly Owned (Non-Muni)	Active	WPC NPDES	PA0092185

INSP ID	VIOLATION ID	INSPECTION CATEGORY	VIOLATION DATE	VIOLATION CODE	VIOLATION	PF INSPECTOR	INSP REGION
3305014	941363	PF	12/29/2021	110.301	Reporting for all water withdrawals and usage		NWRO
3440439	972204	PF	10/06/2022	92A.62	NPDES - Failure to pay annual fee	LEIDY,BRUCE	NWRO

Attachment 4

[External] Re: Brady Hills MHC, LLC - Brady Hills MHP (NPDES Permit No. PA0092185 - Auth ID No 1383582)

Marvin McAfoose <mcafoose92@hotmail.com>
Mon 12/19/2022 11:20 AM
To: McCauley, Stephen <smccauley@pa.gov>

ATTENTION: *This email message is from an external sender. Do not open links or attachments from unknown senders. To report suspicious email, use the Report Phishing button in Outlook.*

Guess I should have read the entire email. No plan on the third train. That was before infiltration work was done. No plans of expansion.
Marvin R. McAfoose

Sent from my iPad

On Dec 19, 2022, at 10:44 AM, McCauley, Stephen <smccauley@pa.gov> wrote:

WQM 1097409-A1, issued on 1/10/2011, added a 3,000-gallon equalization tank w/ a grinder pump. When the EQ tank was added, the application contained a line drawing showing the following treatment units:

Treatment Train A
12,790-gallon aeration tank
(2) 4,129 & 4,530-gallon settling tank (in series)
1,795-gallon sludge holding tank

Treatment Train B
16,157-gallon aeration tank
(2) 4,072-gallon settling tanks (in series)
1,705-gallon sludge holding tank

The WQM Permit includes language to allow a third treatment train that would increase the permitted flow from 0.04 MGD to 0.05 MGD.

Is there any plan for this expansion in the next 5 years?

I ask because the previous NPDES Permit used the higher flow of 0.05 MGD to calculate limits, most notably TRC. With this renewal, there will be monitoring for E. Coli added at 1/quarter for 0.05 MGD and up, and only 1/year for 0.04 MGD.

Can you please give me any updates on the treatment setup currently, and any plans to upgrade in the future?

Stephen A. McCauley, E.I.T. | Environmental Engineering Specialist
Department of Environmental Protection
Clean Water Program | Northwest Regional Office
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