

Application Type Renewal
Facility Type Municipal
Major / Minor Minor

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0023949
APS ID 1112761
Authorization ID 1483376

Applicant and Facility Information

Applicant Name	<u>Brookhaven Borough</u>	Facility Name	<u>Brookhaven Borough STP & Sewer System</u>
Applicant Address	<u>2 Cambridge Road</u> <u>Brookhaven, PA 19015-1712</u>	Facility Address	<u>Brookhaven Road/Bridgewater Road Intersection</u> <u>Brookhaven, PA 19015-1708</u>
Applicant Contact	<u>John Wilwert</u>	Facility Contact	<u>John Wilwert</u>
Applicant Phone	<u>(610) 874-2557</u>	Facility Phone	<u>(610) 874-2557</u>
Client ID	<u>85954</u>	Site ID	<u>257258</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Brookhaven Borough</u>
Connection Status	<u>No Limitations</u>	County	<u>Delaware</u>
Date Application Received	<u>April 30, 2024</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u></u>	If No, Reason	<u></u>
Purpose of Application	<u>Renewal</u>		

Summary of Review

The permittee requests renewal of an NPDES permit to discharge treated sewage from Brookhaven Borough STP. The plant consists of a muffin monster, two bar screens, an equalization tank, two anoxic tanks, two aeration tanks, two clarifiers, and a chlorine contact tank. The sewage enters the facility and passes through muffin monster. It is then piped to an equalization tank and then the sludge is directed to the holding tank. The wastewater is treated in the anoxic/aeration/clarification tanks. The final step is the final settling tank with a chlorine drip. The treated sewage exits the facility to the Chester Creek.

There are no industrial dischargers to this system. There were no process changes since last renewal, therefore the previous permit limits have been rolled over to this renewal.

Dissolved Oxygen has been revised to 4 mg/l and *E.Coli* report only requirement has been added in the permit as per the revised SOP for Clean Water Program Establishing Effluent Limitations for Individual Sewage Permits SOP No. BCW-PMT-033.

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.

Approve	Deny	Signatures	Date
x		<i>Vasantha</i> Vasantha Palakurti / Environmental Engineering Specialist	June 6, 2024
		Pravin C. Patel, P.E. / Environmental Engineer Manager	

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	.192
Latitude	39° 51' 19.28"	Longitude	-75° 23' 45.82"
Quad Name	Marcus Hook	Quad Code	
Wastewater Description: Sewage Effluent			
Receiving Waters	Chester Creek	Stream Code	00520
NHD Com ID	133072440	RMI	3.9
Drainage Area	61.1	Yield (cfs/mi ²)	
Q ₇₋₁₀ Flow (cfs)	12.58	Q ₇₋₁₀ Basis	
Elevation (ft)	10.35	Slope (ft/ft)	
Watershed No.	3-G	Chapter 93 Class.	WWF, MF
Assessment Status	Impaired		
Cause(s) of Impairment	CAUSE UNKNOWN, CAUSE UNKNOWN, FLOW REGIME MODIFICATION, FLOW REGIME MODIFICATION, HABITAT ALTERATIONS, HABITAT ALTERATIONS, POLYCHLORINATED BIPHENYLS (PCBS), SILTATION, SILTATION		
Source(s) of Impairment	HABITAT MODIFICATION - OTHER THAN HYDROMODIFICATION, HABITAT MODIFICATION - OTHER THAN HYDROMODIFICATION, SOURCE UNKNOWN, URBAN RUNOFF/STORM SEWERS, URBAN RUNOFF/STORM SEWERS, URBAN RUNOFF/STORM SEWERS, URBAN RUNOFF/STORM SEWERS, URBAN RUNOFF/STORM SEWERS		
TMDL Status	Final	Name	Delaware River Estuary PCB TMDLs

Changes Since Last Permit Issuance: The WQM permit was amended in March 2020, for the modification of existing headworks by removal of an existing comminutor and installing a new influent screen. There were no other process changes to the facility since last permit issuance.

Compliance History	
Summary of DMRs:	Permittee is violation for failure to submit monitoring reports/DMR supplemental reports.
Summary of Inspections:	Permittee is in violation for failure to maintain permitted treatment units in operable condition.

Compliance History

DMR Data for Outfall 001 (from April 1, 2023 to March 31, 2024)

Parameter	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23	APR-23
Flow (MGD) Average Monthly	0.2748	0.1844	0.2721	0.2267	0.1286	0.1422	0.15190 3	0.1549	0.1750	0.1603	0.1439	0.15176 7
Flow (MGD) Daily Maximum	0.9814	0.2363	0.8233	0.6476	0.21221	0.4526	0.2427	0.2965	0.2842	0.6599	0.2266	0.4927
pH (S.U.) Instantaneous Minimum	6.2	6.41	6.55	6.2	6.75	6.77	6.79	6.57	6.51	6.59	6.80	6.43
pH (S.U.) Instantaneous Maximum	7.41	7.38	7.27	7.48	7.63	7.47	7.58	7.43	7.52	7.49	7.58	7.33
DO (mg/L) Instantaneous Minimum	6.34	7.19	3.28	4.24	6.43	4.93	3.05	4.79	4.62	4.25	5.18	4.59
TRC (mg/L) Average Monthly	0.43	0.41	0.39	0.28	0.25	0.31	0.23	0.25	0.26	0.27	0.29	0.34
TRC (mg/L) Instantaneous Maximum	1.0	0.89	0.94	0.89	0.6	1.0	1.0	1.0	0.5	0.8	0.9	0.8
CBOD5 (lbs/day) Average Monthly	8.43	5.19	6.81	5.67	< 14.26	4.48	4.4	5	5.47	6.87	7.9	< 6.3
CBOD5 (lbs/day) Raw Sewage Influent Average Monthly	433.28	205.5	529.23	350.63	474.69	279	181.7	204	185	312	270	280
CBOD5 (lbs/day) Weekly Average	8.43	5.19	6.81	5.67	< 14.26	4.48	4.4	5	5.47	6.87	7.9	< 6.3
CBOD5 (mg/L) Average Monthly	< 3.68	< 3.38	< 3	< 3	< 13.3	3.78	3.5	3.8	3.75	5.14	6.6	< 5
CBOD5 (mg/L) Raw Sewage Influent Average Monthly	251.8	327.13	255.25	146.2	235	177	143.4	121	97	186	172	180
CBOD5 (mg/L) Weekly Average	< 3.68	< 3.38	< 3	< 3	< 13.3	3.78	3.5	3.8	3.75	5.14	6.6	< 5

NPDES Permit Fact Sheet
Brookhaven Borough STP & Sewer System

NPDES Permit No. PA0023949

BOD5 (lbs/day) Raw Sewage Influent Average Monthly	549.14	224	572.68	384.74	495.48	210	193	194	185	275	330	342
BOD5 (mg/L) Raw Sewage Influent Average Monthly	271.0	357.87	277.25	160.6	245.25	133.5	152	115	97	164	210	220
TSS (lbs/day) Average Monthly	11.46	7.84	10.55	9.45	< 37.80	8.3	22.8	14	8.76	9.09	8.2	44
TSS (lbs/day) Raw Sewage Influent Average Monthly	340.96	173.5	404.93	275.12	349.45	188	144	155	153	285	256	215
TSS (lbs/day) Weekly Average	11.46	7.84	10.55	9.45	< 37.80	8.3	22.8	14	8.76	9.09	8.2	44
TSS (mg/L) Average Monthly	< 5.0	< 5.1	< 4.65	< 5	< 35.25	7.0	18	11	6	6.8	6.8	35
TSS (mg/L) Raw Sewage Influent Average Monthly	168.4	257.22	182.5	119.0	173	119.5	114	92	80	170	163	138
TSS (mg/L) Weekly Average	< 5.0	< 5.1	< 4.65	< 5	< 35.25	7.0	18	11	6	6.8	6.8	35
Total Dissolved Solids (mg/L) Daily Maximum	411			583			710			14170		
Fecal Coliform (No./100 ml) Geometric Mean	< 1	< 1	< 4.3	< 6.2	< 8.08	372.35	434	147	161	88.3	< 9.8	< 7
Fecal Coliform (No./100 ml) Instantaneous Maximum	< 1	< 1	21.3	31.3	30.5	15600	2600	600	470	827	31	88
Total Nitrogen (lbs/day) Average Monthly	41.51	30.65	32.09	40.73	< 26.52	27.25	26.3	24.33	29.23	27.7	< 21.69	38
Total Nitrogen (mg/L) Average Monthly	< 18.14	< 19.93	< 14.14	< 21.45	< 24.73	22.98	20.79	18.83	20.03	20.70	< 18.07	30
Ammonia (lbs/day) Average Monthly	1.8	0.35	2.45	0.29	< 0.46	0.46	0.66	1.11	0.31	5.55	9.85	2.4
Ammonia (mg/L) Average Monthly	< 0.78	< 0.23	1.08	< 0.15	< 0.43	0.388	0.52	0.86	0.21	4.15	8.21	1.9

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Total Phosphorus (lbs/day) Average Monthly	0.39	0.627	0.72	0.72	1.79	0.91	1.58	1.58	1.52	1.07	0.66	1.7
Total Phosphorus (mg/L) Average Monthly	0.17	0.408	0.318	0.38	1.67	0.77	1.25	1.22	1.04	0.80	0.55	1.3

Compliance History

Effluent Violations for Outfall 001, from: May 1, 2023 To: March 31, 2024

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
TSS	11/30/23	Avg Mo	< 35.25	mg/L	30	mg/L
Fecal Coliform	10/31/23	Geo Mean	372.35	No./100 ml	200	No./100 ml
Fecal Coliform	09/30/23	Geo Mean	434	No./100 ml	200	No./100 ml
Fecal Coliform	10/31/23	IMAX	15600	No./100 ml	1000	No./100 ml
Fecal Coliform	09/30/23	IMAX	2600	No./100 ml	1000	No./100 ml
Ammonia	05/31/23	Avg Mo	9.85	lbs/day	8	lbs/day
Ammonia	05/31/23	Avg Mo	9.85	lbs/day	8	lbs/day
Ammonia	05/31/23	Avg Mo	8.21	mg/L	5.0	mg/L
Ammonia	05/31/23	Avg Mo	8.21	mg/L	5.0	mg/L
Total Phosphorus	08/31/23	Avg Mo	1.22	mg/L	1.0	mg/L
Total Phosphorus	09/30/23	Avg Mo	1.25	mg/L	1.0	mg/L
Total Phosphorus	08/31/23	Avg Mo	1.22	mg/L	1.0	mg/L
Total Phosphorus	07/31/23	Avg Mo	1.04	mg/L	1.0	mg/L

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" (386-0400-001), 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	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.0	1/day	Grab
CBOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
CBOD5 Nov 1 - Apr 30	40	60	XXX	25	40	50	1/week	24-Hr Composite
CBOD5 May 1 - Oct 31	32	48	XXX	20	30	40	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS	48	72	XXX	30	45	60	1/week	24-Hr Composite
Total Dissolved Solids	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	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	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Ammonia Nov 1 - Apr 30	24	XXX	XXX	15.0	XXX	30	1/week	24-Hr Composite
Ammonia May 1 - Oct 31	8	XXX	XXX	5.0	XXX	10	1/week	24-Hr Composite
Total Phosphorus Nov 1 - Apr 30	3.2	XXX	XXX	2.0	XXX	4	1/week	24-Hr Composite
Total Phosphorus May 1 - Oct 31	1.6	XXX	XXX	1.0	XXX	2	1/week	24-Hr Composite

Approve	Deny	Signatures	Date
x		<i>Vasantha</i> Vasantha Palakurti / Environmental Engineering Specialist	June 6, 2024
		Pravin C. Patel, P.E. / Environmental Engineer Manager	