

Application Type Renewal
Facility Type Municipal
Major / Minor Minor

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0024376
APS ID 1016088
Authorization ID 1313884

Applicant and Facility Information

Applicant Name	<u>Boyertown Borough</u>	Facility Name	<u>Boyertown STP</u>
Applicant Address	<u>Boyertown Borough Hall, 100 South Washington Street, Boyertown, PA 19512-1521</u>	Facility Address	<u>290 Bartman Avenue Gilbertsville, PA 19525-9577</u>
Applicant Contact	<u>Patricia Loder</u>	Facility Contact	<u>Nathan Laucks</u>
Applicant Phone	<u>(610) 369-3028</u>	Facility Phone	<u>(610) 369-3041</u>
Client ID	<u>28598</u>	Site ID	<u>262397</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Douglass Township</u>
Connection Status	<u>No Limitations</u>	County	<u>Montgomery</u>
Date Application Received	<u>April 29, 2020</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u></u>	If No, Reason	<u></u>
Purpose of Application	<u>Permit Renewal.</u>		

Summary of Review

The applicant requests renewal of an NPDES permit to discharge 0.75 mgd of treated sewage effluent from Boyertown STP located at 290 Bartman Avenue, Gilbertsville in Douglass Township, Montgomery County. The STP is in Montgomery County, DEP SERO service area while the collection system and pump stations are in Berks County, which is part of the DEP SCRO service area. The facility receives waste only from Boyertown Borough with the exception of the Boyertown YMCA, which is in Colebrookdale Twp. Berks Co.

STP consists of one Bar screen, one automatic rag rake, one grit removal tank, two primary clarifiers, two aeration tanks, two intermediate clarifiers, two trickling filters, two final clarifiers, one chlorine contact tank, two anaerobic digesters, and one belt filter press.

Facility is using ferrous chloride for Phosphorus removal, soda ash for pH control and Sodium Hypo-chlorite for disinfection. Sewage sludge is hauled away to landfill.

DMR review shows the discharge is in compliance with the effluent limits. According to the inspection report (12/10/2019) three collection system SSO's were reported in 2019 and the facility is operating well.

There are no changes to the influent characteristics, treatment units, stream designation, effluent quality etc. The existing permit limits are recommended for the new permit.

Existing influent monitoring for BOD5, CBOD5 and TSS are continued in the new permit based on Chapter 94 requirement and to check compliance with 85% removal requirement.

Approve	Deny	Signatures	Date
X		<i>Sara Abraham</i> Sara Reji Abraham, E.I.T. / Project Manager	07-16-2020
X		<i>Pravin Patel</i> Pravin C. Patel, P.E. / Environmental Engineer Manager	07/16/2020

Summary of Review

The following are the industrial users contributing their wastewater into Boyertown system:

- (1) Boyertown Associates
- (2) Unicast
- (3) Hot Off the Press
- (4) Premier Applied Coatings
- (5) Berk Wiper
- (6) Boyertown Planning Mill
- (7) Campbell Fittings
- (8) PA Industrial Equipment
- (9) Boyertown Foundry
- (10) Rogers Mechanical
- (11) B&K Upholstery

The facility has a permittee-initiated pre-treatment program.

Since the facility is a Minor discharger with flow less than 1.0 MGD, no toxics monitoring data was included in the application.

Act 14 Notifications:

- Douglass Township - February 11, 2020
- Montgomery County - February 4, 2020

Permit Condition:

- A. No Stormwater
- B. Acquire Necessary Property Rights
- C. Proper Sludge Disposal
- D. Chlorine Optimization
- E. Operator Notification
- F. Fecal Coliform Reporting
- G. Solids Management

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.	<u>001</u>	Design Flow (MGD)	<u>.75</u>
Latitude	<u>40° 19' 41.86"</u>	Longitude	<u>-75° 36' 33.57"</u>
Quad Name	<u>Sassamansville</u>	Quad Code	<u>1641</u>
Wastewater Description: <u>Treated Sewage Effluent</u>			
Receiving Waters	<u>Swamp Creek (TSF, MF)</u>	Stream Code	<u>1309</u>
NHD Com ID	<u>25994164</u>	RMI	<u>11.92</u>
Drainage Area	<u>13.0</u>		
Q ₇₋₁₀ Flow (cfs)	<u>2.62</u>	Q ₇₋₁₀ Basis	<u>Prior records</u>
Elevation (ft)	<u>287</u>		
Watershed No.	<u>3-E</u>	Chapter 93 Class.	<u>TSF, MF</u>
Assessment Status	<u>Impaired</u>		
Cause(s) of Impairment	<u>CAUSE UNKNOWN, CAUSE UNKNOWN, SILTATION</u>		
Source(s) of Impairment	<u>MUNICIPAL POINT SOURCE DISCHARGES, URBAN RUNOFF/STORM SEWERS</u>		

Treatment Facility Summary				
Treatment Facility Name: Boyertown STP				
WQM Permit No.	Issuance Date			
4617402	08/15/2017			
4699418	08/20/1999			
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary With Ammonia And Phosphorus	Extended Aeration	Hypochlorite	0.75
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.75	1038	Not Overloaded	Anaerobic digestion	Landfill

Compliance History

DMR Data for Outfall 001 (from May 1, 2019 to April 30, 2020)

Parameter	APR-20	MAR-20	FEB-20	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19	MAY-19
Flow (MGD) Average Monthly	0.48	0.45	0.51	0.529	0.54	0.43	0.44	0.35	0.43	0.7	0.6	0.75
Flow (MGD) Daily Maximum	1.02	0.85	0.84	1.620	0.93	0.94	1.20	0.63	0.69	2.11	1.2	1.34
pH (S.U.) Instantaneous Minimum	7.1	7.2	7.0	7.00	7.3	7.1	7.3	7.4	7.3	7.3	7.0	7.2
pH (S.U.) Instantaneous Maximum	7.6	7.6	7.6	7.67	7.8	7.9	7.9	7.8	7.9	7.8	7.6	7.6
DO (mg/L) Minimum	9.1	10.0	9.0	10.21	9.1	8.7	7.9	7.7	7.7	7.6	8.6	9.4
TRC (mg/L) Average Monthly	0.09	0.21	0.15	0.14	0.10	0.13	0.13	0.06	0.05	0.07	0.07	0.07
TRC (mg/L) Instantaneous Maximum	0.3	0.9	0.4	0.29	0.3	0.4	0.4	0.2	0.1	0.2	0.3	0.3
CBOD5 (lbs/day) Average Monthly	16	< 13	< 11	< 9	< 12	< 7	< 9	< 8	< 7	< 14	< 11	< 15
CBOD5 (lbs/day) Influent Average Monthly	699	664	508	631	597	361	481	514	445	539	329	467
CBOD5 (lbs/day) Weekly Average	25	24	21	14	17	< 8	23	< 11	< 7	31	13	22
CBOD5 (mg/L) Average Monthly	4	< 3	< 3	< 2	< 2	< 2	< 3	< 2	< 2	< 3	< 2	< 2
CBOD5 (mg/L) Influent Average Monthly	151	138	99	126	106	93	137	146	109	93	62	58
CBOD5 (mg/L) Weekly Average	4	5	4	2	3	< 2	5	3	< 2	6	2	3
BOD5 (lbs/day) Influent Average Monthly	1008	557	604	578	546	436	670	359	687	717	660	756

**NPDES Permit Fact Sheet
Boyertown STP**

NPDES Permit No. PA0024376

BOD5 (mg/L) Influent Average Monthly	265	135	137	137	116	95	208	59	184	169	120	84
TSS (lbs/day) Average Monthly	15	10	6	7	14	< 4	3	5	6	21	20	62
TSS (lbs/day) Influent Average Monthly	186	171	218	180	192	124	219	213	472	503	242	323
TSS (lbs/day) Weekly Average	25	24	10	35	11	6	5	6	13	39	32	134
TSS (mg/L) Average Monthly	3	< 3	2	2	2	< 1	1	2	2	4	4	7
TSS (mg/L) Influent Average Monthly	36	40	43	40	33	33	65	58	117	84	44	40
TSS (mg/L) Weekly Average	6	5	2	5	2	2	1	2	4	7	5	12
Total Dissolved Solids (lbs/day) Average Monthly	1500	1380	2161	1478	1590	1696	1490	2456	1484	1791	2315	3423
Total Dissolved Solids (lbs/day) Daily Maximum	1500	1380	2161	1478	1590	1696	1490	2456	1484	1791	2315	3423
Total Dissolved Solids (mg/L) Average Monthly	494	371.0	530	370	351	410	530	466	454	471.0	452	428
Total Dissolved Solids (mg/L) Daily Maximum	494	371.0	530	370	351	410	530	466	454	471	452	428
Fecal Coliform (CFU/100 ml) Geometric Mean	13	7	20	27	14	5	19	70	18	77	14	17
Fecal Coliform (No./100 ml) Geometric Mean	13	7	20	27	14	5	19	70	18	77	14	17
Fecal Coliform (CFU/100 ml) Instantaneous Maximum									50	100	50	66
Fecal Coliform (No./100 ml) 90% of Samples	25	600	250	240	45	73	45	191				
Nitrate-Nitrite (mg/L) Average Monthly	20.5	19.9	19.8	17.3	18.7	16.5	27.1	20.7	23.3	18.6	16	9.7

**NPDES Permit Fact Sheet
Boyertown STP**

NPDES Permit No. PA0024376

Ammonia (lbs/day) Average Monthly	< 1	< 0.1	< 1	< 1	< 4	< 1	< 0.1	< 1	2	< 1	< 1	< 1
Ammonia (mg/L) Average Monthly	< 0.2	< 0.1	< 0.1	< 0.3	< 0.6	< 0.2	< 0.1	< 0.3	0.4	< 0.2	< 0.3	< 0.1
Total Phosphorus (lbs/day) Average Monthly	4.8	4.5	4.5	4.7	5.3	3.0	2.8	2.7	1.3	2.6	5.3	7.9
Total Phosphorus (mg/L) Average Monthly	1.0	1.2	1.1	1.1	1.0	0.8	0.9	0.8	0.4	0.5	1.0	1.1
Total Copper (lbs/day) Average Monthly	0.03	0.03	0.03	0.03	0.04	0.02	0.03	0.04	0.02	0.03	0.02	0.03
Total Copper (mg/L) Average Monthly	0.009	0.008	0.008	0.008	0.008	0.006	0.009	0.008	0.007	0.007	0.004	0.004

Development of Effluent Limitations

Outfall No. 001 Design Flow (MGD) .75
 Latitude 40° 19' 42.00" Longitude -75° 36' 35.00"
 Wastewater Description: Treated Sewage Effluent

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Pollutant	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)

Water Quality-Based Limitations

Parameter	Limit (mg/l)	SBC	Basis
CBOD ₅	20	Average Monthly	WQM Model/existing limit
TSS	20	Average Monthly	Existing limit
NH ₃ -N (05-1 to 10-31)	1.6	Average Monthly	WQM Model/existing limit
NH ₃ -N (11-01 to 04-30)	4.8	Average Monthly	Seasonal limit
Nitrate-Nitrite as N*	Report	Average Monthly	Data Collection/existing
Total Phosphorus	1.5	Average Monthly	Existing limit (nutrient concern)
Total Nitrogen**	Report	Average Monthly	Data Collection/SOP
Total Dissolved Solids	1000	Average Monthly	DRBC/existing limit
Dissolved Oxygen	5.0	Inst. Minimum	Chapter 93/existing limit
Fecal Coliform	#200/1000	Geo.Mean/Inst.Max.	Chapter 93&DRBC/existing limit
TRC	0.34	Average Monthly	BAT/existing limit
Total Copper***	Report	Average Monthly	Existing Monitoring*
pH	6.0 to 9.0 STD at all times		Chapter 93/existing limit

*The discharge is into a water body which has a designated use of potable water, therefore monitoring is continued.

**Total Nitrogen monitoring is included according to the SOP.

*** Discharge concentrations are below the criterion, still close, therefore WQBEL (26.77 ug/l) is calculated from Pentoxsd and existing monitoring is recommended.

See the attached wqm and pentoxsd report:



wqm.pdf



pentoxsd

Based on the sample analysis there are no other parameters of concern.

Anti-Backsliding

N/A

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	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Recorded
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	0.34	XXX	1.1	1/day	Grab
CBOD5	125	188	XXX	20	30	40	1/week	24-Hr Composite
CBOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
TSS Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS	125	188	XXX	20	30	40	1/week	24-Hr Composite
Total Dissolved Solids	6255	15637 Daily Max	XXX	1000	2000 Daily Max	2500	1/month	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
Nitrate-Nitrite	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite

Outfall001 , 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		
Ammonia Nov 1 - Apr 30	30	XXX	XXX	4.8	XXX	9.6	1/week	24-Hr Composite
Ammonia May 1 - Oct 31	10	XXX	XXX	1.6	XXX	3.2	1/week	24-Hr Composite
Total Phosphorus	9.4	XXX	XXX	1.5	XXX	3	1/week	24-Hr Composite
Total Copper	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite