Pennsylvania Department of Environmental Protection

Southeast Regional Office
CLEAN WATER PROGRAM

# NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

| | | | |
|---|---|---|---|
| Application Type | **Renewal** | Application No. | **PA0024376** |
| Facility Type | **Municipal** | APS ID | **1134484** |
| Major / Minor | **Minor** | Authorization ID | **1522035** |

## Applicant and Facility Information

| | | | |
|---|---|---|---|
| Applicant Name | **Boyertown Borough** | Facility Name | **Boyertown STP** |
| Applicant Address | Boyertown Borough Hall 100 South Washington Street | Facility Address | 290 Bartman Avenue |
| | Boyertown, PA 19512-1521 | | Gilbertsville, PA 19525-9577 |
| Applicant Contact | Patricia Loder | Facility Contact | Nathan Laucks |
| Applicant Phone | (610) 369-3028 | Facility Phone | (610) 369-3041 |
| Client ID | 28598 | Site ID | 262397 |
| Ch 94 Load Status | Not Overloaded | Municipality | Douglass Township |
| Connection Status | No Limitations | County | Montgomery |
| Date Application Received | April 1, 2025 | EPA Waived? | Yes |
| Date Application Accepted | | If No, Reason | |

Purpose of Application: Renewal: Municipality Douglas TWP.

## 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 except for 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 Hypochlorite for disinfection. Sewage sludge is hauled away to landfill.

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

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.

Sample type for Total Nitrogen has been changed to Calculation in the permit.

| Approve | Deny | Signatures | Date |
|---|---|---|---|
| x | | *Vasantha*<br>Vasantha Palakurti / Environmental Engineering Specialist | June 5, 2025 |
| X | | *Pravin Patel*<br>Pravin C. Patel, P.E. / Environmental Engineer Manager | 06/05/2025 |

| **Summary of Review** |
|---|
| Public Participation<br><br>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) | .75 |
| Latitude | 40Âº 19' 41.86" | Longitude | -75Âº 36' 33.57" |
| Quad Name | | Quad Code | |
| Wastewater Description: | Sewage Effluent | | |
| Receiving Waters | Swamp Creek (TSF, MF) | Stream Code | 01309 |
| NHD Com ID | 25994164 | RMI | 12.18 |
| Drainage Area | 13 | Yield (cfs/mi$^2$) | |
| $Q_{7-10}$ Flow (cfs) | 2.7 | $Q_{7-10}$ Basis | Streamstrat |
| Elevation (ft) | 287<br>17 | Slope (ft/ft) | |
| Watershed No. | 3-E | Chapter 93 Class. | TSF, MF |
| Cause(s) of Impairment | CAUSE UNKNOWN, CAUSE UNKNOWN, SILTATION | | |
| Source(s) of Impairment | MUNICIPAL POINT SOURCE DISCHARGES, URBAN RUNOFF/STORM SEWERS, URBAN RUNOFF/STORM SEWERS | | |

Node 1: @ Boyertown STP
Co-ordinates: 40.328294, -75.60932
Elevation: 287.17
DA: 13
Q7-10: 2.7 cfs

Node 2: @ Swampcreek STP @ **PA0024180**
Co-ordinates: 40.320873 -75.60033
Elevation: 271.77
DA: 13.7
Q7-10: 2.73 cfs

**Treatment Facility Summary**

**Treatment Facility Name:** Boyertown STP

| 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 | Belt Filtration | Landfill |

## Compliance History

**DMR Data for Outfall 001 (from April 1, 2024 to March 31, 2025)**

| Parameter | MAR-25 | FEB-25 | JAN-25 | DEC-24 | NOV-24 | OCT-24 | SEP-24 | AUG-24 | JUL-24 | JUN-24 | MAY-24 | APR-24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow (MGD) Average Monthly | 0.372 | 0.390 | 0.281 | 0.352 | 0.249 | 0.231 | 0.266 | 0.377 | 0.326 | 0.287 | 0.375 | 0.588 |
| Flow (MGD) Daily Maximum | 1.255 | 1.044 | 0.557 | 0.771 | 0.419 | 0.276 | 0.336 | 0.930 | 0.596 | 0.489 | 0.608 | 2.327 |
| pH (S.U.) Instantaneous Minimum | 7.1 | 7.0 | 6.9 | 7.2 | 7.3 | 7.3 | 7.4 | 7.2 | 7.2 | 7.1 | 7.1 | 7.1 |
| pH (S.U.) Instantaneous Maximum | 7.6 | 7.5 | 7.5 | 7.7 | 7.6 | 7.8 | 7.8 | 8.0 | 7.8 | 7.7 | 7.5 | 7.7 |
| DO (mg/L) Instantaneous Minimum | 8.5 | 8.8 | 9.3 | 8.7 | 7.8 | 7.4 | 7.5 | 6.9 | 7.2 | 7.4 | 6.3 | 6.7 |
| TRC (mg/L) Average Monthly | 0.04 | 0.02 | 0.04 | 0.21 | 0.07 | 0.03 | 0.07 | 0.05 | 0.02 | 0.04 | 0.06 | 0.08 |
| TRC (mg/L) Instantaneous Maximum | 0.2 | 0.1 | 0.4 | 0.5 | 0.5 | 0.1 | 0.7 | 0.5 | 0.1 | 0.2 | 0.3 | 0.6 |
| CBOD5 (lbs/day) Average Monthly | 9 | 28 | 8 | < 6 | < 4 | < 5 | < 5 | < 5 | < 7 | < 5 | < 8 | 16 |
| CBOD5 (lbs/day) Raw Sewage Influent <br/> Average Monthly | 512 | 410 | 474 | 679 | 533 | 538 | 688 | 624 | 693 | 499 | 743 | 655 |
| CBOD5 (lbs/day) Weekly Average | 15 | 88 | 10 | < 7 | < 4 | 6 | 6 | < 8 | 11 | 9 | 13 | 42 |
| CBOD5 (mg/L) Average Monthly | 4 | 8 | 4 | < 2 | < 2 | < 3 | < 2 | < 2 | < 2 | < 3 | < 3 | 3 |
| CBOD5 (mg/L) Raw Sewage Influent <br/> Average Monthly | 158 | 123 | 186 | 150 | 214 | 208 | 242 | 155 | 203 | 169 | 182 | 119 |
| CBOD5 (mg/L) Weekly Average | 5 | 23 | 4 | < 2 | < 2 | 3 | 3 | 2 | 3 | 4 | 5 | 4 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BOD5 (lbs/day) Raw Sewage Influent <br/> Average Monthly | 310 | 331 | 409 | 444 | 791 | 673 | 630 | 953 | 343 | 558 | 956 | 1000 |
| BOD5 (mg/L) Raw Sewage Influent <br/> Average Monthly | 87 | 102 | 156 | 140 | 327 | 268 | 233 | 228 | 118 | 194 | 170 | 172 |
| TSS (lbs/day) Average Monthly | 17 | 20 | 17 | 6 | 11 | 7 | 8 | 5 | 9 | 13 | 14 | 55 |
| TSS (lbs/day) Raw Sewage Influent <br/> Average Monthly | 368 | 213 | 296 | 357 | 477 | 519 | 570 | 508 | 484 | 264 | 572 | 550 |
| TSS (lbs/day) Weekly Average | 21 | 23 | 25 | 12 | 17 | 9 | 12 | 8 | 14 | 25 | 26 | 108 |
| TSS (mg/L) Average Monthly | < 6 | < 7 | 8 | 3 | 6 | 4 | 4 | 2 | 3 | 6 | 6 | 9 |
| TSS (mg/L) Raw Sewage Influent <br/> Average Monthly | 119 | 67 | 117 | 95 | 192 | 199 | 199 | 123 | 138 | 90 | 134 | 109 |
| TSS (mg/L) Weekly Average | 8 | 10 | 13 | 6 | 9 | 5 | 6 | 2 | 6 | 11 | 11 | 13 |
| Total Dissolved Solids (lbs/day) Average Monthly | 1633 | 2290 | 1037 | 1048 | 878 | 845 | 955 | 1064 | 1053 | 1089 | 1695 | 1956 |
| Total Dissolved Solids (lbs/day) Daily Maximum | 1633 | 3660 | 1037 | 1048 | 878 | 845 | 955 | 1064 | 1053 | 1089 | 1695 | 1956 |
| Total Dissolved Solids (mg/L) Average Monthly | 610 | 870 | 484 | 404 | 494 | 465 | 449 | 424 | 451 | 512 | 413 | 413 |
| Total Dissolved Solids (mg/L) Daily Maximum | 610 | 1380 | 484 | 404 | 494 | 465 | 449 | 424 | 451 | 512 | 413 | 413 |
| Fecal Coliform (No./100 ml) Geometric Mean | 8 | 3 | 38 | < 2 | < 10 | 8 | < 4 | < 5 | 5 | 4 | < 4 | < 3 |
| Fecal Coliform (No./100 ml) Instantaneous Maximum | 25 | 9 | 140 | 3 | 120 | 36 | 11 | 15 | 8 | 7 | 8 | 7 |
| Nitrate-Nitrite (lbs/day) Average Monthly | 55.7 | 53.8 | 48.4 | 36.6 | 46.0 | 50.7 | 48.5 | 30.4 | 53.2 | 45.3 | 58.3 | 53.5 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nitrate-Nitrite (mg/L) Average Monthly | 20.8 | 20.3 | 22.6 | 14.1 | 25.9 | 27.9 | 22.8 | 12.1 | 22.8 | 21.3 | 14.2 | 11.3 |
| Total Nitrogen (lbs/day) Average Monthly | 58.36 | 57.02 | 58.30 | 56.85 | 46.90 | 51.63 | 49.55 | 31.63 | 54.41 | 46.36 | 60.32 | 55.9 |
| Total Nitrogen (mg/L) Average Monthly | 21.80 | 21.50 | 27.20 | 21.92 | 26.40 | 28.40 | 23.30 | 12.60 | 23.30 | 21.80 | 14.70 | 11.80 |
| Ammonia (lbs/day) Average Monthly | 2 | 3 | 2 | 6 | 1 | 3 | 0.1 | 0.1 | 0.1 | 0.2 | 0.5 | 2 |
| Ammonia (mg/L) Average Monthly | 0.7 | 1.0 | 0.9 | 2.2 | 0.3 | 1.5 | < 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 |
| Total Phosphorus (lbs/day) Average Monthly | 2.6 | 1.6 | 1.3 | 1.4 | 1.7 | 1.9 | 1.8 | 1.9 | 2.1 | 1.4 | 2.3 | 3.8 |
| Total Phosphorus (mg/L) Average Monthly | 1.0 | 0.6 | 0.6 | 0.5 | 0.9 | 1.0 | 0.8 | 0.7 | 0.7 | 0.7 | 0.8 | 0.8 |
| Total Copper (lbs/day) Average Monthly | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 |
| Total Copper (mg/L) Average Monthly | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.003 | 0.004 | 0.004 | 0.003 | 0.004 |

## Development of Effluent Limitations

**Outfall No.** 001 **Design Flow (MGD)** .75
**Latitude** 40º 19' 42.00" **Longitude** -75º 36' 35.00"
**Wastewater Description:** 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

Total Copper:

For a permitted flow of 0.75 MGD, the level of detection for Total Copper is greater than 10% of the Water Quality-Based Effluent Limit (WQBEL). As a result, TMS recommends monitoring for Total Copper. Therefore, existing monitoring requirements for Total Copper are being continued under this permit.

See the attached WQM and TMS report:

WQM.pdf TMS PA0024376.pdf

## 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 | 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 Raw Sewage Influent | Report | XXX | XXX | Report | XXX | XXX | 1/week | 24-Hr Composite |
| CBOD5 | 125 | 188 | XXX | 20 | 30 | 40 | 1/week | 24-Hr Composite |
| BOD5 Raw Sewage Influent | Report | XXX | XXX | Report | XXX | XXX | 1/month | 24-Hr Composite |
| TSS | 125 | 188 | XXX | 20 | 30 | 40 | 1/week | 24-Hr Composite |
| TSS Raw Sewage Influent | Report | XXX | XXX | Report | XXX | XXX | 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 |

**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 |
| Nitrate-Nitrite | Report | XXX | XXX | Report | XXX | XXX | 1/month | 24-Hr Composite |
| Total Nitrogen | Report | XXX | XXX | Report | XXX | XXX | 1/month | Calculation |
| 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 |

Pennsylvania
Department of
Environmental Protection

| Approve | Deny | Signatures | Date |
|---|---|---|---|
| x | | *Vasantha*<br>Vasantha Palakurti / Environmental Engineering Specialist | June 5, 2025 |
| X | | *Pravin Patel*<br>Pravin C. Patel, P.E. / Environmental Engineer Manager | 06/05/2025 |