

Application Type Renewal  
Facility Type Municipal  
Major / Minor Minor

## NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application No. PA0056421  
APS ID 1115214  
Authorization ID 1487729

### Applicant and Facility Information

Applicant Name	<u>Warwick Township Water &amp; Sewer Authority Bucks County</u>	Facility Name	<u>Warwick Township Water &amp; Sewer Authority Country Crossing Sewer System &amp; STP</u>
Applicant Address	<u>PO Box 315 1733 Township Greene</u> <u>Jamison, PA 18929-0315</u>	Facility Address	<u>1530 Mearns Road</u> <u>Jamison, PA 18929</u>
Applicant Contact	<u>Lauri Halderson</u>	Facility Contact	<u>Daniel Ervin</u>
Applicant Phone	<u>(215) 343-3584</u>	Facility Phone	<u></u>
Client ID	<u>64253</u>	Site ID	<u>520395</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Warwick Township</u>
Connection Status	<u>Self Imposed Connection Prohibition</u>	County	<u>Bucks</u>
Date Application Received	<u>June 7, 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 PA Department of Environmental Protection (PADEP) received a NPDES permit renewal request from Warwick Twp. Water and Sewer Authority to discharge 0.32 MGD of treated sewage from Country Crossing STP located at 1530 Mearns Rd., Jamison, PA in Warwick Township, Bucks County.

Country Crossing STP consists of a lakeside fine screen, two equalization tanks, four SBRs, one post equalization tank, and UV disinfection unit. One aerobic digestion sludge tank and one sludge thickening tank are also there at the plant. Influent and effluent lines are metered. Ferric chloride is used for phosphorus removal.

There are two outfalls at the site; Outfall 001 is to discharge to an unnamed tributary to Little Neshaminy Creek and Outfall 002 is to discharge to a storage pond on Heritage Creek Golf Course with an overflow pipe that drains through a wetland to Little Neshaminy Creek. The facility is permitted to discharge through either outfall during any month of the year and the limits are the same for both outfalls. But as per the facility all the WWTP treated effluent is discharged from outfall 002 and is used to water the golf course.

There are no changes in the influent quality, treatment units, stream designation etc and there were no changes to the facility since last renewal in 2019.

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		<i>Vasantha</i> Vasantha Palakurti / Environmental Engineering Specialist	January 10, 2025
X		<i>Pravin Patel</i> Pravin C. Patel, P.E. / Environmental Engineer Manager	01/13/2025

**Summary of Review**

Approximately 45 Tons Sewage sludge from the facility is hauled away to other POTWs (Pottstown STP and DELCORA STP)

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.

## Warwick Township Water &amp; Sewer Authority Country Crossing Sewer System &amp; STP

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	.32
Latitude	40° 13' 26.13"	Longitude	-75° 4' 12.64"
Quad Name		Quad Code	
Wastewater Description: Sewage Effluent			
Receiving Waters	Unnamed Tributary to Little Neshaminy Creek (WWF, MF)	Stream Code	02647
NHD Com ID	25479716	RMI	0.9
Drainage Area	3.6 mi <sup>2</sup>	Yield (cfs/mi <sup>2</sup> )	0.067
Q <sub>7-10</sub> Flow (cfs)	0.24	Q <sub>7-10</sub> Basis	Previous fact sheet
Elevation (ft)	198	Slope (ft/ft)	
Watershed No.	2-F	Chapter 93 Class.	WWF, MF
Assessment Status	Impaired		
Cause(s) of Impairment	FLOW REGIME MODIFICATION, PATHOGENS, POLYCHLORINATED BIPHENYLS (PCBS), SILTATION		
Source(s) of Impairment	SOURCE UNKNOWN, SOURCE UNKNOWN, URBAN RUNOFF/STORM SEWERS, URBAN RUNOFF/STORM SEWERS		
TMDL Status	Final*	Name	Neshaminy Creek
Nearest Downstream Public Water Supply Intake	Aqua PA SE Division, Neshaminy Creek		
PWS Waters	Neshaminy Creek	Distance from Outfall (mi)	18 mi

\*TMDL withdrawn - PA Bulletin Volume 37 No. 33, August 18, 2007.

## Warwick Township Water &amp; Sewer Authority Country Crossing Sewer System &amp; STP

**Discharge, Receiving Waters and Water Supply Information**

Outfall No.	002	Design Flow (MGD)	.32
Latitude	40° 14' 9.72"	Longitude	-75° 4' 45.89"
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Little Neshaminy Creek (WWF, MF)	Stream Code	02638
NHD Com ID	25479934	RMI	0.9
Drainage Area	32 mi <sup>2</sup>	Yield (cfs/mi <sup>2</sup> )	0.067
Q <sub>7-10</sub> Flow (cfs)	2.1	Q <sub>7-10</sub> Basis	Previous fact sheet
Elevation (ft)	167	Slope (ft/ft)	
Watershed No.	2-F	Chapter 93 Class.	WWF, MF
Assessment Status	Impaired		
Cause(s) of Impairment	FLOW REGIME MODIFICATION, NUTRIENTS, ORGANIC ENRICHMENT, PATHOGENS, POLYCHLORINATED BIPHENYLS (PCBS), SILTATION		
Source(s) of Impairment	MUNICIPAL POINT SOURCE DISCHARGES, MUNICIPAL POINT SOURCE DISCHARGES, SOURCE UNKNOWN, SOURCE UNKNOWN, URBAN RUNOFF/STORM SEWERS, URBAN RUNOFF/STORM SEWERS		
TMDL Status	Final*	Name	Neshaminy Creek

\*TMDL withdrawn - PA Bulletin Volume 37 No. 33, August 18, 2007.

## Warwick Township Water &amp; Sewer Authority Country Crossing Sewer System &amp; STP

Treatment Facility Summary				
Treatment Facility Name: Country Crossing STP				
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Sequencing Batch Reactor	Ultraviolet	0.32
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.32	647	Not Overloaded	Aerobic Digestion	Other WWTP

## Compliance History

## DMR Data for Outfall 002 (from December 1, 2023 to November 30, 2024)

Parameter	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23
Flow (MGD) Average Monthly	0.1422	0.1433	0.1328	0.1327	0.1319	0.1374	0.1434	0.178	0.1777	0.1623	0.2174	0.1885
Flow (MGD) Daily Maximum	0.1622	0.355	0.1457	0.1669	0.1558	0.161	0.1772	0.3106	0.2347	0.1478	0.3726	0.3182
pH (S.U.) Instantaneous Minimum	7.8	7.7	7.9	7.2	7.7	8.1	7.9	7.9	7.0	7.8	7.2	7.8
pH (S.U.) Instantaneous Maximum	8.9	8.4	8.5	8.5	8.5	8.6	8.5	8.5	8.6	8.8	8.4	8.9
DO (mg/L) Instantaneous Minimum	8.2	8.0	7.2	7.2	6.8	7.1	8.1	8.7	9.3	9.6	7.8	8.1
DO (mg/L) Average Monthly	9	8.8	8.6	8	7.6	8.2	8.8	9.2	10	10.1	9.8	9.3
CBOD5 (lbs/day) Average Monthly	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 4	3	< 4	< 4	< 3
CBOD5 (lbs/day) Raw Sewage Influent   Average Monthly	173	127	142	196	201	180	166	203	268	215	234	281
CBOD5 (lbs/day) Weekly Average	< 2	< 2	< 2	< 2	< 2	< 2	< 2	6	4	5	< 5	4
CBOD5 (mg/L) Average Monthly	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 3	< 2	< 2
CBOD5 (mg/L) Raw Sewage Influent   Average Monthly	152	110.7	128.4	180	186	160	138	130.6	182	162	131	189
CBOD5 (mg/L) Weekly Average	< 2	< 2	< 2	< 2	< 2	< 2	< 2	3	2	4	2	3
BOD5 (lbs/day) Raw Sewage Influent   Average Monthly	197	146	154	224	209	177	214	265	355	257	289	346

**NPDES Permit Fact Sheet**
**NPDES Permit No. PA0056421**
**Warwick Township Water & Sewer Authority Country Crossing Sewer System & STP**

BOD5 (mg/L) Raw Sewage Influent   Average Monthly	173	126.6	139.2	205	194	157	179	173.3	242	194	165	227
TSS (lbs/day) Average Monthly	< 3	< 2	2	< 2	< 2	< 1	5	< 5	3	< 4	< 2	5
TSS (lbs/day) Raw Sewage Influent   Average Monthly	125	50	61	176	138	82	116	181	265	75	157	136
TSS (lbs/day) Weekly Average	8	5	2	2	4	2	7	8	4	11	2	13
TSS (mg/L) Average Monthly	< 3	< 2	2	< 2	< 2	< 1	4	< 3	2	< 3	< 1	3
TSS (mg/L) Raw Sewage Influent   Average Monthly	110	43	56	164	130	73	98	116	184	57	89	91
TSS (mg/L) Weekly Average	7	4	2	2	4	2	6	6	3	8	1	8
Fecal Coliform (No./100 ml) Geometric Mean	< 2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Fecal Coliform (No./100 ml) Instantaneous Maximum	< 2.0	< 2	< 2	< 2	< 2	< 2	< 2	3	< 2	< 2	< 2	< 2
UV Intensity (mW/cm²) Daily Minimum	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nitrate-Nitrite (lbs/day) Average Monthly		< 6.4	< 4.7	< 3.3	< 2.7							
Nitrate-Nitrite (mg/L) Average Monthly		< 5.5	< 4.2	< 3.0	< 2.5							
Total Nitrogen (lbs/day) Average Monthly	< 9	< 8	< 6	< 4	< 4	5	< 5	< 140	< 5	< 7	< 7	< 5
Total Nitrogen (mg/L) Average Monthly	< 7.57	< 6.5	< 5.2	< 4.01	< 3.91	4.01	< 3.96	< 90	< 3.34	< 5.07	< 3.76	< 3.59
Ammonia (lbs/day) Average Monthly	< 0.2	0.1	0.07	0.1	0.2	0.5	0.4	0.3	0.4	0.3	0.5	0.4
Ammonia (mg/L) Average Monthly	< 0.2	0.1	0.1	0.1	0.2	0.4	0.3	0.2	0.2	0.2	0.2	0.3
Total Phosphorus (lbs/day) Average Monthly	< 0.3	0.3	0.5	0.3	0.3	0.4	0.4	0.4	0.3	0.2	0.5	0.2

Total Phosphorus (mg/L)												
Average Monthly	0.2	0.3	0.5	0.2	0.3	0.4	0.3	0.3	0.2	0.2	0.3	0.1
Total Phosphorus (lbs)												
Total Annual												125



## Warwick Township Water &amp; Sewer Authority Country Crossing Sewer System &amp; STP

## Development of Effluent Limitations

Outfall No. 001

Latitude 40° 13' 26.15"

Design Flow (MGD) .32

Longitude -75° 4' 12.48"

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 <sub>5</sub>	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 <sub>5</sub>	20	Average Monthly	Previous WQM model/existing
TSS	20	Average Monthly	Existing
NH <sub>3</sub> -N	2.0	Average Monthly	Previous WQM model/existing
Total Phosphorus	0.6	Average Monthly	Existing**
Total Phosphorus*** (lbs)	487	Annual Load	Existing**
Nitrate-Nitrite as N (07/01 to 10/31)	9.0	Average Monthly	Existing****
Fecal Coliform	200/1000	Geo.Mean / IMax	Chapter 93 & DRBC
Dissolved Oxygen	5.0	Inst.Min.	Previous WQM model/existing
pH	6.0 to 9.0 Std.Units		Chapter 93
Total Nitrogen	Report		Existing/data collection/SOP
UV transmittance	Report		Existing/data collection/SOP

\*\* These numbers were calculated at the last renewal based on a “no-net increase” policy for the permitted loading. Neshaminy Creek is impaired and the previous TMDL was withdrawn. Therefore, no increase in existing phosphorus load can be allowed until a revised TMDL is developed to address the impairment. In the previous renewals, In lieu of a monthly mass limit for TP, a total annual mass load limit of 487 pounds was calculated based on achieving a long-term average concentration of 0.5 mg/l.

\*\*\* In the previous renewal, Phosphorus load, running annual total is changed to more appropriate annual total.

**Warwick Township Water & Sewer Authority Country Crossing Sewer System & STP**

\*\*\*\* For  $(\text{NO}_2 + \text{NO}_3) - \text{N}$ , the limit of 9.0 mg/l complied with the requirement in the Neshaminy basin during summer months (July -October) that  $[(\text{NO}_2 + \text{NO}_3) - \text{N} + \text{NH}_3 - \text{N}] = 11 \text{ mg/l}$  for protection of a water supply intake located near the mouth of the Neshaminy.

Influent monitoring for TSS, CBOD5 and BOD5 is continued in the permit to check the compliance with 85% reduction requirement and for Chapter 94 purposes.

**Anti-Backsliding**

N/A

Outfall 002 has the very same effluent limitations as Outfall 001.

<b>Proposed Effluent Limitations and Monitoring Requirements</b>
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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) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Daily 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	5.0 Inst Min	Report	XXX	XXX	1/day	Grab
CBOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
CBOD5	53	80	XXX	20	30	40	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
TSS Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS	53	80	XXX	20	30	40	1/week	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
UV Intensity (mW/cm <sup>2</sup> )	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
Nitrate-Nitrite Jul 1 - Oct 31	24.0	XXX	XXX	9.0	XXX	18	1/week	24-Hr Composite

## Warwick Township Water &amp; Sewer Authority Country Crossing Sewer System &amp; STP

Outfall 001 , Continued (from Permit Effective Date through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Daily Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/week	Calculation
Ammonia Nov 1 - Mar 31	16.0	XXX	XXX	6.0	XXX	12	1/week	24-Hr Composite
Ammonia Apr 1 - Oct 31	5.3	XXX	XXX	2.0	XXX	4	1/week	24-Hr Composite
Total Phosphorus	Report	XXX	XXX	0.6	XXX	1.2	1/week	24-Hr Composite
Total Phosphorus (lbs)	XXX	487 Total Annual	XXX	XXX	XXX	XXX	See Permit	Calculation
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab

<b>Proposed Effluent Limitations and Monitoring Requirements</b>
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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 002, Effective Period: Permit Effective Date through Permit Expiration Date.**

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Daily 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	5.0 Inst Min	Report	XXX	XXX	1/day	Grab
CBOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
CBOD5	53	80	XXX	20	30	40	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
TSS Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS	53	80	XXX	20	30	40	1/week	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
UV Intensity (mW/cm <sup>2</sup> )	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded

## Warwick Township Water &amp; Sewer Authority Country Crossing Sewer System &amp; STP

## Outfall 002, Continued (from Permit Effective Date through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Daily Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Nitrate-Nitrite Jul 1 - Oct 31	24.0	XXX	XXX	9.0	XXX	18	1/week	24-Hr Composite
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/week	Calculation
Ammonia Nov 1 - Mar 31	16.0	XXX	XXX	6.0	XXX	12	1/week	24-Hr Composite
Ammonia Apr 1 - Oct 31	5.3	XXX	XXX	2.0	XXX	4	1/week	24-Hr Composite
Total Phosphorus	Report	XXX	XXX	0.6	XXX	1.2	1/week	24-Hr Composite
Total Phosphorus (lbs)	XXX	487 Total Annual	XXX	XXX	XXX	XXX	See Permit	Calculation
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab



Approve	Deny	Signatures	Date
x		<i>Vasantha</i> Vasantha Palakurti / Environmental Engineering Specialist	January 10, 2025
X		<i>Pravin Patel</i> Pravin C. Patel, P.E. / Environmental Engineer Manager	01/13/2025