pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0094111**
Facility Type	**Non-Municipal**	APS ID	**1029736**
Major / Minor	**Minor**	Authorization ID	**1338424**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**UMH PA Wellington Estates LLC**	Facility Name	**Wellington Estates MHP**
Applicant Address	3499 Route 9 North, Suite 3C	Facility Address	Silvis Road
	Freehold, NJ 07728		Export, PA 15632
Applicant Contact	Jeffrey V. Yorick	Facility Contact	
Applicant Phone	(304) 291-3380	Facility Phone	
Client ID	340827	Site ID	244025
Ch 94 Load Status	Not Overloaded	Municipality	Washington Township
Connection Status	No Limitations	County	Westmoreland
Date Application Received	January 6, 2020	EPA Waived?	Yes
Date Application Accepted	January 7, 2021	If No, Reason	

Purpose of Application: Renewal of an NPDES Permit for an existing discharge of treated sewage from an MHP.

Summary of Review

This treatment plant treats domestic wastewater from the Wellington Estates MHP, which has a population of approximately 378 people.

The facility began using the eDMR system for reporting in January 2016.

No changes to discharge quantity or quality were proposed as part of this permit renewal.

There are currently no open violations for this permittee listed in EFACTS (4/21/2021).

Sludge use and disposal description and location(s): Sludge is hauled offsite by contracted hauler for further processing at another WWTP.

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		Adam Pesek Adam J. Pesek, E.I.T. / Environmental Engineering Specialist	April 21, 2021
X		Justin C. Dickey Justin C. Dickey, P.E. / Environmental Engineer Manager	April 26, 2021

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.02812
Latitude	40º 26' 35"	Longitude	-79º 35' 25"
Quad Name	Slickville	Quad Code	01509
Wastewater Description:	Domestic Sewage		
Receiving Waters	Unnamed Tributary to Thorn Run (HQ-CWF)	Stream Code	42991
NHD Com ID	125291745	RMI	0.5
Drainage Area	0.043	Yield (cfs/mi^2)	0.0176
Q_{7-10} Flow (cfs)	0.00076	Q_{7-10} Basis	USGS Streamstats
Elevation (ft)	1136	Slope (ft/ft)	
Watershed No.	18-B	Chapter 93 Class.	HQ-CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	METALS		
Source(s) of Impairment	ACID MINE DRAINAGE		
TMDL Status	Final, Final	Name	Kiskiminetas-Conemaugh River Watersheds TMDL,Thorn Run Watershed

Background/Ambient Data		Data Source
pH (SU)	3.05	7/18/2003 Stream sample on UNT
Temperature (°C)	20	Default (CWF)
Hardness (mg/L)		
Other:		

Nearest Downstream Public Water Supply Intake		Westmoreland County Municipal Authority	
PWS Waters	Beaver Run Reservoir (Beaver Run)	Flow at Intake (cfs)	
PWS RMI	7.0	Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments: Department Biologists have indicated that the receiving streams were still adversely affected by AMD with little to no use downstream until approximately 1.2 miles downstream (0.2 miles upstream of the Beaver Run Reservoir) where the point of first use was determined (7/11/2005 email). To the Department's knowledge, the degraded condition of the receiving stream is still the same.

Treatment Facility Summary

Treatment Facility Name: Wellington Estates MHP STP

WQM Permit No.	Issuance Date
6589423 A-1 T-2	3/11/2019

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Tertiary	Extended Aeration with Solids Removal	Hypochlorite	0.02812

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.02812		Not Overloaded	Aerobic Digestion	Other WWTP

Changes Since Last Permit Issuance: WQM Permit was transferred in 2019 due to change in ownership

Other Comments: Treatment consists of screening, comminution, flow equalization, aeration, clarification, sand filtration, aerobic digestion, tablet chlorination and dechlorination, and stream discharge.

Part II Permit No. 6589423 was issued to Welling Estates MHP on June 2, 1992, to authorize expansion of an existing STP from 20,000 GPD to 50,000 GPD. The original permit approving the 20,000 GPD plant could not be located, but the Permit No. 6589423 was an original number. That permit was transferred to Rimco Properties, Inc. on November 20, 1995 and became Part II Permit No. 6589423-T1. Part II Permit No. 6589423-T1 was amended on April 23, 1998. The permit no. and suffixes became 6589423-A1-T1 and approved converting one of the aeration tanks to a flow equalization tank, thus reducing the average design flow from 50,000 GPD to 30,000 GPD. When the permittee subsequently asked to take one of the two sand filters out of service due to them being oversized for the average design flow needed, the remaining filter reduced the design capacity of the plant to 0.02812 MGD. No permit amendment was required to remove the filter from service, but the revised design flow was reflected in NPDES Permit PA0094111 issued on March 1, 2011. The permit was transferred to UMH PA Wellington Estates LLC on March 11, 2019.

Compliance History	
Summary of DMRs:	No effluent violations noted in the last two years.
Summary of Inspections:	The last two inspections were conducted on 4/21/2016 and 11/19/2020. The most recent inspection suggested removing scum accumulations on the aeration tank divisions, reducing the clarifier solids inventory to optimal level, and removing solids on the sand filters to allow even and efficient draining.

Other Comments:

Compliance History

DMR Data for Outfall 001 (from March 1, 2020 to February 28, 2021)

Parameter	FEB-21	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20	APR-20	MAR-20
Flow (MGD) Average Monthly		0.01500	0.01500	0.01500	0.01500	0.01500	0.01500	0.01500	0.01500	0.01500	0.01500	0.01500
Flow (MGD) Daily Maximum		0.01500	0.01500	0.01500	0.01500	0.01500	0.01500	0.01500	0.01500	0.01500	0.01500	0.01500
pH (S.U.) Daily Minimum		6.8	7.0	7.0	7.0	7.0	7.0	6.9	7.0	7.0	7.0	7.0
pH (S.U.) Instantaneous Maximum		7.2	7.2	7.3	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.1
DO (mg/L) Daily Minimum		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
TRC (mg/L) Average Monthly		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
TRC (mg/L) Instantaneous Maximum		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
CBOD5 (mg/L) Average Monthly		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
CBOD5 (mg/L) Instantaneous Maximum		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
TSS (mg/L) Average Monthly		0.90	2.64	0.80	0.80	2.30	0.800	2.00	1.20	1.20	0.80	2.50
TSS (mg/L) Instantaneous Maximum		1.0	3.20	0.80	0.80	3.60	0.800	3.20	1.60	1.60	0.80	4.20
Fecal Coliform (No./100 ml) Geometric Mean		1	1	1.5	1	1	1	1	33	1	1	1
Fecal Coliform (No./100 ml) Instantaneous Maximum		1	1	2.0	1	1	1	1	65	1	1	1
Nitrate-Nitrite (mg/L) Average Monthly		2.220	2.089	5.872	7.218	3.211	5.715	9.486	4.166	3.11	2.251	1.971

Nitrate-Nitrite (mg/L) Instantaneous Maximum		2.478	2.875	7.778	9.055	3.642	6.486	16.26	6.118	4.584	3.283	2.049
Ammonia (mg/L) Average Monthly		0.10	1.123	0.10	0.10	0.101	0.10	0.292	0.149	0.100	0.10	0.55
Ammonia (mg/L) Instantaneous Maximum		0.10	1.246	0.10	0.10	0.102	0.10	0.483	0.197	0.100	0.10	1.0
Total Phosphorus (mg/L) Average Monthly		0.732	0.477	0.503	0.357	0.458	0.427	0.659	0.796	0.411	0.517	0.302
Total Phosphorus (mg/L) Instantaneous Maximum		0.966	0.578	0.585	0.376	0.502	0.468	0.897	0.834	0.424	0.682	3.12
Total Aluminum (mg/L) Daily Maximum			0.100									
Total Iron (mg/L) Daily Maximum			0.200									
Total Manganese (mg/L) Daily Maximum			0.020									

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.02812
Latitude 40º 26' 35.00" **Longitude** -79º 35' 25.00"
Wastewater Description: Domestic Sewage

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)
Total Phosphorus	2.0	Average		95.6

Comments: Phosphorus limit based on a 1987 Phosphorus Study conducted by a Department biologist that concluded a eutrophication problem existed in the reservoir and a limitation of 2 mg/l would be required for any discharge to the reservoir, or tributary to thereof.

Water Quality-Based Limitations

The following limitations were determined through water quality modeling (output files attached):

Parameter	Limit (mg/l)	SBC	Model
Nitrate-Nitrite	10	Average Monthly	Mass-Balance Calculation

Comments: The Nitrate-Nitrite Policy dictates that any new or expanded discharges to a high quality designated stream be evaluated at the point of discharge. This limit is being consistently met and will be retained.

Due to the 1.2-mile distance to the point of first use, the extra stream dilution available at that point, and stringent High Quality Waters Policy limits already imposed; no water quality modeling (WQM 7.0) was performed. This is consistent with previous permitting strategy for this facility.

Best Professional Judgment (BPJ) Limitations

Comments: The following technology limits from the Department's "High Quality Policy," which was in effect prior to our currently used "Special Protection Waters Handbook," will be retained.

Pollutant	Limit (mg/l)	SBC
$CBOD_5$	10	Average Monthly
	20	IMAX

	10	Average Monthly
Total Suspended Solids	20	IMAX
Ammonia Nitrogen (5/1 – 10/31)	3.0	Average Monthly
Ammonia Nitrogen (5/1 – 10/31)	6.0	IMAX
Ammonia Nitrogen (11/1 – 4/30)	9.0	Average Monthly
Ammonia Nitrogen (11/1 – 4/30)	18a	IMAX
Dissolved Oxygen	5.0	Daily Minimum

A total residual chlorine instantaneous maximum limit of 1.6 mg/l will be placed in the permit in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits."

Other Considerations

Comments: Monitoring for total nitrogen and E. Coli will be placed in the permit in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits."

There are two applicable TMDLs associated with this watershed (Thorn Run Watershed and Kiskiminetas-Conemaugh River Watersheds TMDL) are AMD TMDLs. Monitoring for total aluminum, total iron and total manganese will be placed in the renewed permit. This is due to the discharge not having any waste load allocations assigned to it in the finalized TMDLs, which is in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits" in order to provide data for possible future refinement of the TMDLs. The monitoring frequency will be 1/year.

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	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	XXX	9.0	3/week	Grab
DO	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	3/week	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	3/week	Grab
CBOD5	XXX	XXX	XXX	10.0	XXX	20	2/month	Grab
TSS	XXX	XXX	XXX	10.0	XXX	20	2/month	Grab
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
Nitrate-Nitrite	XXX	XXX	XXX	10.0	XXX	20	2/month	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	9.0	XXX	18	2/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	3.0	XXX	6	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	2.0	XXX	4	2/month	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 Aluminum	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Total Iron	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Total Manganese	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab

Compliance Sampling Location: Outfall 001

Other Comments: A decision was made during the last permit renewal to allow sampling for TRC, D.O. and pH be reduced to 3/week instead of 1/day upon request from the permittee based on factoring in performance and operation of the plant as well as costs when determining monitoring frequencies for these three parameters. A review of eDMR data during the past three years for these parameters indicates the plant has continued to be running optimally and effluent limits being easily achieved. The sampling frequency for TRC, D.O., and pH will remain 3/week in the renewed permit.

Nitrate-Nitrite Evaluation - Wellington Estates MHP

Cs =	1 mg/l	Qs =	0.00076
Cw =	?	Qw =	0.02812 MGD ≈ 0.0435 cfs
Cs+w =	10 mg/l	Qs+w =	0.04426

The mass balance is:
(Cs+w)((Qs+w) = (Cs)(Qs) + (Cw)(Qw)
Cw = ((Cs+w)(Qs+w) - (Cs)(Qs)) / (Qw)
Cw = ((10)(0.04426) - (1)(0.00076) / (0.077)
CW = 9.98 mg/l ≈ 10 mg/l