

Application Type Renewal
 Facility Type Non-Municipal
 Major / Minor Minor

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0080268
 APS ID 435
 Authorization ID 1285522

Applicant and Facility Information

Applicant Name	<u>Kollas & Costopoulos</u>	Facility Name	<u>Regency Woods MHP</u>
Applicant Address	<u>7099 Carlisle Pike</u> <u>Carlisle, PA 17015-8897</u>	Facility Address	<u>7394 Wertzville Road</u> <u>Carlisle, PA 17015</u>
Applicant Contact	<u>Lynde Blymier</u>	Facility Contact	<u>Lynde Blymier</u>
Applicant Phone	<u>(717) 766-1771</u>	Facility Phone	<u>(717) 766-1771</u>
Client ID	<u>36058</u>	Site ID	<u>444068</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Middlesex Township</u>
Connection Status	<u>No Limitations</u>	County	<u>Cumberland</u>
Date Application Received	<u>August 16, 2019</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>August 28, 2019</u>	If No, Reason	<u></u>
Purpose of Application	<u>NPDES Renewal.</u>		

Summary of Review

Regency Woods MHP has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its NPDES permit. The permit was last reissued on January 28, 2015 and became effective on February 1, 2015. The permit expired on January 31, 2020.

Based on the review, it is recommended that the permit be drafted.

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
		Jinsu Kim / Environmental Engineering Specialist	April 14, 2020
		Daniel W. Martin, P.E. / Environmental Engineer Manager	
		Maria D. Bebenek, P.E. / Program Manager	

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.035
Latitude	40° 17' 8"	Longitude	77° 6' 13"
Quad Name	Wertzville	Quad Code	1629
Wastewater Description: Treated Sewage			
Receiving Waters	Unnamed Tributary of Conodoguinet Creek	Stream Code	10247
NHD Com ID	56403553	RMI	1.12
Drainage Area	0.62 sq.mi	Yield (cfs/mi ²)	0.147
Q ₇₋₁₀ Flow (cfs)	0.09	Q ₇₋₁₀ Basis	USGS Gage no. 01570000
Elevation (ft)	440 ft.	Slope (ft/ft)	
Watershed No.	7-B	Chapter 93 Class.	WWF, MF
Existing Use	WWF, MF	Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Name		
Nearest Downstream Public Water Supply Intake	PA American Water Company		
PWS Waters	Conodoguinet Creek	Flow at Intake (cfs)	70
PWS RMI	18.38	Distance from Outfall (mi)	10.3

Drainage Area

The discharge is to an unnamed tributary of Conodoguinet Creek at RM 1.12. A drainage area upstream of the point of discharge is estimated to be 0.62 sq.mi. using USGS StreamStats available at <https://streamstats.usgs.gov/ss/>.

Streamflow

USGS StreamStats produced a Q₇₋₁₀ flow of 0.254 cfs at the point of discharge. However, the estimated drainage area is less than the minimum required drainage area to calculate the Q₇₋₁₀, resulted in potential errors in calculating low flow statistics at the point of discharge. As a result, DEP determined to correlate a nearby USGS gage station to obtain a low flow yield. This approach has been widely used by DEP and was also used during the last permit renewal. The nearby gage station no. 01570000 on the Conodoguinet Creek is used to calculate a low flow yield of 69.32 cfs / 470 sq.mi = 0.147 cfs/sq.mi. The Q₇₋₁₀ is then calculated to be 0.147 cfs/sq.mi * 0.62 sq.mi. = 0.09cfs.

Unnamed Tributary of Conodoguinet Creek

Under 25 Pa Code §93.9o, all unnamed tributaries of Conodoguinet Creek as well as the main stem from PA 997 at Roxbury to Mouth are designated as warm water fishes and support migratory fishes. No special protection water is therefore impacted by this discharge. DEP's latest integrated water quality report finalized in 2018 shows that the discharge is located within a stream segment listed as attaining use(s).

Public Water Supply Intake

The fact sheet developed for the last permit renewal indicates that the nearest downstream public water supply intake is PA American Water Company located on the Conodoguinet Creek approximately 10 miles from the discharge. Given the nature and distance, the discharge is not expected to affect the water supply.

Treatment Facility Summary				
Treatment Facility Name: Regency Woods MHP				
WQM Permit No.	Issuance Date			
2188407	1/22/2018			
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Ultraviolet	0.035
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.035	58.4	Not Overloaded	Aerobic Digestion	Combination of methods

The permittee owns and operates an on-site wastewater treatment facility located in Middlesex Township, Cumberland County. This facility serves wastewater generated from Regency Woods Mobile Home Park. The facility is an extended aeration activated sludge facility that has both annual average design flow and hydraulic design capacity of 0.035 MGD with the design organic loading capacity of 58.4 lbs BOD5 per day. The facility consists of grease/rag tank, aeration tanks (3), primary clarifier, polishing clarifiers (2), reaeration tank, UV disinfection and outfall structure.

Alum is used for phosphorous removal and Soda Ash is used for pH adjustment. Sludge is held in a sludge holding tank prior to being hauled off site via a local septic hauler.

Compliance History	
Summary of DMRs:	A summary of past 12-month DMR data is presented on the next page.
Summary of Inspections:	12/26/2019: Mike Benham, DEP Water Quality Specialist, conducted a routine inspection. No violations were identified at the time of inspection. 04/09/2018: Mike Benham conducted a routine inspection. No violations were identified at the time of inspection.
Other Comments:	DEP's database revealed that there is no open violation associated with this facility or permittee. Since the last permit reissuance, the facility has not had any effluent violations. DEP recognized unauthorize/unpermitted discharge of sewage in December 2019 in response to the incident inspection.

Effluent Data

DMR Data for Outfall 001 (from March 1, 2019 to February 29, 2020)

Parameter	FEB-20	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19	MAY-19	APR-19	MAR-19
Flow (MGD) Average Monthly	0.02	0.019	0.017	0.015	0.019	0.017	0.017	0.021	0.017			
Flow (MGD) Daily Maximum	0.033	0.043	0.025	0.025	0.058	0.023	0.022	0.066	0.028			
pH (S.U.) Minimum	7.2	7.2	7.1	7.2	6.1	6.1	6.2	7.0	6.9			
pH (S.U.) Instantaneous Maximum	8.0	7.7	7.4	7.4	7.4	7.4	7.1	7.7	7.4			
DO (mg/L) Minimum	7.9	8.9	8.5	8.4	6.1	8.0	7.5	7.8	7.9			
CBOD5 (mg/L) Average Monthly	3.0	< 3	< 3.0	< 3.0	< 3	< 3.0	< 4.0	< 3	< 3			
TSS (mg/L) Average Monthly	< 5.0	< 5	6	< 5.0	< 5	< 5.0	< 5.0	< 5	< 5			
Fecal Coliform (CFU/100 ml) Geometric Mean	< 49	< 24	< 7	< 2	< 1	< 3.0	< 6	4	1			
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	2419.6	579.4	55.6	3.1	1	11	38.8	13.4	1			
UV Intensity (mW/cm ²) Daily Minimum	5.2	4.9	5.8	6.8	8.8							
UV Intensity (mWsec/cm ²) Minimum						8.0	8.0	6.1	6			
Nitrate-Nitrite (mg/L) Average Monthly			35.8			36.7			31.8			
Total Nitrogen (mg/L) Average Monthly			0.21			36.7			31.8			
Ammonia (mg/L) Average Monthly	0.8	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.6	< 0.3			
TKN (mg/L) Average Monthly			< 1.25			< 1.25			< 1.5			
Total Phosphorus (mg/L) Average Monthly	0.5	0.7	0.2	0.3	0.4	0.1	0.2	0.3	0.2			

Existing Effluent Limits and Monitoring

The table below summarizes effluent limitations and monitoring requirements implemented in the existing NPDES permit.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly		Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
UV Intensity (mWsec/cm ²)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Metered
CBOD5	XXX	XXX	XXX	25	XXX	50	2/month	8-Hr Composite
Total Suspended Solids	XXX	XXX	XXX	30	XXX	60	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	2.0	XXX	4.0	2/month	8-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	2.9	XXX	5.8	2/month	8-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	8.7	XXX	17	2/month	8-Hr Composite
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/month	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/month	Grab
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	Calculation
Total Kjeldahl Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	8-Hr Composite
Nitrate-Nitrite as N	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	8-Hr Composite

Development of Effluent Limitations

Outfall No.	001	Design Flow (MGD)	.035
Latitude	40° 17' 8.00"	Longitude	-77° 6' 13.00"
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)

Comments: Since the facility utilizes UV disinfection, the total residual chlorine standard is not applicable.

Water Quality-Based Limitations

CBOD₅, NH₃-N and Dissolved Oxygen

WQM 7.0 version 1.0b is a water quality model designed to assist DEP to determine appropriate permit requirements for CBOD₅, NH₃-N and DO. DEP's technical guidance no. 391-2000-007 describes the technical methods contained in the model for conducting wasteload allocation analyses and for determining recommended limits for point source discharges. The model was utilized and the output indicates that all existing effluent limits are still adequate.

Toxics

DEP's minor sewage facility permit application does not require sampling of toxic pollutants for facilities less than 0.1 MGD. No toxic pollutants have therefore been taken into consideration as pollutants of concern at this time.

Best Professional Judgment (BPJ) Limitations

Dissolved Oxygen

A minimum of 5.0 mg/L for DO is an existing effluent limit and is a current state water quality criterion found in 25 Pa. Code § 93.7(a). This effluent limit will remain unchanged for the upcoming permit renewal to ensure the protection of water quality standards. This approach is also consistent with DEP's SOP no. BPNPSM-PMT-033. This requirement has also been assigned to other facilities throughout the state.

Total Phosphorus

Previously, an average monthly Total Phosphorus limit of 2.0 mg/L was established in the NPDES permit since the loading from this facility exceeded DEP's recommended contribution rate of 0.25% of the total loading for the Conodoguinet Creek watershed. This requirement will remain unchanged in the draft permit per federal anti-backsliding regulation found in 40 CFR § 122.44(l)(1).

Additional Considerations

Flow Monitoring

The requirement to monitor the volume of effluent will remain in the draft permit per 40 CFR § 122.44(i)(1)(ii).

Ultraviolet (UV) Monitoring

DEP’s Standard Operating Procedure (SOP no. BPNPSM-PMT-033) recommends a routine monitoring of Ultraviolet (UV) transmittance or intensity when the facility is utilizing an UV disinfection system in lieu of chlorination. This is a reasonable approach and has been assigned to other facilities equipped with similar technology. Accordingly, existing UV monitoring requirement will remain in the permit.

Chesapeake Bay TMDL & TN/TP SOP Monitoring Requirement

The discharge is located within the Chesapeake Bay watershed and is considered under the Supplement to Phase III Watershed Implementation Plan (WIP) a Phase 5 facility designed to treat between 0.002 MGD and 0.2 MGD. The facility has been monitored for nutrients on a quarterly basis. The results are as follows:

Nutrient DMR Data (April 2019 – February 2020; 3 data for TN & TN Species; 9 Data for TP)				
	Nitrate-Nitrite	TKN	TN	TP
Maximum	36.70	1.50	36.70	0.70
Average	34.77	1.33	22.90	0.32
Minimum	31.80	1.25	0.21	0.10
Median	35.80	1.25	31.80	0.30

While the WIP does not recommend further monitoring for these nutrients when the monitoring was performed at least for 2 years, the SOP recommends that a routine monitoring for Total Phosphorous and Total Nitrogen regardless for any sewage facilities. It is important to collect ample datasets for DEP to understand impacts of all point source discharges to the Chesapeake Bay watershed. It is therefore recommended to maintain existing nutrient monitoring requirements.

Monitoring Frequency and Sample Type

Unless stated otherwise in this fact sheet, all existing monitoring frequencies and sample types will remain unchanged in the permit and are consistent with recommended requirements specified in DEP’s technical guidance no. 362-0400-001.

Class A Wild Trout Fishery

A Class A Wild Trout Fishery is not impacted by this discharge.

Anti-Degradation Requirements

Unless stated otherwise in this fact sheet, all permit requirements proposed in this fact sheet are at least as stringent as permit requirements specified in the existing permit renewal in accordance with 40 CFR §122.44(l)(1).

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	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	1/day	Grab
UV Intensity (mWsec/cm ²)	XXX	XXX	Report Daily Min	XXX	XXX	XXX	1/day	Metered
CBOD5	XXX	XXX	XXX	25	XXX	50	2/month	8-Hr Composite
Total Suspended Solids	XXX	XXX	XXX	30	XXX	60	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	2.0	XXX	4.0	2/month	8-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	2.9	XXX	5.8	2/month	8-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	8.7	XXX	17	2/month	8-Hr Composite
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/month	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/month	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Calculation
Total Kjeldahl Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	8-Hr Composite
Nitrate-Nitrite as N	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	8-Hr Composite

Tools and References Used to Develop Permit	
	WQM for Windows Model (see Attachment [REDACTED])
	PENTOXSD for Windows Model (see Attachment [REDACTED])
	TRC Model Spreadsheet (see Attachment [REDACTED])
	Temperature Model Spreadsheet (see Attachment [REDACTED])
	Toxics Screening Analysis Spreadsheet (see Attachment [REDACTED])
	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
	Pennsylvania CSO Policy, 385-2000-011, 9/08.
	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
	Design Stream Flows, 391-2000-023, 9/98.
	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
	SOP: [REDACTED]
	Other: [REDACTED]