

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

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application No. PA0033421
APS ID 1113789
Authorization ID 1485223

Applicant and Facility Information

Applicant Name <u>MGC Holiday LLC</u>	Facility Name <u>Mercer Grove City KOA Campground</u>
Applicant Address <u>1337 Butler Pike</u> <u>Mercer, PA 16137-6211</u>	Facility Address <u>1337 Butler Pike</u> <u>Mercer, PA 16137-6211</u>
Applicant Contact <u>Benjamin Yount</u>	Facility Contact _____
Applicant Phone <u>(540) 999-4362</u>	Facility Phone _____
Client ID <u>355553</u>	Site ID <u>454644</u>
Ch 94 Load Status <u>Not Overloaded</u>	Municipality <u>Findley Township</u>
Connection Status <u>No Limitations</u>	County <u>Mercer</u>
Date Application Received <u>April 24, 2024</u>	EPA Waived? <u>Yes</u>
Date Application Accepted <u>February 12, 2025</u>	If No, Reason _____

Purpose of Application This is an application to renew an NPDES Permit for a Non-Municipal Minor Sewage Treatment Plant that serves an existing campground.

Summary of Review

Changes to the treatment facility within the last permit term include an addition of septic tank clarification, anoxic equalization, chemical addition, two stage ADVANTEX Packed Bed Filtration, and UV Radiation disinfection. As a result of the facility switching over to UV Disinfection, TRC limits have been removed from the permit.

This treatment system currently receives waste from 155-camping sites, at least 7 tent sites, at least 9 cabins, two shower/restrooms, meeting hall, game and craft hall, and swimming pool.

There are no open violations in WMS for the subject Client ID (355553) as of 2/20/25.

Sludge use and disposal description and location(s): 0.38 Tons of sewage sludge is hauled as a liquid to Allegheny Valley Joint Sewer Authority.

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		Dustin Hargenrater Dustin Hargenrater / Project Manager	March 12, 2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	April 17, 2025

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	.0045
Latitude	41° 11' 2.36"	Longitude	-80° 11' 3.79"
Quad Name	Mercer	Quad Code	41080B2
Wastewater Description: Sewage Effluent			
Receiving Waters	Unnamed Tributary to Pine Run (TSF)	Stream Code	35654
NHD Com ID	130031618	RMI	0.8700
Drainage Area	0.1	Yield (cfs/mi ²)	0
Q ₇₋₁₀ Flow (cfs)	0	Q ₇₋₁₀ Basis	Dry Stream
Elevation (ft)	1307	Slope (ft/ft)	---
Watershed No.	20-A	Chapter 93 Class.	TSF
Existing Use		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	
Background/Ambient Data		Data Source	
pH (SU)	7.0	Default	
Temperature (°F)	68	Default	
Hardness (mg/L)	100	Default	
Other:			
Nearest Downstream Public Water Supply Intake	Beaver Falls Joint Municipal Authority		
PWS Waters	Beaver River	Flow at Intake (cfs)	561
PWS RMI	3.5	Distance from Outfall (mi)	44.1

Changes Since Last Permit Issuance: The treatment facility has undergone upgrades in the last permit term which added septic tank clarification, anoxic equalization, chemical addition, two stage ADVANTEX Packed Bed Filtration and UV Radiation disinfection.

Other Comments: The previous permit renewal was modeled based on a design flow of 0.008 MGD. At the time of the last permit renewal the facility was acting under the 2018 CO&A which required them to take serious consideration into installing a new system that would eliminate the frequent effluent violations of CBOD₅, Ammonia-Nitrogen, and TRC. During the considerations of how the plant would be upgraded a 0.008 MGD plant was proposed, however after the renewal was issued the permit was transferred and an amendment to the WQM Permit was applied for which covered the issues in the CO&A. Based on the amendment to the WQM permit the annual average flow at the facility is 0.003 MGD and the design hydraulic capacity is 0.0045 MGD. The difference between the annual average flow and the design hydraulic capacity was based on the facility operating on a seasonal basis and 2/3 of the design hydraulic capacity was used for the annual average flow. Based on the flow data reported by the facility it is believed that the design hydraulic capacity would be the most representative of the facility during the warm months and that should be the value used in modeling.

Compliance History

DMR Data for Outfall 001 (from January 1, 2024 to December 31, 2024)

Parameter	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24
Flow (MGD) Average Monthly	0.00247 81	0.00085 48	0.00173 2	0.00164 5	0.0047	0.00318 87	0.00208	0.00306 8	0.004	0.0028	0.00121	0.00236
Flow (MGD) Daily Maximum	0.00402	0.00267 83	0.00433 3	0.00073	0.0112	0.00629	0.0034	0.00767	0.0083	0.008	0.0042	0.00887
pH (S.U.) Instantaneous Minimum	7.26	6.72	6.71	6.75	6.7	6.45	6.42	7.13	7.21	7.1	7.3	7.29
pH (S.U.) Instantaneous Maximum	7.8	7.75	7.16	7.75	7.45	7.38	7.62	7.81	7.95	8.08	8.32	8.11
DO (mg/L) Daily Minimum	9.47	7.28	6.4	5.8	5.13	5.01	5.28	4.2	3.2	8.9	8.93	10.25
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	< 0.01
CBOD5 (mg/L) Average Monthly	< 3.0	< 3.0	< 3.0	< 3.00	< 3.0	< 3.0	< 3.0	18.7	16.1	< 3.0	< 3.0	< 3.2
TSS (mg/L) Average Monthly	< 5.0	< 3.0	< 4.0	< 3.00	< 3.0	< 3.0	< 4.0	9.0	14.00	< 3.0	< 3.0	< 4.0
Fecal Coliform (No./100 ml) Geometric Mean	88.0	18	216	< 15	202	193	131.0	2420	2420	3.0	1.0	< 16.0
Ammonia (mg/L) Average Monthly	< 0.4	0.1	< 0.1	< 0.1	0.20	< 0.22	1.3	13.8	20.3	0.14	< 0.10	4.17

Development of Effluent Limitations

Outfall No. 001
Latitude 41° 10' 53.00"
Wastewater Description: Sewage Effluent

Design Flow (MGD) .0045
Longitude -80° 10' 59.21"

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: Chlorine Disinfection has been replaced with UV disinfection within the last permit term, therefore TRC limits have been removed for this permit renewal. Based on the SOP for Establishing Effluent Limitations for Individual Sewage Permits "NOTE 4" states that if the facility uses Ultraviolet Disinfection and is unable to monitor the UV Transmittance, UV Dosage, or UV Intensity then the facility will be subject to reporting a "UV Functional" parameter that will be added to the Daily Effluent Monitoring Report upon issuance of the permit. The "UV Functional" parameter will be subject to being reported on the Daily Effluent Monitoring Report with units of "Y/N" on the limits worksheet and report values of "1" for Yes (UV Functional) and "< 1" for no (UV Not Functional). This will be included in the permit under Special Condition Part C 33 – Ultraviolet System Monitoring Requirements.

Water Quality-Based Limitations

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

Parameter	Limit (mg/l)	SBC	Model
Ammonia-Nitrogen	2.6	Average Monthly	WQM 7.0 v1.1
Dissolved Oxygen	5.0	Daily Minimum	WQM 7.0 v1.1 / 25 PA Code Chapter 93.7 Table 3

This facility discharges to an intermittent stream channel which flows approximately 0.19 miles before reaching perennial conditions at Tributary 35654 to Pine Run at RMI 0.867. The dry stream reach was modeled first and showed a 0.163 day travel time to reach perennial conditions. Default parameter conditions are considered at the discharge point and due to the discharge being a dry stream the in-stream conditions are considered to be 0 for parameter conditions. At the end of the reach CBOD₅ was shown as declining from 25 mg/l to 17.0 mg/l and D.O. declined for the first 0.082 days of travel time before starting to increase again as the discharge travels through the dry stream channel.

The perennial stream modeling used these values for CBOD₅, NH₃-N, and D.O. above for the parameter conditions at the discharges point of first use with the perennial stream at RMI 0.86. The in-stream conditions considered at RMI 0.7 (End of perennial modeled reach) are considered to be default conditions.

Ammonia-Nitrogen limits calculated by WQM 7.0 include a 2.68 mg/l Average Monthly Average and a 5.3 Instantaneous Maximum limitation. Respectively these will round down to 2.6 mg/l Average Monthly Average and 5.0 Instantaneous Maximum based on the rounding guidelines in the Permit Writers Manual. The facility already meets this limit 86% of the time based on one year of data and 75% of the time based on two years of data so a compliance schedule will not be implanted for Ammonia-Nitrogen

Total Nitrogen and Total Phosphorous monitoring requirements have increased from 1/quarter to 2/month based on the SOP for Establishing Effluent Limits for Individual Sewage Permits which states "In general, sewage discharges with design flows > 2,000 GPD will include monitoring, at a minimum for Total Nitrogen/Total Phosphorous in new and reissued permits, with a monitoring frequency equivalent to conventional pollutants in Table 6-3 of DEP's Technical Guidance for the Development and Specification of Effluent Limitations..." Based on Table 6-3 and the monitoring frequencies for conventional pollutants monitoring frequencies should be changed from 1/quarter to 2/month.

Based on the SOP for Establishing Effluent Limitations for Individual Sewage Permits NOTE 12 sewage discharges will include monitoring, at a minimum, for E. Coli, in new and reissued permits, with a monitoring frequency of 1/year for design flows of 0.002 – 0.05 MGD.

Best Professional Judgment (BPJ) Limitations

Comments: None

Anti-Backsliding

No anti-backsliding is being considered for this permit renewal.

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	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 Inst Min	XXX	XXX	9.0	3/week	Grab
DO	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	3/week	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50.0	2/month	Grab
TSS	XXX	XXX	XXX	30.0	XXX	60.0	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 IMAX	1/year	Grab
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	2/month	Grab
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	7.8	XXX	15.9	2/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	2.6	XXX	5.3	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	2/month	Grab

Compliance Sampling Location: Outfall 001, after disinfection.

Other Comments: None

Attachment 1
WQM 7.0 Modeling

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
20A	35654	Trib 35654 to Pine Run	1.137	1304.00	0.00	0.00000	0.00	<input type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary		Stream	
	(cfsm)	(cfs)	(cfs)						Temp (°C)	pH	Temp (°C)	pH
Q7-10	0.001	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	6.80	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Mercer KOA STP	PA0033421	0.0045	0.0045	0.0045	0.000	20.00	6.80

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
20A	35654	Trib 35654 to Pine Run	0.867	1286.00	0.13	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary		Stream	
	(cfsm)	(cfs)	(cfs)						Temp (°C)	pH	Temp (°C)	pH
Q7-10	0.005	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.45	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	20.00	7.45

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	17.09	2.00	0.00	1.50
Dissolved Oxygen	2.59	8.24	0.00	0.00
NH3-N	20.93	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
20A	35654	Trib 35654 to Pine Run	0.700	1260.00	0.27	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary		Stream	
	(cfsm)	(cfs)	(cfs)						Temp (°C)	pH	Temp (°C)	pH
Q7-10	0.006	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.45	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	20.00	7.45

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

<u>SWP Basin</u>		<u>Stream Code</u>		<u>Stream Name</u>								
20A		35654		Trib 35654 to Pine Run								
RMI	Stream Flow	PWS With	Net Stream Flow	Disc Analysis Flow	Reach Slope	Depth	Width	W/D Ratio	Velocity	Reach Trav Time	Analysis Temp	Analysis pH
	(cfs)	(cfs)	(cfs)	(cfs)	(ft/ft)	(ft)	(ft)		(fps)	(days)	(°C)	
Q7-10 Flow												
1.137	0.00	0.00	0.00	.007	0.01263	.427	.25	.59	0.06	0.257	20.00	6.80
0.867	0.00	0.00	0.00	.007	0.02949	.236	1.3	5.49	0.02	0.411	20.00	6.83
Q1-10 Flow												
1.137	0.00	0.00	0.00	.007	0.01263	NA	NA	NA	0.06	0.257	20.00	6.80
0.867	0.00	0.00	0.00	.007	0.02949	NA	NA	NA	0.02	0.418	20.00	6.82
Q30-10 Flow												
1.137	0.00	0.00	0.00	.007	0.01263	NA	NA	NA	0.06	0.257	20.00	6.80
0.867	0.00	0.00	0.00	.007	0.02949	NA	NA	NA	0.03	0.404	20.00	6.84

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	<input checked="" type="checkbox"/>
WLA Method	EMPR	Use Inputted W/D Ratio	<input type="checkbox"/>
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	<input type="checkbox"/>
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	<input checked="" type="checkbox"/>
D.O. Saturation	90.00%	Use Balanced Technology	<input checked="" type="checkbox"/>
D.O. Goal	5		

WQM 7.0 Wasteload Allocations

<u>SWP Basin</u>		<u>Stream Code</u>	<u>Stream Name</u>						
20A		35654	Trib 35654 to Pine Run						
NH3-N Acute Allocations									
RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction		
1.137	Mercer KOA STP	NA	50	19.5	24.42	2	51		
0.867		NA	NA	19.26	NA	NA	NA		
NH3-N Chronic Allocations									
RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction		
1.137	Mercer KOA STP	NA	25	2.01	2.68	2	89		
0.867		NA	NA	1.99	NA	NA	NA		
Dissolved Oxygen Allocations									
RMI	Discharge Name	<u>CBOD5</u>		<u>NH3-N</u>		<u>Dissolved Oxygen</u>		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
1.14	Mercer KOA STP	25	25	2.68	2.68	5	5	0	0
0.87		NA	NA	NA	NA	NA	NA	NA	NA

WQM 7.0 D.O.Simulation

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>		
20A	35654	Trib 35654 to Pine Run		
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>	<u>Analysis pH</u>	
1.137	0.004	20.000	6.800	
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>	<u>Reach Velocity (fps)</u>	
0.254	0.427	0.594	0.064	
<u>Reach CBOD5 (mg/L)</u>	<u>Reach Kc (1/days)</u>	<u>Reach NH3-N (mg/L)</u>	<u>Reach Kn (1/days)</u>	
25.00	1.500	2.68	0.700	
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>	<u>Reach DO Goal (mg/L)</u>	
5.000	16.625	Owens	NA	
<u>Reach Travel Time (days)</u>	Subreach Results			
0.257	TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
	0.026	24.05	2.63	5.12
	0.051	23.14	2.59	5.24
	0.077	22.27	2.54	5.36
	0.103	21.43	2.49	5.49
	0.128	20.62	2.45	5.61
	0.154	19.84	2.41	5.73
	0.180	19.09	2.36	5.85
	0.206	18.37	2.32	5.96
	0.231	17.67	2.28	6.07
	0.257	17.00	2.24	6.18
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>	<u>Analysis pH</u>	
0.867	0.004	20.000	6.830	
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>	<u>Reach Velocity (fps)</u>	
1.297	0.236	5.488	0.025	
<u>Reach CBOD5 (mg/L)</u>	<u>Reach Kc (1/days)</u>	<u>Reach NH3-N (mg/L)</u>	<u>Reach Kn (1/days)</u>	
15.73	1.478	2.05	0.700	
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>	<u>Reach DO Goal (mg/L)</u>	
6.356	26.304	Owens	5	
<u>Reach Travel Time (days)</u>	Subreach Results			
0.411	TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
	0.041	14.80	1.99	7.20
	0.082	13.93	1.93	7.54
	0.123	13.11	1.88	7.71
	0.164	12.34	1.83	7.81
	0.206	11.61	1.77	7.90
	0.247	10.93	1.72	7.97
	0.288	10.28	1.68	8.03
	0.329	9.68	1.63	8.09
	0.370	9.11	1.58	8.15
	0.411	8.57	1.54	8.20

WQM 7.0 Effluent Limits

<u>SWP Basin</u>		<u>Stream Code</u>	<u>Stream Name</u>				
20A		35654	Trib 35654 to Pine Run				
RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
1.137	Mercer KOA STP	PA0033421	0.004	CBOD5	25		
				NH3-N	2.68	5.36	
				Dissolved Oxygen			5