pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0087637**
Facility Type	**Non-Municipal**	APS ID	**1017362**
Major / Minor	**Minor**	Authorization ID	**1316138**

Applicant and Facility Information

Applicant Name	**Kathy Rodas**	Facility Name	**Mt. View Terrace MHP**
Applicant Address	1190 Wyndsong Drive	Facility Address	Mohawk Drive
	York, PA 17403-4492		Newville, PA 17241
Applicant Contact	Kathy Rodas	Facility Contact	Richard Foust
Applicant Phone	(717) 873-2817	Facility Phone	(717) 779-4470
Client ID	356750	Site ID	247548
Ch 94 Load Status	Not Overloaded	Municipality	Upper Frankford Township
Connection Status	**No Limitations**	County	Cumberland
Date Application Received	May 12, 2020	EPA Waived?	Yes
Date Application Accepted	June 17, 2020	If No, Reason	
Purpose of Application	NPDES Renewal.		

Summary of Review

Kathy Rodas, the owner of Mt. View Terrace MHP, has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of her NPDES permit. The permit was last reissued on November 23, 2015 and became effective on December 1, 2015. The permit expired on November 30, 2020.

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

Sludge use and disposal description and location(s): Sludge is hauled off site via a local septic hauler to another WWTP for ultimate treatment/disposal.

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		*Jinsu Kim* Jinsu Kim / Environmental Engineering Specialist	March 25, 2021
		Daniel W. Martin, P.E. / Environmental Engineer Manager	
X		/s/ Maria D. Bebenek, P.E./ Program Manager	March 25, 2021

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.025
Latitude	40° 13' 41.00"	Longitude	77° 22' 50.00"
Quad Name	Newville	Quad Code	1726
Wastewater Description:	Treated Sewage		
Receiving Waters	Unnamed Tributary of Conodoguinet Creek	Stream Code	10359
NHD Com ID	56406733	RMI	0.61
Drainage Area	See comment below	Yield (cfs/mi^2)	0.167
Q_{7-10} Flow (cfs)	See comment below	Q_{7-10} Basis	See comment below
Elevation (ft)	561	Slope (ft/ft)	0.02066
Watershed No.	7-B	Chapter 93 Class.	WWF
Existing Use	None	Existing Use Qualifier	None
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Impaired		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Agriculture		
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Carlisle Borough Municipal Authority Water System		
PWS Waters	Conodoguinet Creek	Flow at Intake (cfs)	48
PWS RMI	35.95	Distance from Outfall (mi)	18

Drainage Area
The discharge is to an Unnamed Tributary of Conodoguinet Creek at RM 0.61. A drainage area upstream of the discharge point is estimated to be 0.12 sq.mi., according to USGS StreamStats available at https://streamstats.usgs.gov/ss/. The Point of First Use (POFU) survey conducted on October 7, 1996 indicates that the point of first use is at RM 0.44. At this point, the drainage area is estimated to be 0.24 sq.mi.

Streamflow
USGS StreamStats produced a Q7-10 flow of 0.00137 cfs at the point of first use. However, the estimated drainage area is far below the minimum value required to properly calculate the low flow statistics; as a result, unknown errors occurred when USGS StreamStats produces low flow statistics. As the produced Q7-10 flow value may not be representative of the receiving stream characteristics, a low-flow yield method is used to calculate the low flows using USGS gage no. 01570000.

Q_{7-10} runoff rate = 69.3/470 = 0.147 cfs/mi^2.
Q_{30-10}:Q_{7-10} = 78.3/69.3 = 1.13:1
Q_{1-10}:Q_{7-10} = 63.1/69.3 = 0.91:1
Q_{7-10} = 0.147*0.24 = 0.035 cfs

Unnamed Tributary of Conodoguinet Creek
25 Pa Code §93.9o lists all unnamed tributaries of Conodoguinet Creek from PA997 at Roxbury to Mouth as warm water and migratory fishes. The main stem is also designated as warm water fishes. No special protection water is impacted by this discharge. DEP's latest integrated water quality report finalized in 2020 indicates that the receiving stream is impaired for siltation as a result of agricultural activities. No TMDL has yet developed to address this impairment (i.e., the TMDL developed in December 2020 for Conodoguinet Creek watershed did not cover this stream)

Public Water Supply Intake
The fact sheet developed for the last permit renewal indicates that the nearest downstream intake is Carlisle Borough on Conodoguinet Creek in North Middleton Township at RM 35.95 about 18 miles downstream of discharge. Given the distance, the discharge is not expected to affect the water supply.

Treatment Facility Summary

Treatment Facility Name: Mt View Terrace MHP

WQM Permit No.	Issuance Date
2197403	05/29/1997

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Hypochlorite	0.025

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.025		Not Overloaded	Holding Tank	Other WWTP

An onsite sanitary wastewater treatment plant located at Mohawk Dr. Newville, PA 17241 currently serves Mt. View Terrace MHP. The facility utilizes an extended aeration activated sludge treatment process consisting of comminutor, EQ tank, aerations tanks (3), clarifier, filter unit, chlorine contact tank and outfall structure. Sodium hypochlorite and sodium sulfide are used for disinfection and dechlorination, respectively. Sludge is stored in a sludge holding tank prior to being hauled off site via a local septic hauler to another WWTP for ultimate treatment/disposal.

Compliance History

Summary of DMRs:	A summary of past 12-month DMR data is presented on the next page.
Summary of Inspections:	06/04/2019: Mike Benham, DEP Water Quality Specialist, conducted a routine inspection. No violation was identified at the time of inspection. 12/22/2017: Patrick Bowen, former DEP Water Quality Specialist, conducted a routine inspection and noted that Outfall 001 appeared clear in the general vicinity of the outfall. No violation was identified at the time of inspection.
Other Comments:	Over the past 3 years, a number of effluent violations have been reported by the permittee. These violations are shown below: DEP's database revealed that there is no open violation associated with this facility or permittee.

MONITORING START DATE	PARAMETER	SAMPLE VALUE	PERMIT VALUE	UNIT OF MEASURE	STATISTICAL BASE CODE
06/01/2018	Total Phosphorus	1.21	1	mg/L	Average Monthly
07/01/2018	Fecal Coliform	780	200	CFU/100 ml	Geometric Mean
09/01/2018	Fecal Coliform	807	200	CFU/100 ml	Geometric Mean
09/01/2018	Total Phosphorus	1.62	1	mg/L	Average Monthly
09/01/2018	Fecal Coliform	1810	1000	CFU/100 ml	Instantaneous Maximum
04/01/2019	Total Phosphorus	1.1	1	mg/L	Average Monthly
06/01/2019	Total Phosphorus	1.1	1	mg/L	Average Monthly
07/01/2020	Total Phosphorus	1.8	1	mg/L	Average Monthly
08/01/2020	Total Phosphorus	1.1	1	mg/L	Average Monthly

Effluent Data

DMR Data for Outfall 001 (from February 1, 2020 to January 31, 2021)

Parameter	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20	APR-20	MAR-20	FEB-20
Flow (MGD) Average Monthly	0.0051	0.0056	0.0048	0.0048	0.0051	0.0052	0.0052	0.0054	0.0061	0.005	0.0053	0.0054
Flow (MGD) Daily Maximum	0.0087	0.0166	0.0066	0.0061	0.0071	0.0062	0.007	0.0076	0.0141	0.0068	0.0089	0.0094
pH (S.U.) Minimum	7.5	7.3	7.4	7.2	7.1	7.4	7.2	7.2	7.0	7.3	7.0	7.1
pH (S.U.) Instantaneous Maximum	8.0	8.8	7.9	8.0	7.8	7.9	7.7	7.8	7.8	7.9	7.8	7.8
DO (mg/L) Minimum	10.1	9.7	9.2	9.1	8.1	8.0	7.8	7.8	8.4	8.7	9.3	9.8
TRC (mg/L) Average Monthly	0.07	< 0.07	< 0.06	0.06	0.08	0.07	0.07	< 0.05	< 0.05	0.06	< 0.05	< 0.05
TRC (mg/L) Instantaneous Maximum	0.14	0.15	0.14	0.14	0.13	0.12	0.15	0.11	0.13	0.12	0.11	0.09
CBOD5 (mg/L) Average Monthly	< 2	< 2	< 2	< 2	< 2	< 3	< 2	< 2	< 3	< 2	< 2	2
TSS (mg/L) Average Monthly	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Fecal Coliform (CFU/100 ml) Average Monthly	< 1	4	10	< 2						< 1	< 1	< 1
Fecal Coliform (CFU/100 ml) Geometric Mean					4	20	< 3	< 2	< 1			
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	2	5	12	6	8	28	9	5	< 1	1	< 1	< 1
Nitrate-Nitrite (lbs/day) Average Monthly	< 1	< 0.6	< 0.7	< 1	< 2	2	< 1	< 2	0.6	< 1	< 2	< 1
Nitrate-Nitrite (lbs/day) Total Monthly	< 30	< 19	< 20	< 31	< 58	56	< 44	< 67	20	< 35	< 58	< 35
Nitrate-Nitrite (mg/L) Average Monthly	< 16.8	< 15.6	< 16.1	< 24	< 33.8	35.2	< 41.5	< 35	14.5	< 26.3	< 35.5	< 23.1
Total Nitrogen (lbs/day) Average Monthly	< 1	< 0.7	< 0.7	< 1	< 2	< 2	< 1	< 2	< 0.7	< 1	< 2	< 2

Parameter	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20	APR-20	MAR-20	FEB-20
Total Nitrogen (lbs/day) Total Monthly	< 31	< 20	< 21	< 32	< 59	< 57	< 45	< 68	< 21	< 36	< 59	< 44
Total Nitrogen (mg/L) Average Monthly	< 17.8	< 16.6	< 17.1	< 25	< 34.8	< 36.2	< 42.5	< 36	< 15.5	< 27.3	< 36.5	< 29.1
Ammonia (mg/L) Average Monthly	0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TKN (lbs/day) Average Monthly	< 0.06	< 0.04	< 0.04	< 0.04	0.06	< 0.05	< 0.03	< 0.06	< 0.04	< 0.04	< 0.05	0.3
TKN (lbs/day) Total Monthly	< 2	< 1	< 1	< 1	2	< 2	< 1	< 2	< 1	< 1	< 2	9
TKN (mg/L) Average Monthly	< 1	< 1	< 1	< 1	1	< 1	< 1	< 1	< 1	< 1	< 1	6
Total Phosphorus (lbs/day) Average Monthly	0.02	0.02	0.01	0.02	0.02	0.05	0.06	0.05	0.02	0.04	0.03	0.03
Total Phosphorus (lbs/day) Total Monthly	0.5	0.6	0.4	0.7	0.6	2	2	2	0.5	1	0.9	0.9
Total Phosphorus (mg/L) Average Monthly	0.3	0.4	0.4	0.5	0.4	1.1	1.8	1.0	0.4	0.8	0.6	0.7

Existing Effluent Limits and Monitoring Requirements

A table below summarizes effluent limits and monitoring requirements specified in the current permit.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Total Monthly	Minimum	Average Monthly		Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	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
Total Residual Chlorine	XXX	XXX	XXX	0.18	XXX	0.57	1/day	Grab
CBOD5 May 1 - Oct 31	XXX	XXX	XXX	10	XXX	20	2/month	8-Hr Composite
CBOD5 Nov 1 - Apr 30	XXX	XXX	XXX	20	XXX	40	2/month	8-Hr Composite
Total Suspended Solids	XXX	XXX	XXX	10	XXX	20	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	XXX	10,000	2/month	Grab
Nitrate-Nitrite as N	Report	Report	XXX	Report	XXX	XXX	1/month	8-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	1/month	Calculation
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	3.0	XXX	6.0	2/month	8-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	9.0	XXX	18.0	2/month	8-Hr Composite
Total Kjeldahl Nitrogen	Report	Report	XXX	Report	XXX	XXX	1/month	8-Hr Composite
Total Phosphorus	Report	Report	XXX	1.0	XXX	2.0	2/month	8-Hr Composite

Development of Effluent Limitations and Monitoring Requirements

Outfall No. 001 **Design Flow (MGD)** .025
Latitude 40º 13' 41.00" **Longitude** -77º 22' 50.00"
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

WQM 7.0 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. Recently, the model has been updated (version 1.1) to include the new ammonia criteria approved by US EPA as part of the 2017 Triennial Review. The model output indicates that all existing effluent limits are still appropriate. No change is therefore recommended.

Total Residual Chlorine (TRC)
DEP's TRC_CALC worksheet was used to determine if the existing WQBEL for TRC is appropriate. The worksheet indicates that more stringent WQBEL is needed. Based on the past DMR data, the facility is able to achieve compliance with effluent limits of 0.14 mg/L (AML) and 0.45 mg/L (IMAX).

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 Judgement (BPJ) Effluent 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.

CBOD5 and TSS
DEP previously determined that the discharge is to a dry stream. While a water quality analysis is conducted at the POFU as recommended by DEP's technical guidance no. 391-2000-014, this guidance also recommends minimum effluent limits of 10 mg/L for both CBOD5 and Total Suspended Solids. These are already included in the current permit and are

appropriate to protect the current condition of the receiving stream in the opinion of DEP. Therefore, these limits will continue to be included in the permit as BPJ.

Total Phosphorus
The current permit contains effluent limits of 1.0 mg/L (AML) and 2.0 mg/L (IMAX). These were determined previously based on the BPJ as the receiving stream is located within the Conodoguinet Creek watershed. No change is therefore recommended.

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).

E. Coli Monitoring Requirement
DEP's SOP no. BCW-PMT-033 recommends a routine monitoring of E. Coli for all sewage discharges. Annual monitoring will be included in the permit as recommended by the SOP.

Chesapeake Bay TMDL & SOP TP/TN 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 non-significant sewage discharger. The facility has been monitoring for TP and TN. To be able to collect most up-to-date data, it is recommended that the existing monitoring requirement remain in the permit. This approach is consistent with the WIP and the SOP. The existing monitoring frequency however will be reduced from 1/month to 1/quarter for TN and its constituents. The 2/month monitoring frequency for TP remains unchanged as effluent limits are assigned for TP.

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-Backsliding
All effluent limits have been developed as stringent as the ones specified in the current permit.

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	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	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.14	XXX	0.46	1/day	Grab
CBOD5 May 1 - Oct 31	XXX	XXX	XXX	10	XXX	20	2/month	8-Hr Composite
CBOD5 Nov 1 - Apr 30	XXX	XXX	XXX	20	XXX	40	2/month	8-Hr Composite
Total Suspended Solids	XXX	XXX	XXX	10	XXX	20	2/month	8-Hr Composite
Fecal Coliform (no. / 100 mL) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/month	Grab
Fecal Coliform (no. / 100 mL) Oct 1 - Apr 30	XXX	XXX	XXX	2,000	XXX	10,000	2/month	Grab
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	3.0	XXX	6.0	2/month	8-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	9.0	XXX	18.0	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	1.0	XXX	2.0	2/month	8-Hr Composite
Total Kjeldahl Nitrogen	XXX	Report	XXX	XXX	Report	XXX	1/quarter	8-Hr Composite
Nitrate-Nitrite as N	XXX	Report	XXX	XXX	Report	XXX	1/quarter	8-Hr Composite
Total Nitrogen	XXX	Report	XXX	XXX	Report	XXX	1/quarter	Calculation
E. Coli (no. / 100 mL)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☐	Toxics Management Spreadsheet (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	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:
☐	Other:

Attachments

1. Point of First Use

ENVIRONMENTAL PROTECTION
October 7, 1996

SUBJECT: Point of First Use Survey
Mountain View Terrace Mobile Home Park
Upper Frankford Township
Cumberland County

TO: Marty Perry
Permits Engineer
Water Management Program
Southcentral Region

FROM: Robert J. Schott
Water Pollution Biologist
Water Management Program
Southcentral Region

At your request I looked at a small stream in Upper Frankford Township, Cumberland County to determine the Point of First Use. The stream is an unnamed tributary (UNT) to an UNT of Conodoguinet Creek (Stream Code 10359).

Evidently, Mary Jo Brown with CET Engineering Services conducted a survey of the stream on December 2, 1993. In her December 17, 1993 letter to a Mr. William Hill she described sampling at a location 500 feet upstream of Mohawk Road (T-405) but I believe she meant downstream. She indicated that she collected one sowbug (*Asellus*) at the site and concluded that the stream was perennial at that point which is incorrect. She also stated that the numbers of aquatic macroinvertebrates are normally low in December which is also incorrect. Where would they go?

During my survey stream flow was high due to the unusually wet summer. I initially sampled directly below Mohawk Road where I observed numerous minnows in a deep scoured out pool below the road culvert. Worms and midge larvae were the only invertebrates present. Approximately 200 feet downstream

from the road the stream develops a more defined channel. I sampled the stream at a location approximately 1000 feet below the proposed point of discharge and found a fairly diverse community of macroinvertebrates which was indicative of perennial flow. In my estimation the Point of First Use can be established approximately 800 to 900 feet downstream from the proposed point of discharge.

cc: Stream File 2.21.0 (Conodoguinet Creek)
t

STREAM CODE 10311

POINT OF FIRST USE DETERMINATION

Stream UNT TO UNT TO CONODOGUINET CR. Date 9-24-96 Time _____

Discharger MOUNTAIN VIEW TERRACE MHP Existing ____ Proposed ✓

Municipality UPPER FRANKFORD TWP. County CUMBERLAND Collector R. SCHOTT

Site Location APPROX. 1600' DOWNSTREAM FROM PROPOSED POINT OF DISCHARGE

PHYSICAL DATA

Stream Width 3-9' Stream Depth: Riffle 1" Pool 8"

Substrate (%): Clay _____ Silt 25 Muck _____ Detritus _____

Sand _____ Gravel (1/12 - 1.5 in) 70

Rubble (1.5 - 10 in) 5 Boulders (> 10 in) _____

Bedrock _____

Temperature _____ °C D.O. _____ ppm pH _____

Water Samples: Yes ____ No ____ Collector Number _____

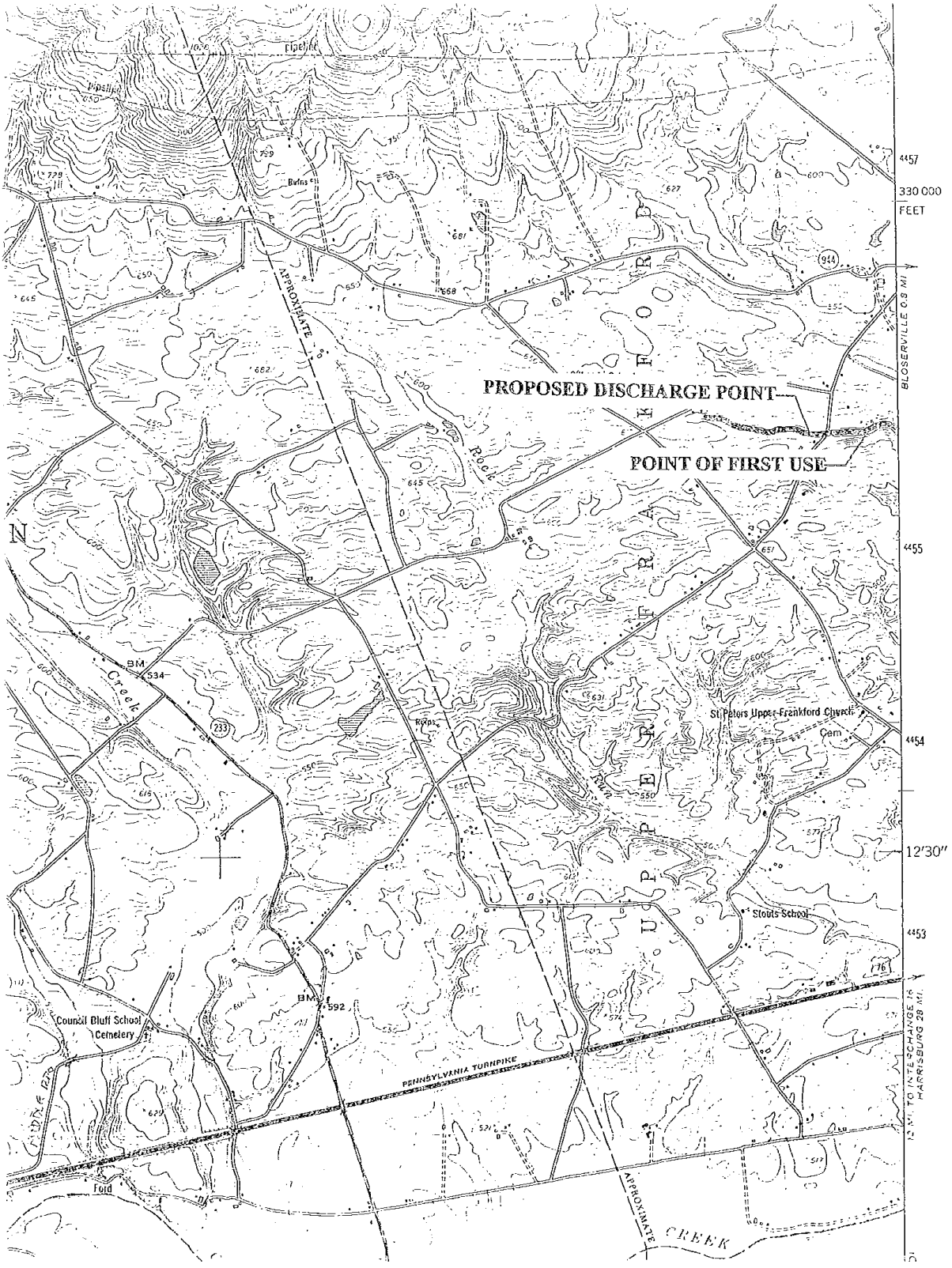
BIOLOGICAL DATA

Collection Gear: Kick Screen ____ D-Frame Net ✓ Other ____

Taxa Collected

1.	Stenonema (MAYFLY)	6.	Diptera (CRANEFLY)	11.	Cambaridae (CRAYFISH)
2.	Eccoptura (STONEFLY)	7.	Stenelmis (RIFFLE BEETLE)	12.	Tabanidae (DEERFLY)
3.	Sialis (ALDERFLY)	8.	Tipula (CRANEFLY)	13.	_____
4.	Hydropsyche (CADDISFLY)	9.	Chironomidae (MIDGE)	14.	_____
5.	Acroneuria or Perla (STONEFLY)	10.	Oligochaeta (WORM)	15.	_____

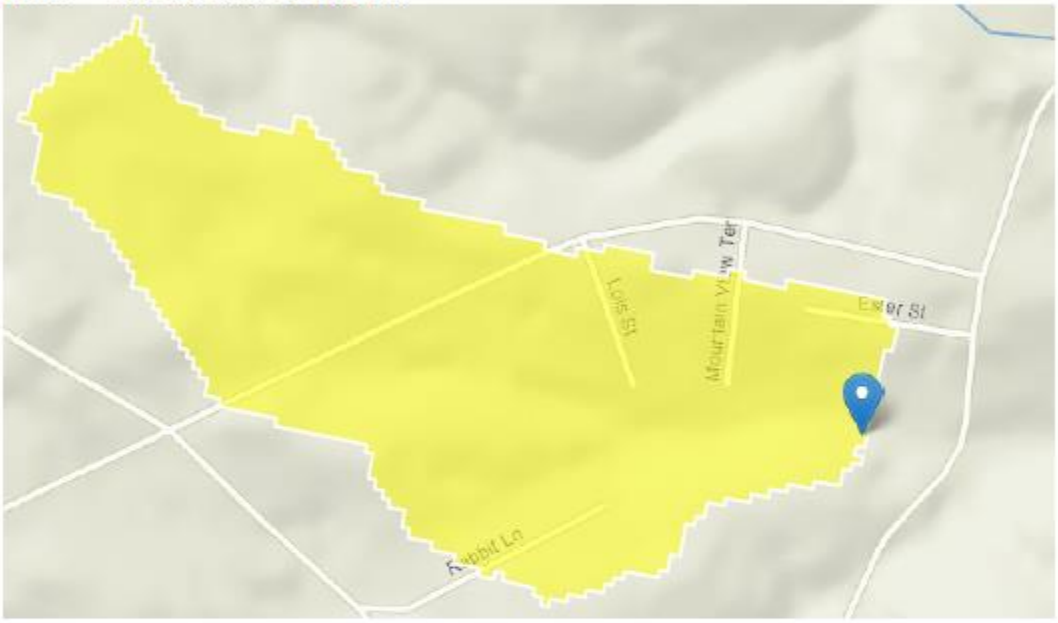
CONCLUSIONS


PROPOSED DISCHARGE POINT
POINT OF FIRST USE
APPROXIMATE
Creek
Council Bluff School
Cemetery
PENNSYLVANIA TURNPIKE
APPROXIMATE
CREEK
St. Peters Upper Frankford Church
Cem
Stouts School
BM
334
BM
592
4457
330 000
FEET
4455
4454
12'30"
4453
BLOSERVILLE 0.8 MI
12 MI. TO INTERCHANGE 16
HARRISBURG 28 MI.

2. StreamStats

StreamStats Report

Region ID: PA
Workspace ID: PA20210322112827710000
Clicked Point (Latitude, Longitude): 40.22817, -77.38034
Time: 2021-03-22 07:28:43 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.12	square miles
PRECIP	Mean Annual Precipitation	39	inches
STRDEN	Stream Density -- total length of streams divided by drainage area	2.74	miles per square mile
ROCKDEP	Depth to rock	3	feet
CARBON	Percentage of area of carbonate rock	0	percent

Low-Flow Statistics Parameters[Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.12	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	39	inches	35	50.4
STRDEN	Stream Density	2.74	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	3	feet	3.32	5.65
CARBON	Percent Carbonate	0	percent	0	99

Low-Flow Statistics Disclaimers[Low Flow Region 2]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report[Low Flow Region 2]

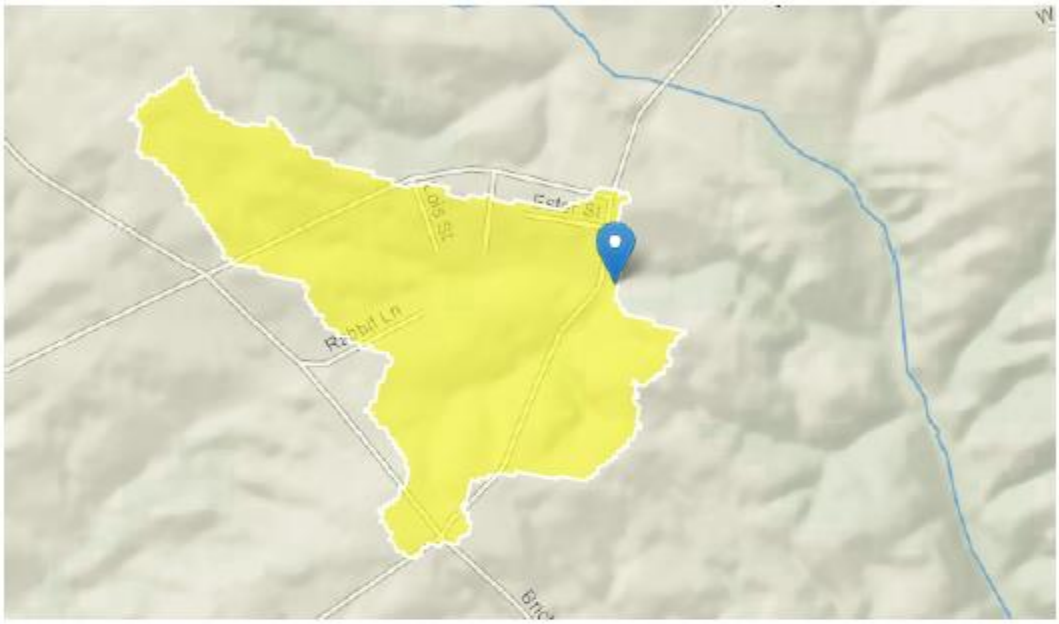
Statistic	Value	Unit
7 Day 2 Year Low Flow	0.00205	ft^3/s
30 Day 2 Year Low Flow	0.0037	ft^3/s
7 Day 10 Year Low Flow	0.000407	ft^3/s
30 Day 10 Year Low Flow	0.000802	ft^3/s
90 Day 10 Year Low Flow	0.002	ft^3/s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

StreamStats Report

Region ID: PA
Workspace ID: PA20210325131349060000
Clicked Point (Latitude, Longitude): 40.22799, -77.37860
Time: 2021-03-25 09:14:05 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.24	square miles
PRECIP	Mean Annual Precipitation	39	inches
STRDEN	Stream Density -- total length of streams divided by drainage area	1.83	miles per square mile
ROCKDEP	Depth to rock	3	feet
CARBON	Percentage of area of carbonate rock	0	percent

Low-Flow Statistics Parameters[Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.24	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	39	inches	35	50.4
STRDEN	Stream Density	1.83	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	3	feet	3.32	5.65
CARBON	Percent Carbonate	0	percent	0	99

Low-Flow Statistics Disclaimers[Low Flow Region 2]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report[Low Flow Region 2]

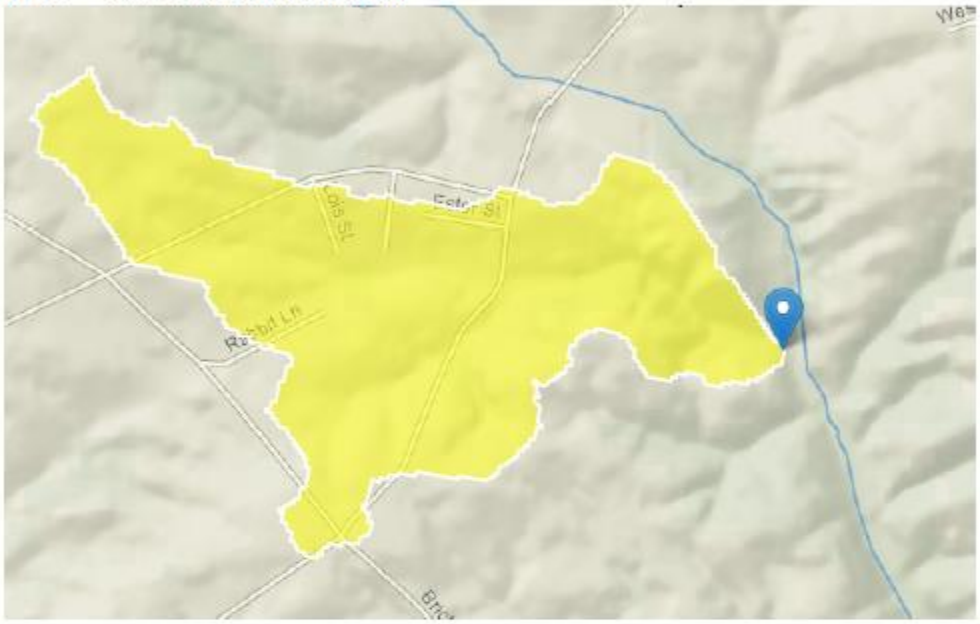
Statistic	Value	Unit
7 Day 2 Year Low Flow	0.00636	ft^3/s
30 Day 2 Year Low Flow	0.0111	ft^3/s
7 Day 10 Year Low Flow	0.00137	ft^3/s
30 Day 10 Year Low Flow	0.00262	ft^3/s
90 Day 10 Year Low Flow	0.0064	ft^3/s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

StreamStats Report

Region ID: PA
Workspace ID: PA20210325125813666000
Clicked Point (Latitude, Longitude): 40.22660, -77.37107
Time: 2021-03-25 08:58:30 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.32	square miles
PRECIP	Mean Annual Precipitation	39	inches
STRDEN	Stream Density -- total length of streams divided by drainage area	2.75	miles per square mile
ROCKDEP	Depth to rock	3	feet
CARBON	Percentage of area of carbonate rock	0	percent

Low-Flow Statistics Parameters[Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.32	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	39	inches	35	50.4
STRDEN	Stream Density	2.75	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	3	feet	3.32	5.65
CARBON	Percent Carbonate	0	percent	0	99

Low-Flow Statistics Disclaimers[Low Flow Region 2]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report[Low Flow Region 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.00601	ft^3/s
30 Day 2 Year Low Flow	0.0107	ft^3/s
7 Day 10 Year Low Flow	0.00127	ft^3/s
30 Day 10 Year Low Flow	0.00245	ft^3/s
90 Day 10 Year Low Flow	0.00594	ft^3/s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

3. WQM 7.0 v.1.1

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
07B	10359	Trib 10359 of Conodoguinet Creek	0.610	555.00	0.12	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.147	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.00	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
Mt.View Terrace	PA0087637	0.0250	0.0250	0.0250	0.000	20.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	10.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	3.00	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
07B	10359	Trib 10359 of Conodoguinet Creek	0.000	507.00	0.32	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.147	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.00	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	25.00	7.00

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	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.91	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.13	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
07B	10359	Trib 10359 of Conodoguinet Creek

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
0.610	0.02	0.00	0.02	.0387	0.01490	.342	2.25	6.56	0.07	0.509	21.57	7.00
Q1-10 Flow												
0.610	0.02	0.00	0.02	.0387	0.01490	NA	NA	NA	0.07	0.517	21.47	7.00
Q30-10 Flow												
0.610	0.02	0.00	0.02	.0387	0.01490	NA	NA	NA	0.07	0.498	21.70	7.00

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
07B	10359	Trib 10359 of Conodoguinet Creek

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.610	0.025	21.566	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
2.247	0.342	6.564	0.073
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
7.49	1.315	1.76	0.790
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.016	28.402	Owens	5
Reach Travel Time (days)			
0.509			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.051	6.97	1.69	7.64
0.102	6.49	1.62	8.01
0.153	6.04	1.56	8.01
0.204	5.62	1.50	8.01
0.255	5.23	1.44	8.01
0.305	4.87	1.38	8.01
0.356	4.53	1.33	8.01
0.407	4.21	1.28	8.01
0.458	3.92	1.23	8.01
0.509	3.65	1.18	8.01

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
07B	10359	Trib 10359 of Conodoguinet Creek

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
0.610	Mt.View Terrace	14.84	6	14.84	6	0	0

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
0.610	Mt.View Terrace	1.69	2.56	1.69	2.56	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
0.61	Mt.View Terrace	10	10	2.56	2.56	5	5	0	0

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
07B	10359	Trib 10359 of Conodoguinet Creek

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Eff. Limit 30-day Ave. (mg/L)	Eff. Limit Maximum (mg/L)	Eff. Limit Minimum (mg/L)
0.610	Mt.View Terrace	PA0087637	0.025	CBOD5	10		
				NH3-N	2.56	5.12	
				Dissolved Oxygen			5

4. TRC_CALC Worksheet

TRC_CALC

1A	B	C	D	E	F	G
2	**TRC EVALUATION**					
3	Input appropriate values in B4:B8 and E4:E7					
4	0.035	= Q stream (cfs)		0.5	= CV Daily	
5	0.025	= Q discharge (MGD)		0.5	= CV Hourly	
6	30	= no. samples		1	= AFC_Partial Mix Factor	
7	0.3	= Chlorine Demand of Stream		1	= CFC_Partial Mix Factor	
8	0	= Chlorine Demand of Discharge		15	= AFC_Criteria Compliance Time (min)	
9	0.5	= BAT/BPJ Value		720	= CFC_Criteria Compliance Time (min)	
	0	= % Factor of Safety (FOS)			=Decay Coefficient (K)	
10	Source	Reference	AFC Calculations		Reference	CFC Calculations
11	TRC	1.3.2.iii	WLA afc =	0.308	1.3.2.iii	WLA cfc = 0.292
12	PENTOXSD TRG	5.1a	LTAMULT afc =	0.373	5.1c	LTAMULT cfc = 0.581
13	PENTOXSD TRG	5.1b	LTA_afc=	0.115	5.1d	LTA_cfc = 0.170
14						
15	Source		Effluent Limit Calculations			
16	PENTOXSD TRG	5.1f	AML MULT =	1.231		
17	PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) =	0.141	AFC	
18			INST MAX LIMIT (mg/l) =	0.462		

WLA afc	(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))... ...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))... ...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)
LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)
LTA_cfc	wla_cfc*LTAMULT_cfc
AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))
AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)
INST MAX LIMIT	1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)

Page 1