Pennsylvania Department of Environmental Protection

SOUTHWEST REGIONAL OFFICE
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0034185**
Facility Type	**Sewage**	APS ID	**1139575**
Major / Minor	**Minor**	Authorization ID	**1530966**

NPDES PERMIT FACT SHEET ADDENDUM

Applicant and Facility Information

Applicant Name	**Pwf1 High Meadows LLC**	Facility Name	**High Meadows MHP STP**
Applicant Address	4751 Kendor Drive	Facility Address	219 Leewood Drive
	New Kensington, PA 15068-9506		Lower Burrell, PA 15068-9508
Applicant Contact	Dennis Steck	Facility Contact	Dennis Steck
Applicant Phone	(419) 892-4800	Facility Phone	(419) 892-4800
Client ID	387406	Site ID	244136
SIC Code	6515	Municipality	Allegheny Township
SIC Description	Fin, Ins & Real Est - Mobile Home Site	County	Westmoreland
Date Published in PA Bulletin	9/21/25	EPA Waived?	Yes
Comment Period End Date	10/21/25	If No, Reason	

Purpose of Application: Application for a renewal of an NPDES permit for discharge of treated Sewage

Approve	Return	Deny	Signatures	Date
x			Sam Mahsoob, EIT / Environmental Engineering Trainee	1/15/2026
x			Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineer Manager	1/15/2026

Internal Review and Recommendations

Due to the adjustment of permit limits for Ammonia-Nitrogen and Dissolved Oxygen, this permit will be redrafted. The previous draft permit was issued on 9/19/25.

Comments were received on the draft permit via a letter from KLH Engineers on October 31, 2025. The letter is included in Attachment A. The comments will each be answered in order below.

1. KLH stated that the permittee cannot meet the future NPDES Permit Limitations without major modifications to the sewage treatment system. KLH, on behalf of PWF1 High Meadows LLC, request that the permit limitations remain unchanged.

Effluent limits are reevaluated every 5 years and are based on current DEP guidance and criteria which are subject to change. The draft permit fact sheet established technology based limits, water quality based limits, and BPJ limits where applicable. Upon further review, the WQM 7.0 model was reevaluated and the limits for Ammonia-Nitrogen were adjusted. The new limits for Ammonia-Nitrogen can be found in the draft permit. Due to these changes, the permit will be redrafted.

2. The STP effluent discharges to a location with little or no assimilative capacity or dilution during critical periods. The permittee requests preliminary effluent limitations for a direct discharge to the Allegheny River, to determine if this would be a feasible solution to meet permit conditions.

Preliminary effluent limitations will be transmitted to the permittee on a separate cover letter if the permittee chooses to relocate the effluent. The Act 537 Sewage Planning, NPDES and WQM permit requirements for the relocation will be evaluated upon permittee's final decision on relocation.

3. KLH requested an extension to the milestone dates as follows:

Compliance Task	Revised Milestone Dates
Feasibility Study Completion	**12 months from permit issuance**
Final Plan completion and submit WQM Permit Application	**6 months from PADEP approval of the Feasibility Study Report**
Start Construction	**6 months from PADEP approval and issuance of the WQM Permit**
End Construction	**24 months from issuance of the WQM Permit**
Compliance with effluent limitations	**59 months from permit issuance.**

The Department has revised Part C. 2. to better align with the compliance schedule proposed by the permittee.

Compliance Task	Milestone Dates
1. Feasibility Study Completion	**12 months from permit issuance**
2. Final Plan completion and submit WQM Permit Application	**18 months from permit issuance**
3. Start Construction	**24 months from permit issuance**
4. Submit Progress Report	**36 months from permit issuance**
5. End Construction	**48 months from permit issuance**
6. Compliance with effluent limitations	**59 months from permit issuance**

Internal Review and Recommendations

A compliance check was completed by Howard Dunn on 10/04/25. 85 effluent violations were found. An NOV was issued to the permittee on December 3, 2025, by Zachary Flanigan. The applicant is encouraged to work with DEP Operations to bring the facility into compliance.

There are three open violations by Client ID for this facility.

Justification on the revised effluent limitations have been added below.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.026
Latitude	40º 37' 24"	Longitude	-79º 41' 41"
Quad Name	New Kensington East	Quad ID	40079E6
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to Allegheny River (WWF)	Stream Code	42546
NHD Com ID	123972443	RMI	0.96
Drainage Area	0.07	Yield (cfs/mi^2)	0.004
Q_{7-10} Flow (cfs)	0.000294	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	1030.25	Slope (ft/ft)	0.03247
Watershed No.	18-A	Chapter 93 Class.	WWF
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	**None**	Name	**None**

Background/Ambient Data		Data Source
pH (SU)	6.34	2020 POFU Study by Richard Spear
Temperature (°F)		
Hardness (mg/L)		
Other:		

PWS ID: 5020108
Nearest Downstream Public Water Supply Intake System Name: HARRISON TWP WATER AUTH

PWS Waters	Allegheny River	Flow at Intake (cfs)	2070
PWS RMI	24.5	Distance from Outfall (mi)	1.5

Water Quality-Based Limitations

The following limitations were determined through water quality modeling (See Attachments C & D):

Parameter	Limit (mg/l)	SBC	Model
Ammonia-Nitrogen (May 1 to Oct 31)	1.91	Average Monthly	WQM 7.0
Ammonia-Nitrogen (May 1 to Oct 31)	3.82	IMAX	WQM 7.0
Ammonia-Nitrogen (Nov 1 to Apr 30)	2.72	Average Monthly	WQM 7.0
Ammonia-Nitrogen (Nov 1 to Apr 30)	5.44	IMAX	WQM 7.0
Dissolved Oxygen	5	Minimum	WQM 7.0

Comments: Stricter limits will be imposed for Ammonia-Nitrogen in the summer and winter. In looking at the DMR data, it appears that the permittee will not be able to immediately comply with these limits. Therefore, a five-year compliance schedule has been implemented for NH3-N.

Operations Compliance Check Summary Report

Facility: High Meadows MHP STP
NPDES Permit No.: PA0034185
Compliance Review Period: 11/04/2020-11/04/2025

Inspection Summary:

INSPECTED DATE	INSP TYPE	AGENCY	INSPECTION RESULT DESC	INSPECTOR ID	INSPECTOR	INSPECTION COMMENT	CREATION DATE	UPDATE DATE	# OF VIOLATIONS
01/03/2023	Administrative/File Review	PA Dept of Environmental Protection	Violation(s) Noted	00703877	KING, WILLIAM		01/05/2023	01/12/2023	1
05/22/2025	Compliance Evaluation	PA Dept of Environmental Protection	Violation(s) Noted	00540560	FLANNIGAN, ZACHARY		06/30/2025		3

Violation Summary:

VIOLATION TYPE DESC	VIOL CODE ID	VIOL PROGRAM	RESOLVED DATE	INSP ID	INSP CATEGORY	INSPECTED DATE	INSP TYPE	INSPECTOR	VIOLATION COMMEI
Operator Certification - Failure to submit annual system fee	17333	WPCWP	01/12/2023	3481762	PF	01/03/2023	Administrative/ File Review	KING, WILLIAM	Check received 1/12/23
NPDES - Violation of effluent limits in Part A of permit	17291	WPCNP		4004960	PF	05/22/2025	Compliance Evaluation	FLANNIGAN, ZACHARY	Effluent limit violations from 2024 - April 2025.
NPDES - Violation of effluent limits in Part A of permit	17291	WPCNP		4004960	PF	05/22/2025	Compliance Evaluation	FLANNIGAN, ZACHARY	Samples collected by the Department revealed excee of effluent limuts.
NPDES - Failure to properly operate and maintain all facilities which are installed or used by the permittee to achieve compliance	17260	WPCNP		4004960	PF	05/22/2025	Compliance Evaluation	FLANNIGAN, ZACHARY	See comments for details.

Open Violations by Client ID:

PROGRAM SPECIFIC ID	INSP ID	VIOLATION ID	INSPECTION CATEGORY	VIOLATION DATE	VIOLATION CODE	VIOLATION	PF INSPECTOR
PA0034185	4004960	8239264	PF	05/22/2025	92A.44	NPDES - Violation of effluent limits in Part A of permit	FLANNIGAN,ZACHARY
PA0034185	4004960	8239265	PF	05/22/2025	92A.44	NPDES - Violation of effluent limits in Part A of permit	FLANNIGAN,ZACHARY
PA0034185	4004960	8239266	PF	05/22/2025	92A.41(A)5	NPDES - Failure to properly operate and maintain all facilities which are installed or used by the permittee to achieve compliance	FLANNIGAN,ZACHARY

Enforcement Summary:

ENF TYPE DESC	ENF CREATION DATE	EXECUTED DATE	INITIATED DATE	VIOL CODE ID	VIOL PROGRAM NAME	VIOLATIONS	# OF VIOLATIONS	PENALTY AMOUNT	AMOUNT RECEIVED	TOTAL AMOUNT DUE	ENF FINAL STATUS	ENF CLOSED DATE	ENF COMMENT	ENF CREATED BY
Notice of Violation	01/05/2023	01/03/2023		17333	WPCWP	302.202	1				Comply/Closed	01/12/2023		WILLIAM, KING

Effluent Violation Summary:

85 effluent violations during the five last years the facility appears to be out of compliance every month. I could not get the power BI to export the data properly it would not export the dates of the violations. However, I have attached the screenshots to the violations reported.

OUTFALL_NUMBER	STAGE_DESC	NON_COMPLIANCE_DATE	NON_COMPL_TYPE_DESC	NON_COMPL_CATEGORY_DESC	PARAMETER	SAMPLE_VALUE	VIOLATION_CONDITION	PERMIT_VALUE	UNIT_OF_MEASURE	STAT_BASE_CODE	D
001	Final Effluent	2/26/2021	Violation of permit condition	Effluent	Carbonaceous Biochemical Oxygen Demand (CBOD5)	25.7	>	25	mg/L	Average Monthly	
001	Final Effluent	3/26/2021	Violation of permit condition	Effluent	Carbonaceous Biochemical Oxygen Demand (CBOD5)	48.5	>	25	mg/L	Average Monthly	
001	Final Effluent	3/26/2021	Violation of permit condition	Effluent	Carbonaceous Biochemical Oxygen Demand (CBOD5)	70	>	50	mg/L	Instantaneous Maximum	
001	Final Effluent	3/26/2021	Violation of permit condition	Effluent	Total Suspended Solids	37.33	>	30	mg/L	Average Monthly	
001	Final Effluent	4/22/2021	Violation of permit condition	Effluent	Carbonaceous Biochemical Oxygen Demand (CBOD5)	31.76	>	25	mg/L	Average Monthly	
001	Final Effluent	8/26/2021	Violation of permit condition	Effluent	Carbonaceous Biochemical Oxygen Demand (CBOD5)	25.3	>	25	mg/L	Average Monthly	
001	Final Effluent	12/16/2021	Violation of permit condition	Effluent	Carbonaceous Biochemical Oxygen Demand (CBOD5)	31.7	>	25	mg/L	Average Monthly	
001	Final Effluent	12/16/2021	Violation of permit condition	Effluent	Carbonaceous Biochemical Oxygen Demand (CBOD5)	31.7	>	25	mg/L	Average Monthly	
001	Final Effluent	1/25/2022	Violation of permit condition	Effluent	Carbonaceous Biochemical Oxygen Demand (CBOD5)	30	>	25	mg/L	Average Monthly	
001	Final Effluent	3/27/2022	Violation of permit condition	Effluent	Carbonaceous Biochemical Oxygen Demand (CBOD5)	31.8	>	25	mg/L	Average Monthly	
001	Final Effluent	3/27/2022	Violation of permit condition	Effluent	Carbonaceous Biochemical Oxygen Demand (CBOD5)	25.55	>	25	mg/L	Average Monthly	
001	Final Effluent	3/27/2022	Violation of permit condition	Effluent	Fecal Coliform	2420	>	2000	No./100 ml	Geometric Mean	
001	Final Effluent	4/27/2022	Violation of permit condition	Effluent	Fecal Coliform	2420	>	2000	No./100 ml	Geometric Mean	
001	Final Effluent	7/28/2022	Violation of permit condition	Effluent	Fecal Coliform	2420	>	1000	No./100 ml	Instantaneous Maximum	
001	Final Effluent	8/25/2022	Violation of permit condition	Effluent	Total Suspended Solids	31.5	>	30	mg/L	Average Monthly	
001	Final Effluent	10/27/2022	Violation of permit condition	Effluent	Fecal Coliform	2420	>	1000	No./100 ml	Instantaneous Maximum	
001	Final Effluent	3/28/2023	Violation of permit condition	Effluent	Carbonaceous Biochemical Oxygen Demand (CBOD5)	41.9	>	25	mg/L	Average Monthly	
001	Final Effluent	3/28/2023	Violation of permit condition	Effluent	Carbonaceous Biochemical Oxygen Demand (CBOD5)	51	>	50	mg/L	Instantaneous Maximum	
001	Final Effluent	5/25/2023	Violation of permit condition	Effluent	Carbonaceous Biochemical Oxygen Demand (CBOD5)	26.6	>	25	mg/L	Average Monthly	
001	Final Effluent	6/28/2023	Violation of permit condition	Effluent	Fecal Coliform	2420	>	1000	No./100 ml	Instantaneous Maximum	
001	Final Effluent	6/28/2023	Violation of permit	Effluent	Total Suspended Solids	49	>	30	mg/L	Average Monthly	

001	Final Effluent	6/28/2023	Violation of permit condition	Effluent	Total Suspended Solids	69	>	60	mg/L	Instantaneous Maximum
001	Final Effluent	4/26/2024	Violation of permit condition	Effluent	Fecal Coliform	> 2420	>	10000	No./100 ml	Instantaneous Maximum
001	Final Effluent	7/27/2024	Violation of permit condition	Effluent	Fecal Coliform	286.59	>	200	No./100 ml	Geometric Mean
001	Final Effluent	7/27/2024	Violation of permit condition	Effluent	Total Suspended Solids	32.33	>	30	mg/L	Average Monthly
001	Final Effluent	7/27/2024	Violation of permit condition	Effluent	Total Suspended Solids	74	>	60	mg/L	Instantaneous Maximum
001	Final Effluent	11/13/2024	Violation of permit condition	Effluent	Ammonia-Nitrogen	10.2	>	4.0	mg/L	Instantaneous Maximum
001	Final Effluent	11/13/2024	Violation of permit condition	Effluent	Ammonia-Nitrogen	9.0	>	2.0	mg/L	Average Monthly
001	Final Effluent	12/8/2024	Violation of permit condition	Effluent	Ammonia-Nitrogen	16.6	>	3.0	mg/L	Average Monthly
001	Final Effluent	12/8/2024	Violation of permit condition	Effluent	Ammonia-Nitrogen	19.0	>	6.0	mg/L	Instantaneous Maximum
001	Final Effluent	1/5/2025	Violation of permit condition	Effluent	Ammonia-Nitrogen	15.7	>	3.0	mg/L	Average Monthly
001	Final Effluent	1/5/2025	Violation of permit condition	Effluent	Ammonia-Nitrogen	16.3	>	6.0	mg/L	Instantaneous Maximum
001	Final Effluent	2/9/2025	Violation of permit condition	Effluent	Ammonia-Nitrogen	15.0	>	3.0	mg/L	Average Monthly
001	Final Effluent	2/9/2025	Violation of permit condition	Effluent	Ammonia-Nitrogen	26.9	>	6.0	mg/L	Instantaneous Maximum
001	Final Effluent	3/11/2025	Violation of permit condition	Effluent	Ammonia-Nitrogen	17.4	>	3.0	mg/L	Average Monthly
001	Final Effluent	3/11/2025	Violation of permit condition	Effluent	Ammonia-Nitrogen	25.2	>	6.0	mg/L	Instantaneous Maximum
001	Final Effluent	3/11/2025	Violation of permit condition	Effluent	Carbonaceous Biochemical Oxygen Demand (CBOD5)	26.5	>	25	mg/L	Average Monthly
001	Final Effluent	4/8/2025	Violation of permit condition	Effluent	Ammonia-Nitrogen	14.6	>	3.0	mg/L	Average Monthly
001	Final Effluent	4/8/2025	Violation of permit condition	Effluent	Ammonia-Nitrogen	17.3	>	6.0	mg/L	Instantaneous Maximum
001	Final Effluent	5/7/2025	Violation of permit condition	Effluent	Ammonia-Nitrogen	23.2	>	3.0	mg/L	Average Monthly
001	Final Effluent	5/7/2025	Violation of permit condition	Effluent	Ammonia-Nitrogen	31.9	>	6.0	mg/L	Instantaneous Maximum
001	Final Effluent	5/7/2025	Violation of permit condition	Effluent	Carbonaceous Biochemical Oxygen Demand (CBOD5)	37.0	>	25	mg/L	Average Monthly
001	Final Effluent	5/7/2025	Violation of permit condition	Effluent	Carbonaceous Biochemical Oxygen Demand (CBOD5)	57.1	>	50	mg/L	Instantaneous Maximum

001	Final Effluent	6/8/2025	Violation of permit condition	Effluent	Ammonia-Nitrogen	10.8	>	2.0	mg/L	Average Monthly
001	Final Effluent	6/8/2025	Violation of permit condition	Effluent	Ammonia-Nitrogen	18.3	>	4.0	mg/L	Instantaneous Maximum
001	Final Effluent	6/8/2025	Violation of permit condition	Effluent	Fecal Coliform	> 2420	>	1000	No./100 ml	Instantaneous Maximum
001	Final Effluent	6/8/2025	Violation of permit condition	Effluent	Fecal Coliform	888	>	200	No./100 ml	Geometric Mean
001	Final Effluent	6/8/2025	Violation of permit condition	Effluent	Total Suspended Solids	43	>	30	mg/L	Average Monthly
001	Final Effluent	6/8/2025	Violation of permit condition	Effluent	Total Suspended Solids	71	>	60	mg/L	Instantaneous Maximum
001	Final Effluent	7/16/2025	Violation of permit condition	Effluent	Ammonia-Nitrogen	23.8	>	2.0	mg/L	Average Monthly
001	Final Effluent	7/16/2025	Violation of permit condition	Effluent	Ammonia-Nitrogen	29.0	>	4.0	mg/L	Instantaneous Maximum
001	Final Effluent	7/16/2025	Violation of permit condition	Effluent	Carbonaceous Biochemical Oxygen Demand (CBOD5)	27	>	25	mg/L	Average Monthly
001	Final Effluent	8/4/2025	Violation of permit condition	Effluent	Ammonia-Nitrogen	14.1	>	2.0	mg/L	Average Monthly
001	Final Effluent	8/4/2025	Violation of permit condition	Effluent	Ammonia-Nitrogen	14.1	>	4.0	mg/L	Instantaneous Maximum
001	Final Effluent	8/4/2025	Violation of permit condition	Effluent	Fecal Coliform	> 2420	>	1000	No./100 ml	Instantaneous Maximum
001	Final Effluent	8/4/2025	Violation of permit condition	Effluent	Fecal Coliform	> 2420	>	200	No./100 ml	Geometric Mean
001	Final Effluent	8/4/2025	Violation of permit condition	Effluent	Total Suspended Solids	36	>	30	mg/L	Average Monthly
001	Final Effluent	9/15/2025	Violation of permit condition	Effluent	Ammonia-Nitrogen	42.4	>	2.0	mg/L	Average Monthly
001	Final Effluent	9/15/2025	Violation of permit condition	Effluent	Ammonia-Nitrogen	42.7	>	4.0	mg/L	Instantaneous Maximum
001	Final Effluent	9/15/2025	Violation of permit condition	Effluent	Carbonaceous Biochemical Oxygen Demand (CBOD5)	101	>	25	mg/L	Average Monthly
001	Final Effluent	9/15/2025	Violation of permit condition	Effluent	Carbonaceous Biochemical Oxygen Demand (CBOD5)	125	>	50	mg/L	Instantaneous Maximum
001	Final Effluent	9/15/2025	Violation of permit condition	Effluent	Fecal Coliform	> 2420	>	1000	No./100 ml	Instantaneous Maximum
001	Final Effluent	9/15/2025	Violation of permit condition	Effluent	Fecal Coliform	> 2420	>	200	No./100 ml	Geometric Mean
001	Final Effluent	9/15/2025	Violation of permit condition	Effluent	Total Suspended Solids	79	>	30	mg/L	Average Monthly

			condition							
001	Final Effluent	9/15/2025	Violation of permit condition	Effluent	Total Suspended Solids	93	>	60	mg/L	Instantaneous Maximum
001	Final Effluent	10/5/2025	Violation of permit condition	Effluent	Ammonia-Nitrogen	40.9	>	2.0	mg/L	Average Monthly
001	Final Effluent	10/5/2025	Violation of permit condition	Effluent	Ammonia-Nitrogen	44.1	>	4.0	mg/L	Instantaneous Maximum
001	Final Effluent	10/5/2025	Violation of permit condition	Effluent	Carbonaceous Biochemical Oxygen Demand (CBOD5)	47	>	25	mg/L	Average Monthly
001	Final Effluent	10/5/2025	Violation of permit condition	Effluent	Carbonaceous Biochemical Oxygen Demand (CBOD5)	61	>	50	mg/L	Instantaneous Maximum
001	Final Effluent	10/5/2025	Violation of permit condition	Effluent	Fecal Coliform	12100	>	1000	No./100 ml	Instantaneous Maximum
001	Final Effluent	10/5/2025	Violation of permit condition	Effluent	Fecal Coliform	5411	>	200	No./100 ml	Geometric Mean
001	Final Effluent	10/5/2025	Violation of permit condition	Effluent	Total Suspended Solids	117	>	60	mg/L	Instantaneous Maximum
001	Final Effluent	10/5/2025	Violation of permit	Effluent	Total Suspended Solids	76	>	30	mg/L	Average Monthly

Unauthorized Discharges:

one unauthorized discharge reported in eDMR during review period

Compliance Status: Facility is in general noncompliance with NPDES effluent limits on a frequent basis. The Supervisor will follow up with the inspector about the facility.

Completed by: **Completed date:** 11/04/25

Attachment A

Letter from Roger Varner

KLH ENGINEERS, INC

Via Electronic Mail Only

October 31, 2025

Ref. No. 3064-02

Mr. Sam Mahsoob, EIT
Pennsylvania Department of Environmental Protection
Southwest Regional Office - Clean Water Program
400 Waterfront Drive
Pittsburgh, PA 15222-4745

Dear Mr. Mahsoob:

PWF1 High Meadows LLC
High Meadows MHP Sewage Treatment Plant
DRAFT NPDES Permit Comments
NPDES Permit No. PA0034185
Authorization ID No. 1530966

KLH Engineers Inc. (KLH) is writing on behalf of PWF1 High Meadows LLC to offer the following comments on the issued Draft NPDES Permit No. PA0034185, for PADEP's consideration and implementation when issuing the Final NPDES Permit No. PA0034185:

1. The following effluent limitations in Part A of the Draft NPDES Permit is changed as follows:

Parameter	Requirement Type	2020 Permit	2025 Draft Permit
Dissolved Oxygen	Instant. Minimum	5.0 mg/l	**6.0 mg/l**
Ammonia-Nitrogen (Nov 1 – April 30)	Average Monthly	3.0 mg/l	**1.98 mg/l**
	Instant. Max.	6.0 mg/l	**3.96 mg/l**
Ammonia-Nitrogen (May 1 – Oct 31)	Average Monthly	2.0 mg/l	**1.4 mg/l**
	Instant. Max.	4.0 mg/l	**2.8 mg/l**

   The permittee cannot meet the future NPDES Permit Limitations without major modifications to the sewage treatment system. KLH, on behalf of PWF1 High Meadows LLC, request that the permit limitations remain unchanged.

2. The STP effluent discharges to a location with little or no assimilative capacity or dilution during critical periods. The permittee requests preliminary effluent limitations for a direct discharge to the Allegheny River, to determine if this would be a feasible solution to meet permit conditions.

5173 Campbells Run Road Pittsburgh, PA 15205 Phone: 412.494.0510 Fax: 412.494.0426 info@klhengineers.com
www.klhengineers.com

3. A Schedule of Compliance with milestone dates is added to the Draft NPDES permit under Part C.II to achieve compliance with effluent limitations for dissolved oxygen, and ammonia-nitrogen as follows:

Compliance Task	**Milestone Dates**
Feasibility Study Completion	6 months from permit issuance
Final Plan completion and submit WQM Permit Application	12 months from permit issuance
Start Construction	18 months from permit issuance
End Construction	24 months from permit issuance
Compliance with effluent limitations	36 months from permit issuance

If the Draft NPDES Permit Limitations are to be issued as final in the NPDES Permit, then KLH requests an extension to the compliance schedule and milestone dates as follows:

Compliance Task	**Revised Milestone Dates**
Feasibility Study Completion	**12 months from permit issuance**
Final Plan completion and submit WQM Permit Application	**6 months from PADEP approval of the Feasibility Study Report**
Start Construction	**6 months from PADEP approval and issuance of the WQM Permit**
End Construction	**24 months from issuance of the WQM Permit**
Compliance with effluent limitations	**59 months from permit issuance.**

If you have any questions regarding this correspondence, please feel free to contact me directly at (412)-494-0510, extension 142.

Sincerely,

KLH ENGINEERS, INC.

Roger Varner

Roger B. Varner, P.E.
Senior Project Engineer

Cc: Rick Bergman, Buckeye MH Communities, LLC
Dennis Steck, PWF1 High Meadows, LLC
David A. Coldren, P.E., KLH Engineers, Inc.

Attachment B

POFU Study

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

MEMO

TO	Yingmin Xue Environmental Engineering Specialist Clean Water Program
FROM	Jamie Detweiler Aquatic Biologist 2 Clean Water Program
THROUGH	Richard Spear Aquatic Biologist 3 Clean Water Program
DATE	June 23, 2020
RE	Point of First Use Survey Tributary 42546 to the Allegheny River State Water Plan: 18A Hydrologic Unit Code: 05010009 Stream Code: 42546 Aquatic Use Designation:WWF High Meadows Mobile Home Park Sewage Treatment Plant Allegheny Township, Westmoreland County

INTRODUCTION

On February 3, 2020, at the request of Yingmin Xue of the Clean Water Program, a Point of First Surface Water Use (POFU) survey was conducted on Tributary 42546 to the Allegheny River, located in Allegheny Township, Westmoreland County. The objective of the survey was to determine if the tributary was capable of supporting an Aquatic Life Use as defined in 25 Pennsylvania Code §93.9q in the vicinity of the High Meadows Mobile Home Park (MHP) Sewage Treatment Plant (STP) outfall located at approximately Latitude: 40.623272, Longitude: -79.694745.

The High Meadows MHP is located on top of a hill, adjacent to the Allegheny River (Figure 1). A pond is located onsite but does not appear to directly receive the discharge from the MHP. The POFU of Tributary 42546 to the Allegheny River is located downslope of the STP discharge, the aforementioned pond, and a relatively large wetland (Figure 2). Water from these sources flows into a culvert. Downslope of this culvert, the stream exhibits characteristics that would typically support an aquatic life use, such as a defined bed and bank and definite substrate. The previous permit stated that the STP discharges directly to the Allegheny River and the limits were based on the discharge being to the river. However, maps indicated that this was not the case.

The High Meadows MHP STP is a Minor Sewage Facility (MISF1), which is a designation for STPs that discharge less than 0.05 Million Gallons Per Day (MGD). This STP's annual average design flow is 0.026 MGD, and it was designed to serve 106 housing units. The treatment consists of flow equalization, primary settling, biological treatment using Geo-Form rotating reactors, final clarification, and ultraviolet disinfection. A tablet chlorinator is available as a backup to the UV disinfection system. Sludge from the primary and secondary clarifiers is pumped to an aerated sludge holding tank. The digested sludge is removed for appropriate disposal at a landfill.

Ms. Xue is currently reviewing a permit renewal of the STP's National Pollution Discharge Elimination System (NPDES) Permit (PA0034185). The plant also has a Water Quality Management Permit (659433 A2). During the past permitting cycle, the STP had 3 DMR exceedances during 2018 and 8 DMR exceedances (COBD, TSS and fecal) from 1/1/2019 through 4/23/2020. During a facility inspection on 2/11/2020, a violation was noted and resolved. There are no open violations and there have been no enforcements actions taken for this client in the last 5 years. The facility is currently in compliance.

According to USGS StreamStats, at the location of sampling, the drainage area is 0.13 square miles. The drainage area is 46% developed; 14.7 % is impervious. Tributary 42546 to the Allegheny River is in the Lower Allegheny River State Water Plan (18A), and the Lower Allegheny River Hydrologic Unit (Hydrologic Unit Code 05010009). Tributary 42546 to the Allegheny River (Stream Code 42546) is listed as attaining its designated Aquatic Life Use for Warm Water Fishery (WWF). However, it appears that it was never surveyed.

SAMPLING METHODOLOGY

The point of first aquatic life use is the location at which a body of water is capable of supporting aquatic life as defined in 25 Pennsylvania Code §93. Guidance for determining the point of first aquatic life use is in the Department's guidance document #391-2000-014, Policy and Procedures for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers (revised April 12, 2008). Specifically, Appendix B of the guidance document provides additional guidance when making a point of first use determination.

On February 3, 2020, basic water quality (Table 1) and macroinvertebrates (Table 2) were examined in the stream that receives the discharge from the outfall. The station was established at the point downslope from the permitted discharge where distinct bed and banks were found (Figures 3,4). Basic water quality parameters were examined using a field meter and additional water chemistry and macroinvertebrates were collected and subsampled according to the Department's Water Quality Monitoring Protocols for Streams and Rivers 2018 (Monitoring Book), which can be found by following this link:
http://files.dep.state.pa.us/Water/Drinking%20Water%20and%20Facility%20Regulation/WaterQualityPortalFiles/Technical%20Documentation/MONITORING_BOOK.pdf

RESULTS

Upslope from the survey location, a relatively flat wetland area was located adjacent to Wildcat Hollow Road. A small channel was found within the wetland, but it did not appear to have characteristics that would support aquatic life. Water draining out of the wetland entered a culvert. The survey location was just downstream of the culvert. At the survey location, the stream was incised, with heavily eroded banks that were approximately 3 feet high. The stream was about 5 feet wide, with a 4 ft wetted width. The riparian area at the sampling location and downstream was forested, with a dirt road located adjacent to the stream.

A relatively large number of macroinvertebrates were collected during the study. In subsampling the composited sample, I used option 1 from the Monitoring Book, which is the appropriate protocol for suspected high abundance samples. In using option 1, the material and organisms from four grids were taken from the first sample pan and placed into a second gridded pan. Organisms from four grids of the second gridded pan resulted in reaching the target number of 200 +/- 10%.

Six macroinvertebrate taxa were found in the subsample. The Index of Biotic Integrity (IBI), calculated for the stream size and time of year (Table 3), indicates that the aquatic life use in this segment of stream channel is not being attained (IBI score = 14.4, less than 50 is not attaining). The water quality results did not show any exceedances of the Chapter 93 water quality criteria. However, the total habitat score was 129, which is below the threshold (140) for aquatic life use impairment for riffle/run dominated streams. In addition, the combined scores of embeddedness and sediment deposition (21) and condition of banks and bank vegetative protection (8) are below the impairment threshold (24) for each combination.

DISCUSSION AND CONCLUSIONS

The objective of this study was to examine aquatic life, water quality, and physical characteristics of the Tributary 42546 to the Allegheny River to determine if and where the stream is capable of supporting an aquatic life use as defined in 25 Pennsylvania Code §93.9q, where water quality standards must be met.

Findings from this study suggest that the Tributary 42546 to the Allegheny River at the point of sampling is capable of supporting aquatic life. Two long-lived taxa were identified in the macroinvertebrate sample and the stream exhibited defined bed and bank. Therefore, when issuing the NPDES permit renewal, limits should be based on the STP discharging to Tributary 42546 to the Allegheny River, rather than the Allegheny River, as in the previous permit.

Results from this study suggest that the stream has an aquatic life use at the point where the study was performed (Latitude: 40.62133380, Longitude: -79.69631730), and this use should be protected.

Also, the stream will be listed as not attaining its protected use under Section 303d of the Clean Water Act. The cause of the impairment is habitat alteration and siltation and the sources of the impairments are Highway/Road/Bridge Runoff and Urban Runoff/Storm sewers, respectively.

cc: Stream File – Tributary 42546 to the Allegheny River
Donald Leone – SWRO, Environmental Group Manager
Christopher Kriley – SWRO, Environmental Program Manager
Michael (Josh) Lookenbill – CO, Environmental Group Manager

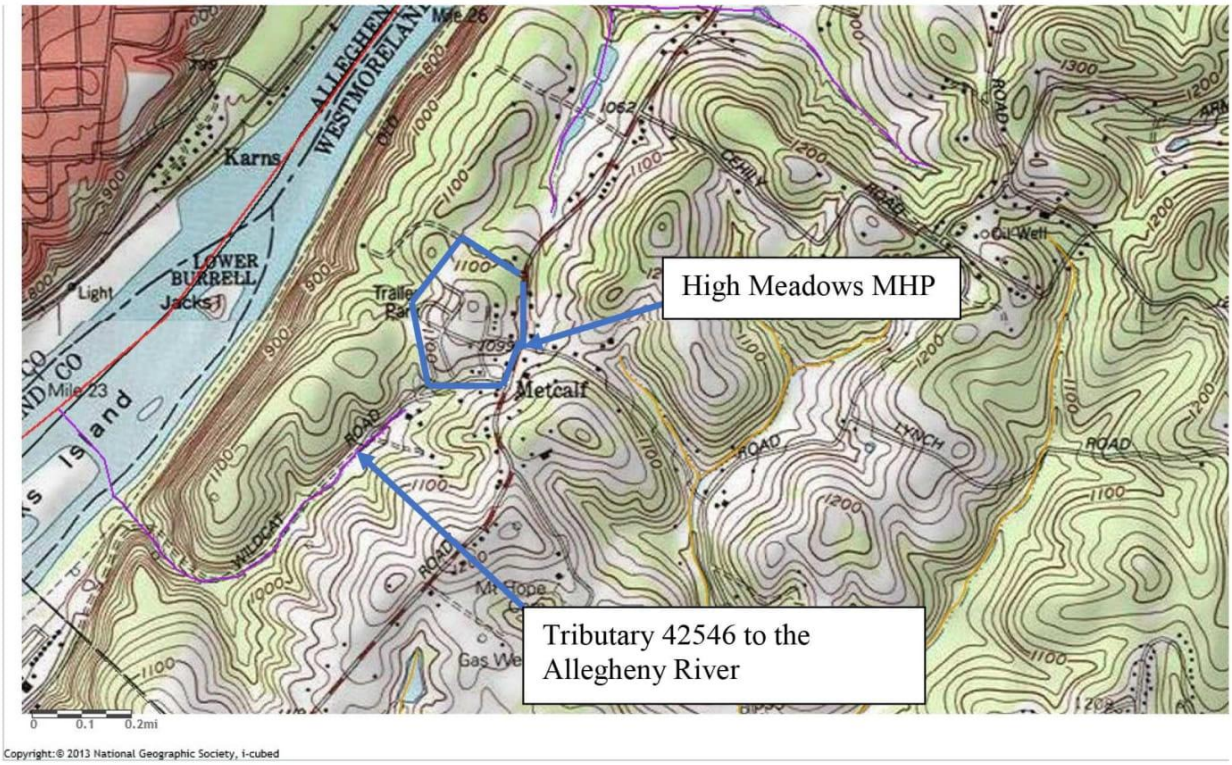

Figure 1. USGS Topographical map of High Meadows MHP and Tributary 42546 to the Allegheny River.

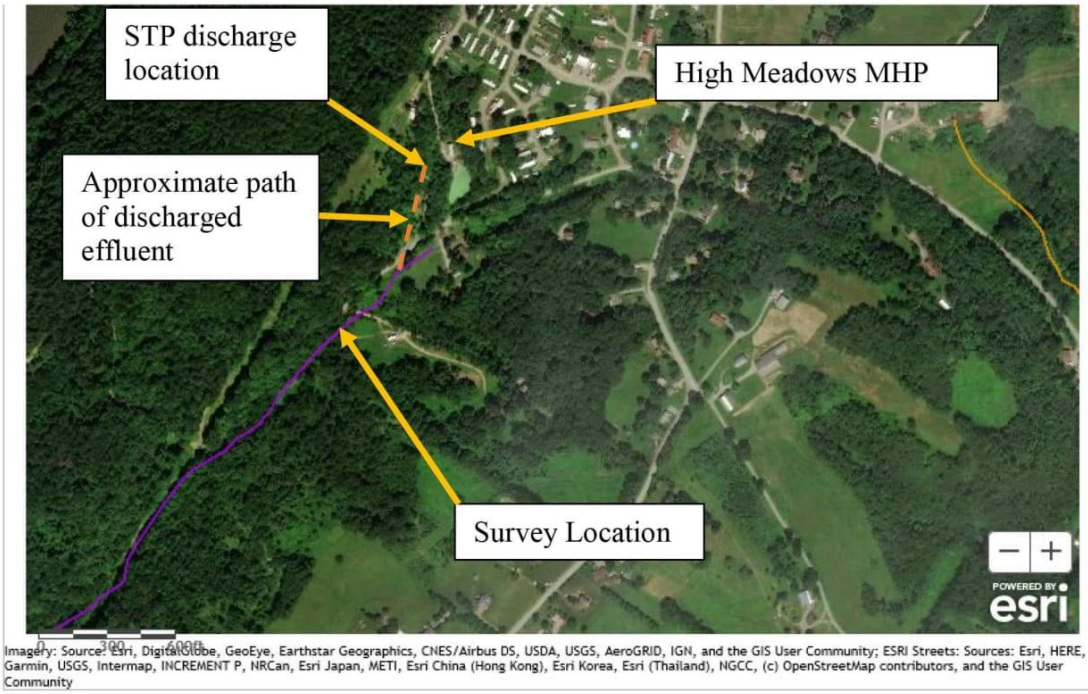

Figure 2. Aerial map showing the High Meadows MHP STP and survey location.

Table 1. Water quality parameters from the Tributary 42546 to the Allegheny River.

PARAMETER	DESCRIPTION	RESULTS
pH	FIELD	6.34 pH units
TEMPERATURE	FIELD	4.8 C
DISSOLVED OXYGEN	FIELD	11.61 mg/L
SPECIFIC CONDUCTANCE	FIELD	463.0 umhos/cm
ALKALINITY	AS CaCO3 @ pH 4.5	95.6 mg/L
ALUMINUM	DISSOLVED (WATER & WASTE) BY ICPMS	16.500 ug/L
ALUMINUM	TOTAL (WATER & WASTE) ICPMS	72.500 ug/L
AMMONIA	DISSOLVED AS NITROGEN	1.5480 mg/L
AMMONIA	TOTAL AS NITROGEN	1.51 mg/
BARIUM	TOTAL (WATER & WASTE) BY ICP	29.00 ug/L
BORON	TOTAL (WATER & WASTE) BY ICP	<200. ug/L
CADMIUM	DISSOLVED (WATER & WASTE) BY ICPMS	<0.200 ug/L
CALCIUM	TOTAL (WATER & WASTE) BY ICP	43.600 mg/L
COPPER	DISSOLVED (WATER & WASTE) BY ICPMS	<4.00 ug/L
COPPER	TOTAL (WATER & WASTE) BY ICPMS	<4.00 ug/L
Dissolve Nitrate & Nitrite Nitrogen		1.50 mg/L
Dissolve Ortho Phosphorus		0.203 mg/L
Dissolved Nitrogen as N		3.351 mg/L
Dissolved Phosphorus as P		0.261 mg/L
HARDNESS	TOTAL (CALCULATED)	146 mg/L
IRON	DISSOLVED (WATER & WASTE) BY ICP	104.00 ug/L
IRON	TOTAL (WATER & WASTE) BY ICP	228.00 ug/L
LEAD	DISSOLVED (WATER & WASTE) BY ICPMS	<1.00 ug/L
LEAD	TOTAL (WATER & WASTE) BY ICPMS	<1.00 ug/L
LITHIUM	DISSOLVED (WATER &WASTE) BY ICP	<25.0 ug/L
LITHIUM	TOTAL (WATER & WASTE) BY ICP	<25.0 ug/L
Low Bromide	by IC	27.27 ug/L
MAGNESIUM	TOTAL (WATER & WASTE) BY ICP	8.94 mg/L
MANGANESE	DISSOLVED (WATER & WASTE) BY ICP	233.00 ug/L
MANGANESE	TOTAL (WATER & WASTE) BY ICP	238.00 ug/L
NICKEL	DISSOLVED (WATER & WASTE) BY ICP	<50.0 ug/L
NICKEL	TOTAL (WATER & WASTE) BY ICP	<50.0 ug/L
OSMOTIC PRESSURE		6 mos/kg
POTASSIUM	TOTAL (WATER & WASTE) BY ICP	2.50 mg/L
SELENIUM	TOTAL (WATER & WASTE) BY ICPMS	<7.00 ug/L
SODIUM	TOTAL (WATER & WASTE) BY ICP	30.20 mg/L
STRONTIUM	TOTAL (WATER & WASTE) BY ICP	138.00 ug/L
Temperature	at which pH is measured	18.67 C

Total Chloride-Ion	Chromatograph	61.59 mg/L
TOTAL DISSOLVED SOLIDs	@ 180C BY USGS-I-1750	276 mg/L
Total Nitrate & Nitrite Nitrogen		1.47 mg/L
Total Nitrogen as N		3.30 mg/L
Total Organic Carbon		3.14 mg/L
Total Ortho Phosphorus as P		0.207 mg/L
Total Phosphorus as P		0.261 mg/L
Sulfate-Ion	Chromatograph	29.73 mg/L
TOTAL SUSPENDED SOLIDS		<5 mg/L
ZINC	DISSOLVED (WATER & WASTE) BY ICP	<30.0 ug/L
ZINC	TOTAL (WATER & WASTE) BY ICP	<30.0 ug/L

< indicates result is below reporting limit

Table 2. Macorinvertebrates observed in Tributary 42546 to Allegheny River.

TAXA	Family	Number in subsample	Long lived taxa
Diplectrona	Hydropsychidae (Net-spinning Caddisfly)	1	Yes
Hydropsyche	Hydropsychidae (Net-spinning Caddisfly)	1	Yes
Tipula	Tipulidae (Crane Fly)	1	Yes
Simulium	Simulidae (Black Fly)	31	No
Chironomidae	Chirononimdae (Non-biting Midge)	48	No
Oligochaeta	N/A (Segmented Worm)	129	No

Table 3. Bureau of Clean Water Macroinvertebrate Sample Summary.

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

BUREAU OF CLEAN WATER
MACROINVERTEBRATE SAMPLE SUMMARY
3/4/2020 3:15:24 PM

Export Data to Excel

SAMPLE SUMMARY				
STATION ID: 20200203-1000-jadetweile	**SECONDARY STATION ID:** UNT 42546 to Allegheny River, Downstream of Highmeadows MHP STP.	**LATITUDE:** 40.62133380	**LONGITUDE:** -79.69631730	
STREAM NAME:		**HUC8** 05010009 Lower Allegheny. Pennsylvania.		
SURVEY ID: 71877		**METHOD:** 6-Dframe Composite, 200 subsample		
SUBSAMPLED BY: Jamie Detweiler	**IDENTIFIED BY:** Jamie Detweiler	**QUALITY ASSURED:** N	**QUALITY ASSURED BY:**	**PASSED QUALITY ASSURANCE:** N
STATION LOCATION COMMENT: Station is located along Wildcat Hollow Road on UNT 42546 to Allegheny River. Location is downstream of an open area/ yard/wetland and receives the discharge from the High Meadow MHP STP.				
BIOLOGY / HABITAT COMMENT: A dirt road follows the stream down to the Allegheny River. other than the road, the area is forested. However the stream must receive flashy storms, since the banks are eroded. Downstream of this site, algae was growing on the substrate				
LAND USE COMMENT:				
IMPAIRMENT COMMENT:				

TAXA					
	# grids from first pan = 4	# grids from second pan = 4		Subsample Size =	211
TAXA NAME	**INDIVIDUALS**	**PTV**	**FFG**	**BCG COLD**	**BCG WARM**
Diplectrona	1	0	FC	2	2
Hydropsyche	1	5	FC	5	5
Tipula	1	4	SH	5	5
Simulium	31	6	FC	5	5
Chironomidae	48	6	CG	5	5
Oligochaeta	129	10	CG	5	5

SSRS_SLIMS_043 Ver 1.1

Page 1 of 2

STATION ID: 20200203-1000-jadetweile

METRICS						
		Freestone Riffle-Run 6D200				
METRIC NAME	RAW VALUE	2013 SMALL	2013 LARGE	2D100	MULTIHABITAT POOL GLIDE	LIMESTONE 2009
Total Richness	6	18.2	19.4		19.4	33.3
Ephemeroptera Richness	0				0.0	
Trichoptera Richness	2				18.2	
EPT Richness	2			13.1	11.8	25.0
Trichoptera Richness (PTV 0-4)	1			27.8		
EPT Richness (PTV 0-4)	1	5.3	6.3			
Becks Index (version 3)	3	7.9	13.6			
Becks Index (version 4)	3			15.1	13.6	25.0
FC + PR + SH Richness	4			34.5		
Hilsenhoff Biotic Index	8.40	19.7	23.0	23.7		26.0
% Sensitive Individuals (PTV 0-3)	0.50	0.6	0.7			
% Tolerant Individuals (PTV 7-10)	61.10					39.5
Shannon Diversity	1	35.0	35.0		41.2	46.9
	IBI SCORE	14.4	16.3	22.8	17.3	32.6

% Ephemeroptera	0.0	% Ephemeroptera (PTV 0-4)	0.0	% Dominant Taxon	61.1	BCG Richness Ratio	0.20
% Plecoptera	0.0	Ephemeroptera Richness (PTV 0-4)	0	% Chironomidae	22.7	BCG Individuals Ratio	0
% Trichoptera	0.9	Plecoptera Richness	0	% Simulidae	14.7		

IMPAIRMENT					
Not Impaired	Y	Insufficient Data	Y		

HABITAT							
Instream Cover	14	Substrate / Cover		Frequency of Riffles	17	Bank Vegetation	6
Epifaunal Substrate	15	Velocity/Depth Regimes	10	Channel Flow Status	12	Disruptive Pressure	15
Embeddedness	11	Pool Variability		Channel Alteration	8	Riparian Zone	9
Pool Substrate		Sediment Deposition	10	Condition of Banks	2		
Pool-Glide Assessment? N		Instream Score = 50		Riparian Score = 17		Total Score = 129	

FIELD MEASUREMENTS					
Temperature (°C)	4.80	Dissolved Oxygen (mg/L)	11.61	Flow (CFS)	
pH	6.34	Total Alkalinity (mg/L as CaCO3)		Conductivity (uS/cm)	463

WATER CHEMISTRY			
Collector ID	0725	Sequence Number	087

Figure 3. Sampling location, facing upstream.

Figure 4. Sampling location, facing downstream.

Attachment C

Revised WQM 7.0 Summer Model

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
18A	42546	Trib 42546 to Allegheny River	**0.960**	1030.25	0.07	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	0.004	0.00	0.00	0.000	0.000	10.0	0.00	0.00	25.00	6.34	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
High Meadows	PA0034185	0.0260	0.0260	0.0000	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	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.38	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
18A	42546	Trib 42546 to Allegheny River	**0.580**	965.31	0.24	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	0.004	0.00	0.00	0.000	0.000	10.0	0.00	0.00	25.00	6.34	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	0.00	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	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	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
18A	42546	Trib 42546 to Allegheny River

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												
0.960	0.00	0.00	0.00	.0402	0.03237	.336	1.65	4.91	0.07	0.318	20.04	6.99
Q1-10 Flow												
0.960	0.00	0.00	0.00	.0402	0.03237	NA	NA	NA	0.07	0.318	20.02	6.99
Q30-10 Flow												
0.960	0.00	0.00	0.00	.0402	0.03237	NA	NA	NA	0.07	0.317	20.05	6.98

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
18A	42546	Trib 42546 to Allegheny River

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
0.960	High Meadows	16.83	16.91	16.83	16.91	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
0.960	High Meadows	1.89	1.91	1.89	1.91	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)		
0.96	High Meadows	25	25	1.91	1.91	5	5	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
18A	42546	Trib 42546 to Allegheny River

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.960	0.026	20.036	6.989
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
1.649	0.336	4.907	0.073
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
24.83	1.499	1.90	0.702
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.025	28.314	Owens	5
Reach Travel Time (days)			
0.318			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.032	23.68	1.85	6.21
0.064	22.57	1.81	6.74
0.095	21.52	1.77	7.02
0.127	20.52	1.73	7.18
0.159	19.57	1.70	7.29
0.191	18.66	1.66	7.38
0.222	17.79	1.62	7.47
0.254	16.96	1.59	7.54
0.286	16.17	1.55	7.61
0.318	15.42	1.52	7.68

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
18A	42546	Trib 42546 to Allegheny River

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)
0.960	High Meadows	PA0034185	0.026	CBOD5	25		
				NH3-N	1.91	3.82	
				Dissolved Oxygen			5

Attachment D

Revised WQM 7.0 Winter Model

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
18A	42546	Trib 42546 to Allegheny River	**0.960**	1030.25	0.07	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	0.008	0.00	0.00	0.000	0.000	10.0	0.00	0.00	5.00	6.34	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
High Meadows	PA0034185	0.0260	0.0260	0.0000	0.000	15.00	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	12.80	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
18A	42546	Trib 42546 to Allegheny River	**0.580**	965.31	0.24	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	0.008	0.00	0.00	0.000	0.000	10.0	0.00	0.00	5.00	6.34	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	0.00	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 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
18A	42546	Trib 42546 to Allegheny River

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												
0.960	0.00	0.00	0.00	.0402	0.03237	.336	1.65	4.91	0.07	0.316	14.86	6.98
Q1-10 Flow												
0.960	0.00	0.00	0.00	.0402	0.03237	NA	NA	NA	0.07	0.317	14.91	6.99
Q30-10 Flow												
0.960	0.00	0.00	0.00	.0402	0.03237	NA	NA	NA	0.07	0.315	14.81	6.97

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	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
18A	42546	Trib 42546 to Allegheny River

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
0.960	High Meadows	24.4	24.63	24.4	24.63	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
0.960	High Meadows	2.67	2.72	2.67	2.72	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)		
0.96	High Meadows	25	25	2.72	2.72	5	5	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
18A	42546	Trib 42546 to Allegheny River

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.960	0.026	14.856	6.978
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
1.652	0.336	4.909	0.073
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
24.67	1.498	2.68	0.471
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.112	25.045	Owens	5
Reach Travel Time (days)			
0.316			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.032	23.76	2.64	6.80
0.063	22.89	2.60	7.60
0.095	22.05	2.56	8.00
0.127	21.24	2.53	8.21
0.158	20.46	2.49	8.34
0.190	19.71	2.45	8.43
0.221	18.99	2.41	8.50
0.253	18.29	2.38	8.56
0.285	17.62	2.34	8.62
0.316	16.97	2.31	8.67

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
18A	42546	Trib 42546 to Allegheny River

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)
0.960	High Meadows	PA0034185	0.026	CBOD5	25		
				NH3-N	2.72	5.44	
				Dissolved Oxygen			5