pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0047228**
Facility Type	**Municipal**	APS ID	**913769**
Major / Minor	**Minor**	Authorization ID	**1350201**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Pennsbury Village Borough**	Facility Name	**Pennsbury Village**
Applicant Address	1043 Pennsbury Boulevard	Facility Address	Sewage Treatment Plant Road
	Pittsburgh, PA 15205-1643		Pittsburgh, PA 15205
Applicant Contact	Rae Wolff	Facility Contact	Clinton Reilly
Applicant Phone	(412) 279-7876	Facility Phone	412-262-3970
Client ID	82881	Site ID	253318
Ch 94 Load Status	Not Overloaded	Municipality	Pennsbury Village Borough
Connection Status		County	Allegheny
Date Application Received	April 9, 2021	EPA Waived?	Yes
Date Application Accepted	April 20, 2021	If No, Reason	

Purpose of Application: Application for renewal of NPDES Permit for treated sewage effluent

Summary of Review

The permittee has applied for a renewal of NPDES Permit No. PA0047228. NPDES Permit No. PA0047228 was previously issued by the PA Department of Environmental Protection (DEP) on September 28, 2016 and amended on November 1, 2016. That permit expired on September 30, 2021 and was granted an administrative extension.

Sewage from this facility is treated by extended aeration, final clarification, and chlorination.

The applicant is currently enrolled in and will continue to use eDMR.

Sludge produced at this facility is hauled and disposed of by Dalton's Service Co., LLC

The Act-14 PL 834 Municipal Notification was provided by the February 18, 2021 letters from Clinton Reilly at NIRA Consulting Engineers, Inc. No comments were received.

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*

Approve	Deny	Signatures	Date
X		Stephanie Conrad / Environmental Engineering Specialist	October 15, 2021
X		Christopher Kriley, P.E. / Environmental Program Manager	October 20, 2021

Summary of Review
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.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.17
Latitude	40º 25' 45.2"	Longitude	-80º 6' 10.8"
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent discharged directly to UNT of Campbell's Run. Receiving waters data below is for the point of first use (Campbell's Run) located at 40º 25' 35" -80º 6' 57.82"		

Receiving Waters	Campbell's Run	Stream Code	36786
NHD Com ID	99687214	RMI	2.2
Drainage Area	2.48	Yield (cfs/mi^2)	0.00972
Q_{7-10} Flow (cfs)	0.0241	Q_{7-10} Basis	USGS Stream Stats
Elevation (ft)	900	Slope (ft/ft)	
Watershed No.	20-F	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	METALS, NUTRIENTS, TOTAL DISSOLVED SOLIDS (TDS), TOTAL SUSPENDED SOLIDS (TSS)		
Source(s) of Impairment	ACID MINE DRAINAGE, URBAN RUNOFF/STORM SEWERS		
TMDL Status	Final	Name	Chartiers Creek Watershed

Background/Ambient Data		Data Source
pH (SU)		
Temperature (°F)		
Hardness (mg/L)		
Other:		

Nearest Downstream Public Water Supply Intake		West View Water Authority	
PWS Waters	Ohio River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	

Changes Since Last Permit Issuance: On August 30, 2021, Biologist Supervisor Rick Spear visually verified that the receiving stream is heavily impacted by iron sedimentation. Due to construction of Highway 79, the 376 West, and Campbell's Run Road, the receiving stream is now culverted into Campbell's Run. The presence of culverts is an indication does not have aquatic life use. On November 20, 2012, Biologist Supervisor Rick Spear performed an Instream Comprehensive Evaluation (ICE) on Campbell's Run. He determined that Campell's Run is impaired but does have an aquatic life use. Both reports are attached. Based on the information gathered in 2012 and 2021, Mr. Spear determined that the point of first use is now Campbell's Run and not Chartiers Creek.

Other Comments:

Treatment Facility Summary

Treatment Facility Name: Pennsbury Village STP

WQM Permit No.	Issuance Date
464595	December 21, 1964

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

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.17		Not Overloaded		

Changes Since Last Permit Issuance:

Other Comments:

Compliance History	
Summary of DMRs:	**Between August 2016 and August 2021, the facility has complied with submittal of Discharge Maintenance Reports. During the review period, the permittee complied with submittal of Discharge Monitoring Reports. During this period, four violations were issued. Two issued in June 2019 were for Failure to properly operate the facility (Violation ID 852575 type 92A.41(A)5) and failure to utilize approved analytical methods (Violation ID 852576 type 92A.41(A)10B). Two issued in June 2020 were for Violation of effluent limits (ID 887885 type 92A.44) and failure to monitor flow (ID 887886 type FLOW FREQU). Four effluent limit violations for Fecal Coliform occurred during the review period with the last violation occurring in 2020. No additional effluent limit violations occurred.**
Summary of Inspections:	**Between August 2016 and August 2021, the facility received two Chapter 94 inspections (Inspections ID's 2582068 and 2726449), neither of which resulted in violations. The facility received five Compliance Evaluation Inspections. Three (Inspection ID's 2591779, 3196501, and 2766763) did not result in violations while Two (Inspection ID's 3050499 and 289483) resulted in the violations discussed above.**

Other Comments: **This facility currently has an open violation with Allegheny County Health Department which must be closed prior to final permit issuance.**

Compliance History

DMR Data for Outfall 001 (from July 1, 2020 to June 30, 2021)

Parameter	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20
Flow (MGD) Average Monthly	0.041	0.043	0.043	0.042	0.040	0.042	0.044	0.041	0.056	0.118	0.055	0.057
Flow (MGD) Daily Maximum	0.048	0.046	0.046	0.048	0.046	0.044	0.053	0.044	0.100	0.182	0.068	0.077
pH (S.U.) Minimum	6.43	6.41	6.25	6.23	6.30	6.13	6.11	6.55	6.35	6.22	6.34	6.08
pH (S.U.) Maximum	7.21	7.24	7.17	7.56	7.89	6.89	6.91	7.12	7.08	7.00	6.93	7.03
DO (mg/L) Minimum	6.11	6.03	5.82	6.23	5.02	5.22	5.08	5.09	5.03	4.42	4.84	4.09
TRC (mg/L) Average Monthly	0.22	0.24	0.22	0.18	0.14	0.13	0.11	0.13	0.21	0.31	0.24	0.28
TRC (mg/L) Instantaneous Maximum	0.34	0.54	0.32	0.28	0.36	0.49	0.26	0.31	0.42	0.49	0.48	0.53
CBOD5 (lbs/day) Average Monthly	1.04	1.13	1.15	1.21	1.25	1.33	1.51	1.01	2.00	2.48	0.99	1.34
CBOD5 (lbs/day) Weekly Average	1.20	1.17	1.39	1.64	1.97	1.56	2.73	1.10	3.53	4.40	1.34	1.50
CBOD5 (mg/L) Average Monthly	3.0	3.0	3.15	3.58	6.10	3.85	4.13	< 3.00	4.98	3.0	3.0	3.0
CBOD5 (mg/L) Weekly Average	3.0	3.0	3.60	4.60		4.60	7.50	< 3.00	10.90	3.0	3.0	3.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	72.67	275.13	671.59	102.7	89.84	70.35	59.74	98.24	92.76	135.17	44.13	76.38
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	154.10	492.84	1722.1	265.27	174.39	96.36	85.22	120.67	163.21	280.91	77.19	141.32
BOD5 (mg/L) Raw Sewage Influent Average Monthly	202	724.25	1861.50	503.8	281.75	202.75	199.00	298.25	197.50	189.00	141.98	207.60
TSS (lbs/day) Average Monthly	3.52	1.69	5.77	5.98	1.35	2.33	1.66	1.58	2.54	3.37	1.21	3.38

TSS (lbs/day) Raw Sewage Influent Average Monthly	25.07	560.68	450.22	122.16	79.94	43.99	35.43	184.53	78.99	100.60	55.85	78.72
TSS (lbs/day) Raw Sewage Influent Daily Maximum	53.37	1494.18	1435.68	310.59	217.18	65.83	56.04	535.66	202.28	169.61	104.58	134.34
TSS (lbs/day) Weekly Average	5.57	3.36	9.61	9.69	1.76	4.48	3.17	2.45	3.58	7.34	2.18	8.47
TSS (mg/L) Average Monthly	9.5	4.5	15.8	17.2	6.0	6.80	4.6	4.8	5.8	4.2	3.5	7.6
TSS (mg/L) Raw Sewage Influent Average Monthly	71.25	1460.50	1260.5	479.2	249.5	127.0	119.2	609.0	161.0	164.80	143.5	238.00
TSS (mg/L) Weekly Average	15.0	9.0	26.0	27.0		13.0	9.0	7.0	9.0	7.0	5.0	19.0
Fecal Coliform (CFU/100 ml) Geometric Mean	6	4	6	44	102	1300	382	576	3	6	10	9
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	13	6	9	2420	2420	1733	2420	1120	16	72	26	24
Total Nitrogen (mg/L) Daily Maximum							28.7					
Ammonia (mg/L) Average Monthly	0.43	0.19	0.21	0.47	0.25	0.59	1.01	0.21	1.95	0.13	0.12	0.20
Total Phosphorus (mg/L) Daily Maximum							4.10					

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.17
Latitude 40º 25' 45.20" **Longitude** -80º 6' 10.80"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Comments:

Water Quality-Based Limitations

Total Residual Chlorine (TRC) was modeled with the TRC Spreadsheet, and it was determined that a stricter limit should be imposed.

The effluent was modeled using WQM 7.0 to evaluate the CBOD5, Ammonia Nitrogen and Dissolved Oxygen parameters. Modeling confirmed that technology based effluent limitations are appropriate for CBOD5. The modeling also confirmed that Dissolved Oxygen (DO) and Ammonia-Nitrogen limits are necessary to meet in-stream water quality criterion.

Based on eDMR data, the facility as operating should be able to meet the new, more restrictive Ammonia-Nitrogen limit. The facility is not, however, able to meet the new, more restrictive DO and TRC limits. A compliance period of 3 years from the final permit effective date will therefore be established for DO and TRC. The compliance schedule dates in the draft permit are tentative may change pending final permit issuance. The facility as operating is able to meet the new, more restrictive Ammonia-Nitrogen limits, therefore the new limit will become effective on the effective date of the final permit.

Parameter	Limit (mg/l)	SBC	Model
Total Residual Chlorine	0.02	Average Monthly	TRC Spreadsheet
Dissolved Oxygen	5.0	Instantaneous Minimum	WQM 7.0
Ammonia-Nitrogen (winter)	5.5	Average Monthly	WQM 7.0
Ammonia-Nitrogen (summer)	2.3	Average Monthly	WQM 7.0

Anti-Backsliding

Section 402(o) of the Clean Water Act (CWA), enacted in the Water Quality Act of 1987, establishes anti-backsliding rules governing two situations. The first situation occurs when a permittee seeks to revise a Technology-Based effluent limitation based on BPJ to reflect a subsequently promulgated effluent guideline which is less stringent. The second situation addressed by Section 402(o) arises when a permittee seeks relaxation of an effluent limitation which is based upon a State treatment standard of water quality standard.

Previous limits can be used pursuant to EPA's anti-backsliding regulation 40 CFR 122.44 **(l) Reissued permits. (1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued. Interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under §122.62). (2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.**

The facility is not seeking to revise the previously permitted effluent limits.

Additional Considerations

Sewage discharges will include monitoring, at a minimum, for E. coli, in new and reissued permits, with a monitoring frequency of 1/quarter for design flows >= 0.05 and < 1 MGD.

For pH, DO, and TRC, a monitoring frequency 1/day has been imposed. In general, less frequent monitoring may be established only when the permittee demonstrates that there will be no discharge on days where monitoring is not required.

The receiving stream is not impaired for nutrients, therefore, annual sampling for nitrogen and phosphorus will be imposed per 25 PA Code §92a.6.

Monitoring frequency for the proposed effluent limits are based upon Table 6-3, Self-Monitoring Requirements for Sewage Dischargers, from the Departments Technical Guidance for the Development and Specification of Effluent Limitations.

Mass Loading

Mass loading limits are applicable for publicly owned treatment works. Current policy requires average monthly mass loading units be established for CBOD5, TSS, and NH3-N. Average monthly mass loading limits (lbs./day) are based on the formula: design flow (MGD x concentration limit (mg/L) x conversion factor (8.34).

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: January 1, 2025 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		
DO	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.02	XXX	0.07	1/day	Grab

Compliance Sampling Location: Outfall #001

Other Comments:

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 December 31, 2024.

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		
DO	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab

Compliance Sampling Location: Outfall #001

Other Comments:

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	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	0.170	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
CBOD5	35.5	53.2	XXX	25	37.5	50	1/week	8-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
TSS	42.6	63.8	XXX	30	45	60	1/week	8-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
Total Nitrogen	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/year	8-Hr Composite
Ammonia May 1 - Oct 31	3.3	XXX	XXX	2.3	XXX	4.6	1/week	8-Hr Composite
Ammonia Nov 1 - Apr 30	7.8	XXX	XXX	5.5	XXX	11.0	1/week	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/year	8-Hr Composite

Compliance Sampling Location: Outfall #001

Other Comments:

ATTACHMENT A

WQM 7.0 Modeling Results

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
20F	36786	CAMPBELLS RUN	1.470	900.00	4.75	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	0.011	0.00	0.00	0.000	0.000	10.0	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
Pennsbury Villa	PA0047228	0.1700	0.0000	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	4.00	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
20F	36786	CAMPBELLS RUN	0.010	780.00	5.59	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	0.011	0.00	0.00	0.000	0.000	10.0	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 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
20F	36786	CAMPBELLS RUN

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												
1.470	0.05	0.00	0.05	.263	0.01557	.428	8.6	20.09	0.09	1.038	20.84	7.00
Q1-10 Flow												
1.470	0.03	0.00	0.03	.263	0.01557	NA	NA	NA	0.08	1.075	20.57	7.00
Q30-10 Flow												
1.470	0.07	0.00	0.07	.263	0.01557	NA	NA	NA	0.09	1.004	21.08	7.00

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
20F	36786	CAMPBELLS 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
1.470	Pennsbury Villa	9.28	10.48	9.28	10.48	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
1.470	Pennsbury Villa	1.77	2.26	1.77	2.26	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)		
1.47	Pennsbury Villa	25	25	2.26	2.26	5	5	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20F	36786	CAMPBELLS RUN

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
1.470	0.170	20.841	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
8.595	0.428	20.092	0.086
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
21.13	1.442	1.88	0.747
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.546	20.579	Owens	5
Reach Travel Time (days)			
1.038			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.104	18.09	1.74	6.51
0.208	15.48	1.61	6.91
0.311	13.25	1.49	7.20
0.415	11.34	1.38	7.44
0.519	9.71	1.28	7.65
0.623	8.31	1.18	7.83
0.726	7.11	1.09	7.99
0.830	6.09	1.01	8.12
0.934	5.21	0.94	8.12
1.038	4.46	0.87	8.12

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20F	36786	CAMPBELLS 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)
1.470	Pennsbury Villa	PA0047228	0.170	CBOD5	25		
				NH3-N	2.26	4.52	
				Dissolved Oxygen			5

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
20F	36786	CAMPBELLS RUN	1.470	900.00	4.75	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	0.023	0.00	0.00	0.000	0.000	10.0	0.00	0.00	5.00	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
Pennsbury Villa	PA0047228	0.1700	0.0000	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	4.00	12.51	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
20F	36786	CAMPBELLS RUN	0.010	780.00	5.59	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	0.023	0.00	0.00	0.000	0.000	10.0	0.00	0.00	5.00	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 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
20F	36786	CAMPBELLS RUN

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												
1.470	0.11	0.00	0.11	.263	0.01557	.438	8.99	20.53	0.09	0.950	12.11	7.00
Q1-10 Flow												
1.470	0.07	0.00	0.07	.263	0.01557	NA	NA	NA	0.09	1.011	12.94	7.00
Q30-10 Flow												
1.470	0.15	0.00	0.15	.263	0.01557	NA	NA	NA	0.10	0.899	11.44	7.00

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
20F	36786	CAMPBELLS 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
1.470	Pennsbury Villa	16.4	20.66	16.4	20.66	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
1.470	Pennsbury Villa	3.65	5.66	3.65	5.66	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)		
1.47	Pennsbury Villa	25	25	5.66	5.66	4	4	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20F	36786	CAMPBELLS RUN

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
1.470	0.170	12.110	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
8.994	0.438	20.534	0.094
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
18.35	1.421	4.03	0.381
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.459	16.985	Owens	5
Reach Travel Time (days)			
0.950			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.095	16.71	3.88	8.36
0.190	15.21	3.74	8.85
0.285	13.84	3.61	9.06
0.380	12.60	3.48	9.21
0.475	11.47	3.36	9.33
0.570	10.44	3.24	9.43
0.665	9.50	3.12	9.53
0.760	8.65	3.01	9.62
0.855	7.88	2.91	9.67
0.950	7.17	2.80	9.67

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20F	36786	CAMPBELLS 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)
1.470	Pennsbury Villa	PA0047228	0.170	CBOD5	25		
				NH3-N	5.66	11.32	
				Dissolved Oxygen			4

ATTACHMENT B

TRC Modeling Results

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.0241	= Q stream (cfs)	0.5	= CV Daily
0.17	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations		Reference	CFC Calculations	
TRC	1.3.2.iii	WLA afc =	0.048	1.3.2.iii	WLA cfc =	0.039
PENTOXSD TRG	5.1a	LTAMULT afc =	0.373	5.1c	LTAMULT cfc =	0.581
PENTOXSD TRG	5.1b	LTA_afc=	0.018	5.1d	LTA_cfc =	0.023

Source		Effluent Limit Calculations		
PENTOXSD TRG	5.1f	AML MULT =	1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) =	0.022	AFC
		INST MAX LIMIT (mg/l) =	0.072	

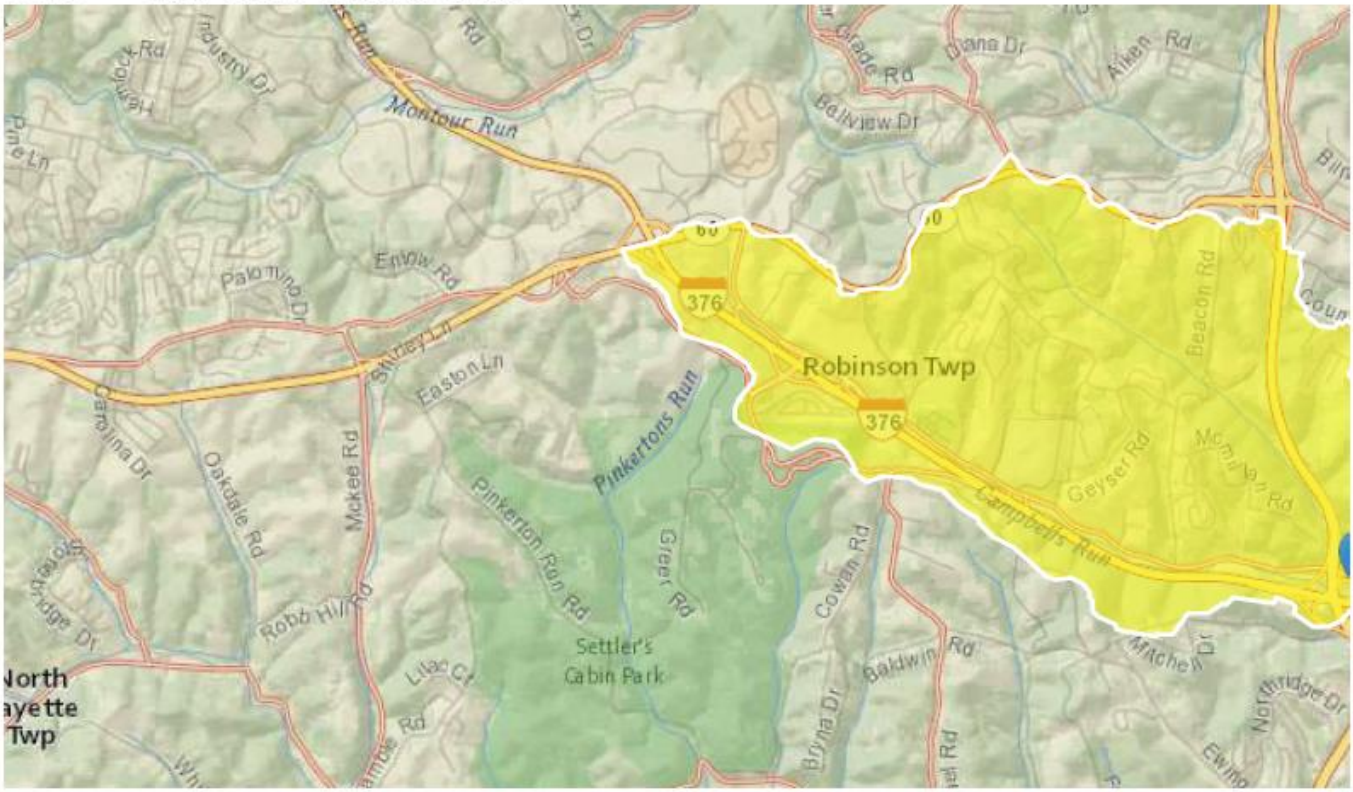
WLA afc	(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...
	...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))...
	...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)
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)

ATTACHMENT C

USGS Stream Stats Output

StreamStats Report

Region ID: PA
Workspace ID: PA20210903163847803000
Clicked Point (Latitude, Longitude): 40.42307, -80.10374
Time: 2021-09-03 12:39:06 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	4.75	square miles
ELEV	Mean Basin Elevation	1100	feet

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
ELEV	Mean Basin Elevation	1100	feet	1050	2580

Low-Flow Statistics Flow Report [Low Flow Region 4]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	0.154	ft^3/s	43	43
30 Day 2 Year Low Flow	0.275	ft^3/s	38	38
7 Day 10 Year Low Flow	0.0534	ft^3/s	66	66
30 Day 10 Year Low Flow	0.101	ft^3/s	54	54
90 Day 10 Year Low Flow	0.188	ft^3/s	41	41

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/)

ATTACHMENT D

Point of First Use Determination

From: Spear, Richard <rspear@pa.gov>
Sent: Wednesday, September 1, 2021 11:57:15 AM
To: Conrad, Stephanie <stepconrad@pa.gov>; Kriley, Christopher <ckriley@pa.gov>; Greenwald, Stacey <sgreenwald@pa.gov>
Cc: Detweiler, Jamie <jadetweile@pa.gov>; Vanek, James <jvanek@pa.gov>
Subject: RE: Point of First Use Study, Campbell's Run and unnamed tributary, Stream Code 36786 and 36787

Hello Stephanie, Chris and Stacey

On Monday August 30, 2021 Stephanie Conrad and myself when to Pennsbury Village Apartments STP (IMG_0937) and the gate was locked . It appear that the discharge comes out of the STP and travels and unknown distance then goes to UNT 36787 to Campbells Run, which is culverted due to Highways 79, the Parkway West and Campbells Run Road (See Attached Topo MapIMG_0938).
Since UNT 36787 is culverted, it most likely does not have an aquatic life use. It is extremely difficult to gain access to UNT 36787 to Campbells Run. In 2012 I conducted a cause and effect survey on Campbells Run just upstream of the confluence of UNT 36787 and Campbells run above and below the Campbells Run STP. I have attached that report which determined that Campbells run is impaired and does have an aquatic life use.

In the previous permits the engineers determined that Chartiers Creek was the point of first use, however based on my 2012 cause and effect report Campbells Run should be the point of first use for the Pennsbury Apartments STP.

Please let me know if you need anything else from me.

Thanks

Rick

Rick Spear | Aquatic Biologist Supervisor
Department of Environmental Protection
Southwest Regional Office
Clean Water Program
400 Waterfront Street, Pittsburgh, PA 15222
Phone: (412) 442-5874| Fax: (412) 442-5222
E-mail: rspear@pa.gov
www.depweb.state.pa.us

DEP is now accepting permit and authorization applications, as well as other documents and correspondence, electronically through the OnBase Electronic Forms Upload tool. Please use the link below to view the webpage, get instructions, and submit documents:
https://www.dep.pa.gov/DataandTools/Pages/Application-Form-Upload.aspx

COMMONWEALTH OF PENNSYLVANIA
Department of Environmental Protection
Southwest Regional Office
January 03, 2013
(412) 442-5874

SUBJECT: **Cause and Effect Survey**
Campbell's Run (Stream Code 36786)
Robinson Township Allegheny County, Pennsylvania
Campbell's Run Sewage Treatment Plant

To: Dave Ponchione
Sanitary Engineer 3

From: Rick Spear
Water Pollution Biologist Supervisor

On November 20, 2012, around 11am, I performed an examination of Campbell's Run in Robinson Township, Allegheny County, Pennsylvania upstream and downstream of the Campbell's Run Sewage Treatment Plant. Campbell's Run is located on the Pittsburgh West and Oakdale quads of the United States Geological Survey (USGS) topographic map series (Figure 1). Tom Flanagan and Ray Lattner from the Department accompanied me. The stream is listed as impaired (970819-0830-ALF) for the following sources and causes: Abandoned Mine Drainage (AMD)-Metals, AMD-pH, AMD-Siltation, AMD- Suspended Solids, Onsite Wastewater-Nutrients, and Urban Runoff/Storm Sewers – Nutrients.
The purpose of this survey was to conduct a biological assessment to determine if Campbell's Run has an aquatic life use.

Sampling Procedure

A macroinvertebrate (aquatic insects) sample was collected at each sample station following the Instream Comprehensive Evaluation (ICE) protocol using a 500-micron mesh size D-frame net. Riffle areas throughout the 100 meter length sample area were targeted. The process involves kicking a 1 square meter area in front of the net for 1 minute. The macroinvertebrates then are displaced and collected in the net. A macroinvertebrate sample consists of a composite of 6 D-frame kicks and preserving the combined sample in a jar with reagent alcohol. Macroinvertebrates samples were collected for analysis at 2 sampling stations. The first composite sample was obtained from an area approximately 200 meters downstream of the STP discharge and the second was obtained from an area approximately 500 meters upstream of STP discharge. Macroinvertebrates were identified by a DEP Southwest Regional biologist.

In addition, field water chemistry data was collected at each sample station using the YSI multi-meter model 556. Field measurements recorded were pH, conductivity, dissolved oxygen, and water temperature. The YSI multi-meter model 556 was calibrated the day of the stream survey.

1

Benthos Identification Procedure

The composite macroinvertebrate samples were pre-washed in a USGS No. 35 sieve bucket removing larger debris and residual preservative from the samples. The samples were completely picked and the macroinvertebrates identified. Taxonomic identification of macroinvertebrates was to *genus* level when possible.

The data from the subsamples was entered into a database that calculates an Index of Biological Integrity (IBI). This is a method of assessing the health of a water body. The metrics (biological indicators) used in the IBI included Beck's Index (version 3), EPT (Mayflies, Stoneflies, and Caddisflies) Taxa Richness, Total Taxa Richness, Shannon Diversity Index (freestone), Hilsenhoff Biotic Index, and Percent Intolerant Individuals (freestone). Metric calculated values were standardized into a metric score or IBI score and compared to a Freestone IBI Use Attainment Benchmark which equals 63.0. If the IBI score was 63.0 or greater, the aquatic life use is attaining. If it is lower than 63.0, the aquatic life use is not attaining.

Sampling Results

Upstream Site
The macroinvertebrate samples collected contained a total of 5 macroinvertebrate taxa with 81 individuals (Table 1). The IBI score calculated for the upstream station was 25.2, indicating that the aquatic life is not attaining and the stream is impaired (Table 1). The field chemistries showed a temperature of 8.78 ℃, a D.O. of 13.4 mg/l, a pH of 8.04, a conductivity of 1644 uS/cm (Table 1). The habitat score was 112 out of 240 (Table 1).

Downstream Site
The macroinvertebrate samples collected contained a total of 5 macroinvertebrate taxa with 9 individuals (Table 2). The IBI score calculated for the downstream station was 13.4, indicating that the aquatic life is not attaining and the stream is impaired (Table 2). The field chemistries showed a temperature of 10.65 ℃, a DO of 11.4 mg/l, a pH of 7.87, a conductivity of 2127 uS/cm (Table 2). The habitat score was 118 out of 240 (Table 2).

Conclusion

Campbell's Run is on the impaired list and has an approved TMDL. The macroinvertebrate data shows that there are long-lived taxa and thus Campbell's Run does have an aquatic life use. Campbell's Run showed a decrease in the IBI scores from the upstream site (25.2) to the downstream site (13.4), indicating that the discharge from the STP is causing additional impairment to a stream that is already severely impaired.

CC: **Kevin Halloran**
Don Leone
Sam Harper

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Stream Files

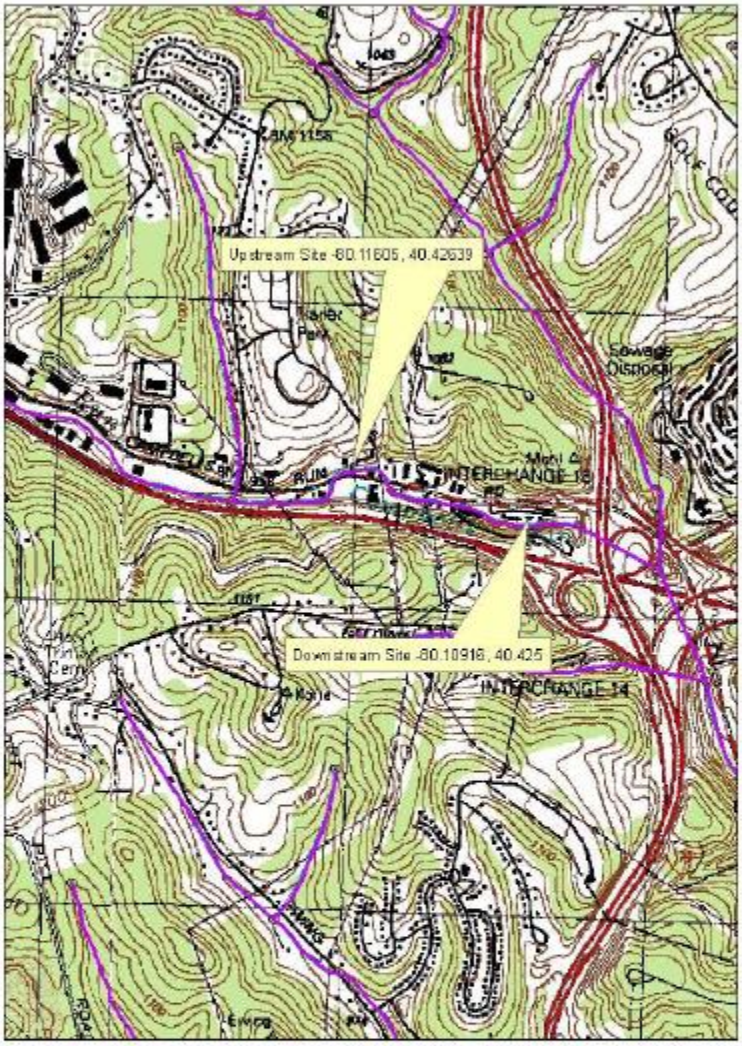

Figure 1

3

Pennsylvania Department of Environmental Protection - Rapid Bioassessment Protocols

Benthic macroinvertebrate sample summary

Station ID 20130103-0958-rspear Campbell's Run Upstream
Stream Name Chartiers Creek (Unamed Trib 99607768 To) **Stream Code** 36706 **Strahler** 1
Survey ID 63619 **Sample Method** 6-Dframe Composite, 200 subsample
Collection Date 20121120 **Collection Time** 1200 **Latitude** 40.42628721 **Longitude** -80.1161915
HUC8 05030101 Upper Ohio

Station Location Comments
Upstream of STP Casuse and Effect Survey

Biology / Habitat Comments

Land Use Comments

Station Impairment Status Comments

Taxa List # grids from first pan 28 # grids from second pan 0 **Subsample Size** 9

Taxa Name	Individuals	PTV	FFG	BCG Attribute (coldwater)	BCG Attribute (warmwater)	*any EV indicator taxa names are highlighted*
Celithemis	1	2	PR	0	0	
Diplectrona	1	0	FC	2	2	
Chironomidae	2	6	CG	5	5	
Oligochaeta	4	10	CG	5	5	
Stygonectes	1	4	CG	0	0	

Metrics and IBI scores

Subsample out of range!
Interpret metrics and IBI scores AT YOUR OWN PERIL!

Metric Names	Raw Metric Values	2009 small
Total Richness	5	15.2
Ephemeroptera Richness	0	
Trichoptera Richness	1	
EPT Richness	1	
Trichoptera Richness (PTV 0-4)	1	
EPT Richness (PTV 0-4)	1	5.3
Beck's Index (version 3)	4	10.5
Beck's Index (version 4)	4	
FC + PR + SH Richness	2	
Hilsenhoff Biotic Index	6.44	43.8
% Inolerant Individuals (PTV 0-3)	22.2	26.3
% Intolerant Individuals (PTV 0-5)	33.3	
% Tolerant Individuals (PTV 7-10)	44.4	
Shannon Diversity	1.43	49.9
	IBI score	25.2

Table 1

Pennsylvania Department of Environmental Protection - Rapid Bioassessment Protocols

Benthic macroinvertebrate sample summary

Station ID 20130103-0958-rspear Campbell's Run Upstream
Stream Name Chartiers Creek (Unamed Trib 99687768 To) **Stream Code** 36786 **Strahler** 1
Survey ID 63619 **Sample Method** 6-Dframe Composite, 200 subsample
Collection Date 20121120 **Collection Time** 1200 **Latitude** 40.42628721 **Longitude** -80.1161915
HUC8 05030101 Upper Ohio

% Ephemeroptera	0.0	% Ephemeroptera (PTV 0-4)	0.0	% Dominant Taxon	44.4	BCG Richness Ratio	0.50
% Plecoptera	0.0	Ephemeroptera Richness (PTV 0-4)	0	% Chironomidae	22.2	BCG Individuals Ratio	0.17
% Trichoptera	11.1	Plecoptera Richness	0	% Simuliidae	0.0	EV Indicator Taxa Richness	1

Not impaired N **Biology impaired** Y **Habitat impaired** N **Insufficient data** N
Rock pick influenced assessment N **Impact is localized** N **Re-evaluate designated use** N

Physical Habitat Assessment **Pool-Glide Assessment?** N

Instream Cover	10	Substrate / Cover	0	Frequency of Riffles	16	Contition of Banks	2
Epifaunal Substrate	13	Velocity/Depth Regimes	12	Channel Sinuosity	16	Bank Vegetation	4
Embeddedness	11	Pool Variability	0	Channel Flow Status	15	Disruptive Pressure	5
Pool Substrate	0	Sediment Deposition	11	Channel Alteration	9	Riparian Zone	4

Instream Score 45 **Riparian Score** 10 **Total Score** 112

Field Measurements Lab samples

Temperature (°C)	8.78	Dissolved Oxygen (mg/L)	13.4	Flow (CFS)	0
pH	8.04	Total Alkalinity (mg/L as CaCO3)	0	Conductivity (uS/cm)	1644

Use Assessment Status for Stream Reach **Designated Use** WWF **Existing Use**

Aquatic Life Impaired (971126-0845-ALF)
Abandoned Mine Drainage - Metals, Abandoned Mine Drainage - Suspended Solids, On site Wastewater - Nutrients, Urban Runoff/Storm Sewers - Nutrients

Fish Consumption
Potable Water Supply
Recreation

TMDL Information (if any)

Chartiers Creek Watershed (Finalized): Unknown - Metals, Unknown - pH, Unknown - Suspended Solids
Begin Date 12/12/2002 **Meeting Date** 1/15/2003 **End Date** 2/12/2003 **Draft Date** 12/12/2002 **Final Date** 4/9/2003

Chartiers Creek (Finalized): Fish Consumption - Chlordane, Fish Consumption - PCB, Fish Consumption - Pesticides, NONPOINT SOURCE - Chlordane, NONPOINT SOURCE - PCB, NONPOINT SOURCE - Pesticides
Begin Date 9/30/2000 **Meeting Date** 11/6/2000 **End Date** 11/29/2000 **Draft Date** 9/30/2000 **Final Date** 4/9/2001

Cambells Run (Finalized): AMD - Metals, AMD - pH, AMD - Siltation, AMD - Suspended Solids
Begin Date **Meeting Date** **End Date** **Draft Date** **Final Date** 4/9/2003

Table 1 Cont.

Pennsylvania Department of Environmental Protection - Rapid Bioassessment Protocols

Benthic macroinvertebrate sample summary

Station ID 20130103-1008-rspear Campbell's Run Downstream
Stream Name Chartiers Creek (Unamed Trib 99687768 To) **Stream Code** 36786 **Strahler** 1
Survey ID 63620 **Sample Method** 6-Dframe Composite, 200 subsample
Collection Date 20121120 **Collection Time** 1125 **Latitude** 40.42482610 **Longitude** -80.1092609
HUC8 05030101 Upper Ohio

Station Location Comments
Campbell's Run Downstream Of STP
Biology / Habitat Comments
Land Use Comments
Station Impairment Status Comments

Taxa List # grids from first pan 28 # grids from second pan 0 **Subsample Size** 81

Taxa Name	Individuals	PTV	FFG	BCG Attribute (coldwater)	BCG Attribute (warmwater)	any EV indicator taxa names are highlighted
Tipula	1	4	SH	5	5	
Simulium	1	6	FC	5	5	
Chironomidae	63	6	CG	5	5	
Turbellaria	3	9	PR	5	5	
Oligochaeta	13	10	CG	5	5	

Metrics and IBI scores

Subsample out of range!
Interpret metrics and IBI scores AT YOUR OWN PERIL!

Metric Names	Raw Metric Values	2009 small
Total Richness	5	15.2
Ephemeroptera Richness	0	
Trichoptera Richness	0	
EPT Richness	0	
Trichoptera Richness (PTV 0-4)	0	
EPT Richness (PTV 0-4)	0	0.0
Beck's Index (version 3)	0	0.0
Beck's Index (version 4)	1	
FC + PR + SH Richness	3	
Hilsenhoff Biotic Index	6.73	40.3
% Inolerant Individuals (PTV 0-3)	0.0	0.0
% Intolerant Individuals (PTV 0-5)	1.2	
% Tolerant Individuals (PTV 7-10)	19.8	
Shannon Diversity	0.72	25.1
	IBI score	13.4

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Table 2

Pennsylvania Department of Environmental Protection - Rapid Bioassessment Protocols

Benthic macroinvertebrate sample summary

Station ID 20130103-1008-rspear Campbell's Run Downstream
Stream Name Chartiers Creek (Unamed Trib 99687768 To) **Stream Code** 36786 **Strahler** 1
Survey ID 63620 **Sample Method** 6-Dframe Composite, 200 subsample
Collection Date 20121120 **Collection Time** 1125 **Latitude** 40.42482610 **Longitude** -80.1092609
HUC8 05030101 Upper Ohio

% Ephemeroptera	0.0	% Ephemeroptera (PTV 0-4)	0.0	% Dominant Taxon	77.8	BCG Richness Ratio	0.00
% Plecoptera	0.0	Ephemeroptera Richness (PTV 0-4)	0	% Chironomidae	77.8	BCG Individuals Ratio	0.00
% Trichoptera	0.0	Plecoptera Richness	0	% Simulidae	1.2	EV Indicator Taxa Richness	0

Not impaired N **Biology impaired** Y **Habitat impaired** N **Insufficient data** N
Rock pick influenced assessment N **Impact is localized** N **Re-evaluate designated use** N

Physical Habitat Assessment **Pool-Glide Assessment?** N

Instream Cover	11	Substrate / Cover	0	Frequency of Riffles	16	Condition of Banks	2
Epifaunal Substrate	15	Velocity/Depth Regimes	12	Channel Sinuosity	16	Bank Vegetation	4
Embeddedness	12	Pool Variability	0	Channel Flow Status	15	Disruptive Pressure	7
Pool Substrate	0	Sediment Deposition	11	Channel Alteration	9	Riparian Zone	4

Instream Score 49 **Riparian Score** 10 **Total Score** 118

Field Measurements **Lab samples**

Temperature (°C)	10.7	Dissolved Oxygen (mg/L)	11.4	Flow (CFS)	0
pH	7.87	Total Alkalinity (mg/L as CaCO3)	0	Conductivity (uS/cm)	2127

Use Assessment Status for Stream Reach **Designated Use** WWF **Existing Use**

Aquatic Life Impaired (971126-0845-ALF)
Abandoned Mine Drainage - Metals, Abandoned Mine Drainage - Suspended Solids, On site Wastewater - Nutrients, Urban Runoff/Storm Sewers - Nutrients

Fish Consumption
Potable Water Supply
Recreation

TMDL Information (if any)

Chartiers Creek Watershed (Finalized): Unknown - Metals, Unknown - pH, Unknown - Suspended Solids
Begin Date 12/12/2002 **Meeting Date** 1/15/2003 **End Date** 2/12/2003 **Draft Date** 12/12/2002 **Final Date** 4/9/2003

Chartiers Creek (Finalized): Fish Consumption - Chlordane, Fish Consumption - PCB, Fish Consumption - Pesticides, NONPOINT SOURCE - Chlordane, NONPOINT SOURCE - PCB, NONPOINT SOURCE - Pesticides
Begin Date 9/30/2000 **Meeting Date** 11/6/2000 **End Date** 11/29/2000 **Draft Date** 9/30/2000 **Final Date** 4/9/2001

Cambells Run (Finalized): AMD - Metals, AMD - pH, AMD - Siltation, AMD - Suspended Solids
Begin Date **Meeting Date** **End Date** **Draft Date** **Final Date** 4/9/2003

Table 2 cont.

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