

Northwest Regional Office
CLEAN WATER PROGRAM

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

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application No. PA0035505
 APS ID 1102259
 Authorization ID 1464267

Applicant and Facility Information

Applicant Name	<u>Faith Builder Education Programs Inc.</u>	Facility Name	<u>Faith Builder Education Programs</u>
Applicant Address	<u>28527 Guys Mills Road</u> <u>Guys Mills, PA 16327-2516</u>	Facility Address	<u>28527 Guys Mills Road</u> <u>Guys Mills, PA 16327-2516</u>
Applicant Contact	<u>Sheldon Kauffman</u>	Facility Contact	<u></u>
Applicant Phone	<u>(814) 789-4518</u>	Facility Phone	<u></u>
Client ID	<u>94553</u>	Site ID	<u>246250</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Randolph Township</u>
Connection Status	<u></u>	County	<u>Crawford</u>
Date Application Received	<u>November 27, 2023</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u></u>	If No, Reason	<u></u>
Purpose of Application	<u>This is a renewal NPDES Permit for an existing Minor STP which serves an existing school.</u>		

Summary of Review

There are no open violations in WMS for the subject Client ID (94553) as of 9/25/24. There were 9 effluent violations and 2 other permit non-compliance issues within the permit term which will be evaluated further into this fact sheet.

The site is the former Randolph-East Mead High School that was originally permitted in October 1963. The design flow was based on 1,000 students and 85 staff members.

Proposed is 4/week monitoring for DO, pH, and TRC. It was proposed in the last renewal to follow the monitoring frequencies in Table 6-3 of the Technical Guidance for the Development and Specification of Effluent Limits SOP, however due to the facility being unprepared to make this change the Department relaxed the monitoring frequency to 1/week. The 4/week monitoring is proposed due to concerns that staff would not be available to collect samples during holidays or long weekends. The permittee has been advised that 7/week monitoring will likely be instituted on the next permit renewal and should plan accordingly.

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Approve	Deny	Signatures	Date
X		Dustin Hargenrater Dustin Hargenrater / Civil Engineer (General)	September 25, 2024
		Vacant / Environmental Engineer Manager	Okay to Draft JCD 9/30/2024

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	<u>001</u>	Design Flow (MGD)	<u>.018</u>
Latitude	<u>41° 38' 1.85"</u>	Longitude	<u>-79° 58' 8.69"</u>
Quad Name	<u>Townville</u>	Quad Code	<u>41079F8</u>
Wastewater Description: <u>Sewage Effluent</u>			
Receiving Waters	<u>Unnamed Tributary of Woodcock Creek (HQ-CWF)</u>	Stream Code	<u>52795</u>
NHD Com ID	<u>127353087</u>	RMI	<u>0.3100</u>
Drainage Area	<u>0.36</u>	Yield (cfs/mi ²)	<u>0.12</u>
Q ₇₋₁₀ Flow (cfs)	<u>0.0432</u>	Q ₇₋₁₀ Basis	<u>Woodcock Creek at Woodcock Creek Dam</u>
Elevation (ft)	<u>1,339</u>	Slope (ft/ft)	<u>---</u>
Watershed No.	<u>16-A</u>	Chapter 93 Class.	<u>HQ-CWF</u>
Existing Use	<u>None</u>	Existing Use Qualifier	<u>None</u>
Exceptions to Use	<u>None</u>	Exceptions to Criteria	<u>None</u>
Assessment Status	<u>Attaining Use(s)</u>		
Cause(s) of Impairment	<u></u>		
Source(s) of Impairment	<u></u>		
TMDL Status	<u></u>	Name	<u></u>
Background/Ambient Data		Data Source	
pH (SU)	<u>7.6</u>	Monitoring Point ID: 80257, 2.63 mi downstream from discharge. 2017 Bug Study of Woodcock Creek.	
Temperature (°F)	<u>68</u>	Default - CWF	
Hardness (mg/L)	<u></u>		
Other:	<u></u>		
Nearest Downstream Public Water Supply Intake	<u>At the discharge (HQ Watershed) otherwise Aqua PA at Emlenton</u>		
PWS Waters	<u>Allegheny River</u>	Flow at Intake (cfs)	<u>1,376</u>
PWS RMI	<u>90.0</u>	Distance from Outfall (mi)	<u>91.4</u>

Changes Since Last Permit Issuance: None

Other Comments: Total Nitrogen and Total Phosphorous will remain monitor only. The concentration of Total Nitrogen is very high, criteria for developing limits of these two parameters may be developed before the next permit renewal but at this time no criteria exists.

Compliance History	
Summary of DMRs:	DMRs for this facility have been reviewed back to May of 2020. The summary concludes 9 effluent violations were found. Further review of these violations will be conducted below. Overall summary of DMRs: There have not been chronic violations within the past 2 years, based on the SOP these insignificant violations will not be brought up to operation staff to discuss further action. The monitoring data suggests that the operator understands his role and is able to correct violations for the majority of the time. One effluent violation for Ammonia-Nitrogen was more than 5 times the limit in June of 2024.
Summary of Inspections:	There has been 1 inspection over the last 4 years at this facility. Further review of the inspection summaries will be conducted below.

Summary of DMRs:

July 2019 Monitoring Period:

Effluent Violation for Ammonia-Nitrogen: Reported Value: 7.49 mg/l Effluent Limit: 1.5 mg/l

Cause of Non-Compliance: A mechanical/electrical failure of the aeration system the day prior to sampling caused slightly septic conditions and related treatment problems. Immediately switched to backup aeration blower and increased aeration rate temporarily until plant returned to normal treatment and necessary repairs completed.

July 2019 Monitoring Period:

Effluent Violation for Fecal Coliform: Reported Value: 330 No./100 ml Effluent Limit: 200 No./100 ml

Cause of Non-Compliance: A mechanical/electrical failure of the aeration system the day prior to sampling caused slightly septic conditions and related treatment problems. Immediately switched to backup aeration blower and increased aeration rate temporarily until plant returned to normal treatment and necessary repairs completed.

June 2020 Monitoring Period:

Effluent Violation for Fecal Coliform: Reported Value: 310 No./100 ml Effluent Limit: 200 No./100 ml

Cause of Non-Compliance: Chlorine dosage was insufficient to reduce bacteria within limits. Corrective adjustments were made to dosage.

March 2021 Monitoring Period:

Effluent Violation for Total Suspended Solids: Reported Value: 37.2 mg/l Effluent Limit: 30 mg/l

Cause of Non-Compliance: Problem was addressed with increased solids wasting.

February 2022 Monitoring Period:

Effluent Violation for Fecal Coliform: Reported Value: >2420 No./100 ml Effluent Limit: 2000 No./100 ml

Cause of Non-Compliance: Insufficient/overdose chemical feed.

August 2022 Monitoring Period:

Effluent Violation for Fecal Coliform: Reported Value: 548 No./ 100 ml Effluent Limit: 200 No./ 100 ml

Cause of Non-Compliance: Insufficient/overdose chemical feed.

June 2024 Monitoring Period:

Effluent Violation for pH: Reported Value: 5.7 S.U. Effluent Limit: Between 6.0 S.U. and 9.0 S.U.

Cause of Non-Compliance: Insufficient solids wasting. Drastic changes in flow/load, adjusted sludge return rate and blower/aeration time.

June 2024 Monitoring Period:

Effluent Violation for Ammonia-Nitrogen: Reported Value: 8.94 mg/l Effluent Limit: 1.5 mg/l

Cause of Non-Compliance: Insufficient Solids Wasting.

July 2024 Monitoring Period:

Effluent Violation for Fecal Coliform: Reported Value: 387 No./ 100 ml Effluent Limit: 200 No./ 100 ml

Cause of Non-Compliance: Temporary high flows caused insufficient disinfection.

Inspection Summary:

There has been one inspection done at this facility within the last 5 years. The inspection occurred on 11/2/2021 and no violations were noted. Several non-compliances were noted within the inspection, 3 non-compliance strikes for failure to properly document monitoring activities and results, one for failure to keep Chain of Custody forms consistently, two for failure to submit DMR supplemental reports, and one for not testing within the required holding time. No sheens or evidence of biosolids were present at the discharge point, however there was a leaking bypass pipe which was brought to the permittees attention and recommended to be fixed.

Compliance History Review:

There are no open violations in WMS for the subject Client ID (94553) as of 9/25/24.

Compliance History

DMR Data for Outfall 001 (from August 1, 2023 to July 31, 2024)

Parameter	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23
Flow (MGD) Average Monthly	0.00736 7	0.00142 6	0.00191 2	0.0077	0.00693 7	0.00389 5	0.00449	0.00179 7	0.00264 0	0.00435 6	0.00410 4	0.00400 6
Flow (MGD) Daily Maximum	0.01385 3	0.00318 2	0.00318 2	0.0139	0.01031 0	0.00738 7	0.00738 7	0.00318 2	0.00318 2	0.00738 7	0.00502 6	0.01031 0
pH (S.U.) Daily Minimum	6.9	5.7	6.8	6.9	6.8	6.9	7.2	7.4	7.1	6.9	7.3	7.3
pH (S.U.) Daily Maximum	7.7	6.3	7.5	7.2	7.1	7.6	7.4	7.6	7.5	7.3	7.6	7.5
DO (mg/L) Daily Minimum	5.4	5.2	5.2	5.6	5.3	5.8	5.1	5.3	5.8	6.2	6.4	5.4
TRC (mg/L) Average Monthly	0.3	0.1	0.5	0.3	0.32	0.4	0.4	0.30	0.46	0.47	0.3	0.26
CBOD5 (mg/L) Average Monthly	< 3.0	13.3	< 4.8	< 4.8	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
TSS (mg/L) Average Monthly	< 5.0	< 5.0	< 5.0	< 5.0	5.5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	5.0
Fecal Coliform (No./100 ml) Geometric Mean	387	16	2	260	1	1	2	15	1	10	179	1
Total Nitrogen (mg/L) Average Monthly	40.51	64.56	49.53	< 26.9	< 36.87	< 29.47	< 28.87	< 34.87	< 52.47	35.27	< 28.97	< 27.08
Ammonia (mg/L) Average Monthly	< 0.30	8.94	< 0.3	< 0.30	< 0.30	< 0.30	0.84	< 0.30	< 0.30	< 0.30	< 0.30	0.54
Total Phosphorus (mg/L) Average Monthly	11.5	14.2	11.8	4.74	7.24	5.3	5.33	5.58	8.09	7.41	8.56	6.61

Treatment Facility Summary				
Treatment Facility Name: Faith Bldr Ed Programs				
WQM Permit No.		Issuance Date		
363-S-30		23 October 1963		
363-S-30 T1		31 December 1992		
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Hypochlorite	0.004219
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.018	85	Not Overloaded	Aerobic Digestion	

Other Comments:

Waste treatment design was by Donald P. Kennedy based on 1 000 students at 0.085 ppcd and 18 gpcd for 85 PPD Bod and 0.018-mgd.

Treatment

Comminution

Aeration in a 22 900-gallon tank with two 144-cfm blowers

Settling in a 18x9x10-foot SWD tank with a 333 gallon/square-foot surface overflow and 500 gallon/foot weir overflow

Chlorination using liquid hypochlorite (sodium hypochlorite).and a 700-gallon contact tank

V-notch flow measurement

Development of Effluent Limitations

Outfall No. <u>001</u>	Design Flow (MGD) <u>.018</u>
Latitude <u>41° 38' 0.26"</u>	Longitude <u>-79° 58' 8.76"</u>
Wastewater Description: <u>Sewage Effluent</u>	

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: WQBELs were determined for D.O., CBOD₅, Ammonia-Nitrogen, and TRC. TRC WQBELs were found to be more stringent than the TRC BAT limitations so they will be imposed on a 3-year compliance schedule as the facility does not already meet the new limit 75% of the time.

Water Quality-Based Limitations

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

Parameter	Limit (mg/l)	SBC	Model
CBOD ₅	20	Average Monthly	NA
Ammonia-Nitrogen	1.5	Average Monthly	1.57
TRC	0.2	Average Monthly	0.254
D.O.	5	Daily Minimum	Minimum CWF D.O.

This discharge was modeled using WQM 7.0 to evaluate CBOD₅, Dissolved Oxygen, and Ammonia-Nitrogen parameters. The facility discharges at the end of the assessed stream reach at RMI 0.78 into Tributary 52795 of Woodcock Creek. The WQM 7.0 was used to model the stream from RMI 0.78 to RMI 0.289. A yield of 0.12 was calculated using stream gauge data from Woodcock Creek at Woodcock Creek Dam. A drainage area of 0.36 was provided from USGS-StreamStats. Using these two values a Q7-10 of 0.0432 was calculated. The modeling produced limits of 25 mg/l for CBOD₅, 1.57 mg/l Monthly Average Limit for Ammonia-Nitrogen, 3.14 mg/l IMAX limit for Ammonia-Nitrogen, and 5 mg/l Minimum Limit for Dissolved Oxygen. Using the round off guidelines from the Permit Writer's Manual these limits will translate to 1.5 mg/l Monthly Average Limit for Ammonia-Nitrogen and 3.0 mg/l IMAX limit for Ammonia-Nitrogen. This suggests the facility will be able to keep the current limits for Ammonia-Nitrogen and Dissolved Oxygen.

The discharge was also modeled using the TRC_CALC model. The suggested TRC Limit for the facility is 0.254 mg/l Average Monthly Limit and 0.771 mg/l IMAX limit. Using the round off guidelines from the Permit Writer's Manual these limits will translate to a 0.2 mg/l Average Monthly Limit and a 0.7 IMAX Limit.

As mentioned above this TRC WQBEL is more stringent than the TRC BAT Limit so the WQBEL will be used as the permit limit. The facility is not already meeting this limit 75% of the time so a 3-year TRC compliance schedule will be implemented in the permit. This compliance schedule sets up milestones of submitting a TRC Minimization Plan within 1 year, Begin Implementations of the TRC Plan, submitting a progress report after 2 years, and complete implementation of the TRC Minimization Plan and achieve the new limits within 3 years. The compliance schedule also will give the permittee the option to complete updated Site-Specific Studies which may produce more or less stringent limits based on the data collected.

Best Professional Judgment (BPJ) Limitations

Secondary treatment was implied by the Sanitary Water Board issued permit. With NPDES permit issuance this redefined as 20 mg/l BOD5, 30 mg/l TSS, and 1.5 mg/l Ammonia-Nitrogen. Later the 20 mg/l 5-day BOD was converted to 20 mg/l 5-day CBOD. The requirements are not stream flow related but serve to protect wetland uses.

Anti-Backsliding

Nitrogen and Phosphorous monitoring are based on established permit requirements. Monitoring backsliding is reserved for these two parameters but will not be implemented in this permit renewal as the 1/month monitoring is recommended for the design flow from Table 6-3 Self-Monitoring Requirements for Sewage Discharges.

Due to the age and technology available at the facility it has been deemed that grab samples will be the most representative of the discharge. The facility has no history of effluent limitations for the last two years for CBOD5 and TSS. There has been one violation for Ammonia-Nitrogen over the last two years. This was for the July 2024 monitoring period, in a phone call with the plant operator he mentioned that all facilities are closed down for the month of June however they do have programs starting up in July so this effluent violation would have likely been caused by the lack of a proper startup to get the system cleared out and back to normal operations. The monitoring frequencies are also consistent with Table 6-3 Self-Monitoring Requirements for Sewage Discharges.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Annual Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Estimate
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0 Daily Max	XXX	4/week	Grab
DO	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	4/week	Grab
CBOD5 Nov 1 - Apr 30	XXX	XXX	XXX	25.0	XXX	50	1/month	Grab
CBOD5 May 1 - Oct 31	XXX	XXX	XXX	20.0	XXX	40	1/month	Grab
TSS	XXX	XXX	XXX	30.0	XXX	60	1/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	Grab
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	4.5	XXX	9.0	1/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	1.5	XXX	3.0	1/month	Grab
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	1/month	Grab
Total Residual Chlorine Permit Issuance – November 30, 2027	XXX	XXX	XXX	0.5	XXX	1.6	4/week	Grab
Total Residual Chlorine December 1, 2027 – Permit Expiration	XXX	XXX	XXX	0.2	XXX	0.7	4/week	Grab

Compliance Sampling Location: Outfall 001, after disinfection.
TRC_CALC and WQM 7.0 modeling output files attached.

TRC_CALC Modeling Output Files

TRC_CALC (version 1)

TRC EVALUATION				
Input appropriate values in A3:A9 and D3:D9				
0.0432	= Q stream (cfs)		0.5	= CV Daily
0.018	= Q discharge (MGD)		0.5	= CV Hourly
16	= 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)		0	= Decay Coefficient (K)
Source	Reference	AFC Calculations		Reference
TRC	1.3.2.iii	WLA_afc = 0.514		1.3.2.iii
PENTOXSD TRG	5.1a	LTAMULT_afc = 0.373		5.1c
PENTOXSD TRG	5.1b	LTA_afc = 0.191		5.1d
				WLA_cfc = 0.493
				LTAMULT_cfc = 0.581
				LTA_cfc = 0.287
Source	Effluent Limit Calculations			
PENTOXSD TRG	5.1f	AML_MULT = 1.326		
PENTOXSD TRG	5.1g	AVG_MON_LIMIT (mg/l) = 0.254		AFC
		INST_MAX_LIMIT (mg/l) = 0.771		
WLA_afc	$(.019/e^{-k \cdot AFC_tc}) + [(AFC_Yc \cdot Qs \cdot .019 / Qd \cdot e^{-k \cdot AFC_tc}) \dots + Xd + (AFC_Yc \cdot Qs \cdot Xs / Qd)] \cdot (1 - FOS / 100)$			
LTAMULT_afc	$EXP((0.5 \cdot LN(cvh^2 + 1)) - 2.326 \cdot LN(cvh^2 + 1)^{0.5})$			
LTA_afc	wla_afc * LTAMULT_afc			
WLA_cfc	$(.011/e^{-k \cdot CFC_tc}) + [(CFC_Yc \cdot Qs \cdot .011 / Qd \cdot e^{-k \cdot CFC_tc}) \dots + Xd + (CFC_Yc \cdot Qs \cdot Xs / Qd)] \cdot (1 - FOS / 100)$			
LTAMULT_cfc	$EXP((0.5 \cdot LN(cvd^2 / no_samples + 1)) - 2.326 \cdot LN(cvd^2 / no_samples + 1)^{0.5})$			
LTA_cfc	wla_cfc * LTAMULT_cfc			
AML_MULT	$EXP(2.326 \cdot LN((cvd^2 / no_samples + 1)^{0.5}) - 0.5 \cdot LN(cvd^2 / no_samples + 1))$			
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)			

WQM 7.0 Modeling Output Files

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
16A	52795	Trib 52795 of Woodcock Creek	0.780	1339.00	0.05	0.00000	0.00	<input checked="" type="checkbox"/>

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		Stream	
									Temp (°C)	pH	Temp (°C)	pH
Q7-10	0.090	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.60	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
Faith Builders	PA0035505	0.0180	0.0000	0.0000	0.000	25.00	7.20

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

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
16A	52795	Trib 52795 of Woodcock Creek	0.289	1334.00	0.23	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary		Stream	
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	Temp (°C)	pH	Temp (°C)	pH
Q7-10	0.090	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.60	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	20.00	7.60

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

<u>SWP Basin</u>		<u>Stream Code</u>				<u>Stream Name</u>						
16A		52795				Trib 52795 of Woodcock Creek						
RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
0.780	0.00	0.00	0.00	.0278	0.00193	.355	1.66	4.68	0.05	0.546	24.30	7.24
Q1-10 Flow												
0.780	0.00	0.00	0.00	.0278	0.00193	NA	NA	NA	0.05	0.562	24.53	7.23
Q30-10 Flow												
0.780	0.01	0.00	0.01	.0278	0.00193	NA	NA	NA	0.06	0.532	24.10	7.25

WQM 7.0 Modeling Specifications

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

WQM 7.0 Wasteload Allocations

SWP Basin **Stream Code** **Stream Name**
 16A 52795 Trib 52795 of Woodcock Creek

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
0.780	Faith Builders	9.15	10.1	9.15	10.1	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
0.780	Faith Builders	1.28	1.57	1.28	1.57	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	<u>CBOD5</u>		<u>NH3-N</u>		<u>Dissolved Oxygen</u>		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
0.78	Faith Builders	25	25	1.57	1.57	5	5	0	0

WQM 7.0 D.O.Simulation

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>		
16A	52795	Trib 52795 of Woodcock Creek		
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>	<u>Analysis pH</u>	
0.780	0.018	24.304	7.238	
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>	<u>Reach Velocity (fps)</u>	
1.661	0.355	4.684	0.055	
<u>Reach CBOD5 (mg/L)</u>	<u>Reach Kc (1/days)</u>	<u>Reach NH3-N (mg/L)</u>	<u>Reach Kn (1/days)</u>	
21.80	1.467	1.35	0.975	
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>	<u>Reach DO Goal (mg/L)</u>	
5.451	23.414	Owens	5	
<u>Reach Travel Time (days)</u>	Subreach Results			
0.546	<u>TravTime (days)</u>	<u>CBOD5 (mg/L)</u>	<u>NH3-N (mg/L)</u>	<u>D.O. (mg/L)</u>
	0.055	19.77	1.28	5.76
	0.109	17.93	1.21	6.01
	0.164	16.26	1.15	6.23
	0.219	14.75	1.09	6.43
	0.273	13.38	1.03	6.61
	0.328	12.13	0.98	6.78
	0.382	11.00	0.93	6.93
	0.437	9.98	0.88	7.06
	0.492	9.05	0.83	7.19
	0.546	8.21	0.79	7.30

WQM 7.0 Effluent Limits

<u>SWP Basin</u>		<u>Stream Code</u>		<u>Stream Name</u>			
16A		52795		Trib 52795 of Woodcock Creek			
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)
0.780	Faith Builders	PA0035505	0.018	CBOD5	25		
				NH3-N	1.57	3.14	
				Dissolved Oxygen			5