Pennsylvania Department of Environmental Protection

Southeast Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0030431**
Facility Type	**Non-Municipal**	APS ID	**1136457**
Major / Minor	**Minor**	Authorization ID	**1525741**

Applicant and Facility Information

Applicant Name	**Fox Valley Community Services Inc.**	Facility Name	**Fox Valley STP**
Applicant Address	PO Box 452	Facility Address	132 Pole Cat Road
	Chester Heights, PA 19017-0452		Glen Mills, PA 19342
Applicant Contact	Joseph Datte	Facility Contact	Brian Norris
Applicant Phone	(610) 755-5782	Facility Phone	(610) 633-8009
Client ID	44127	Site ID	452815
Ch 94 Load Status	Not Overloaded	Municipality	Concord Township
Connection Status		County	Delaware
Date Application Received	May 2, 2025	EPA Waived?	Yes
Date Application Accepted		If No, Reason	

Purpose of Application: Permit Renewal

Summary of Review

The applicant requests renewal of an NPDES permit to discharge treated sewage from Fox Valley STP.

The STP consists of influent duplex pump station, bar screen, aerated flow equalization, extended aeration, clarification, disinfection, dechlorination, effluent flow metering, aerated sludge holding, digestion and phosphorus removal by chemical addition.

Wastewater treatment chemicals listed in the application are Delpac 2020 (phosphorus removal), Sodium hypochlorite (disinfection) and Sodium bisulfite (dechlorination).

No upgrades to the STP are proposed at this renewal.

The sewage sludge is disposed by hauling away to other WWTP.

There are no changes in the flow, stream designation, treatment units, influent characteristics etc.
The receiving stream is not currently listed as impaired for nutrients.

Discharge is in compliance with the permit limitations most of the times.
No comments received from Operations Section.

The existing limits are recommended for the new permit.

Approve	Deny	Signatures	Date
X		*Sara Abraham* Sara Reji Abraham, E.I.T. / Project Manager	August 8, 2025
X		*Pravin Patel* Pravin C. Patel, P.E. / Environmental Engineer Manager	08/08/2025

Summary of Review

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.

Act 14 Notifications:

Concord Township - April 17, 2025
Delaware County - April 17,2025

Permit Conditions:

A. No Stormwater
B. Acquire Necessary Property Rights
C. Proper Sludge Disposal
D. Abandon STP When Municipal Sewers Available
E. Chlorine Optimization
F. Operator Notification
G. Collection System Maintenance
H. Fecal Coliform Reporting
I. Operation and Maintenance Plan
J. Solids Management

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.074
Latitude	39º 53' 18.98"	Longitude	-75º 29' 40.89"
Quad Name	Media	Quad Code	1942
Wastewater Description:	Treated Sewage Effluent		
Receiving Waters	West Branch Chester Creek (TSF, MF)	Stream Code	00542
NHD Com ID	25607125	RMI	4.23
Drainage Area	10.74		
Q_{7-10} Flow (cfs)	1.95	Q_{7-10} Basis	Previous fact sheet
Elevation (ft)	195		
Watershed No.	3-G	Chapter 93 Class.	TSF, MF
Assessment Status	Impaired		
Cause(s) of Impairment	cause unknown, flow regime modification, habitat alterations, siltation		
Source(s) of Impairment	habitat modification - other than hydromodification, urban runoff/storm sewers,		

Treatment Facility Summary

Treatment Facility Name: Fox Valley STP

WQM Permit No.	Issuance Date
2396406	03-06-1997

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Hypochlorite	0.074

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

Compliance History

DMR Data for Outfall 001 (from July 1, 2024 to June 30, 2025)

Parameter	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24
Flow (MGD) Average Monthly	0.039430	0.03968	0.04760	0.03840	0.04458	0.04898	0.051580	0.04100	0.041110	0.04310	0.04532	0.045370
Flow (MGD) Daily Maximum	0.05770	0.05150	0.08290	0.04900	0.0570	0.0610	0.06620	0.05240	0.04870	0.06760	0.08430	0.06780
pH (S.U.) Instantaneous Minimum	6.85	7.03	6.89	7.03	7.05	7.04	7.08	7.03	7.03	7.04	6.84	6.19
pH (S.U.) Instantaneous Maximum	7.27	7.57	7.26	7.35	7.30	7.31	7.39	7.34	7.34	7.26	7.31	7.25
DO (mg/L) Instantaneous Minimum	6.5	7.0	7.0	7.0	7.0	7.2	7.0	7.0	7.0	7.0	7.0	6.5
DO (mg/L) Average Monthly	7.20	7.37	7.39	7.44	7.47	7.97	7.56	7.39	7.38	7.37	7.29	7.20
TRC (mg/L) Average Monthly	0.129	0.131	0.116	0.122	0.140	0.131	0.137	0.126	0.132	0.117	0.105	0.120
TRC (mg/L) Instantaneous Maximum	0.20	0.20	0.18	0.20	0.20	0.20	0.20	0.20	0.22	0.20	0.19	0.20
CBOD5 (lbs/day) Average Monthly	< 0.66	1.04	< 0.77	< 0.6	< 0.64	1.9	< 0.65	< 0.55	< 0.7	< 0.66	< 1.04	< 0.83
CBOD5 (mg/L) Average Monthly	< 2	3.2	< 2.1	< 2.15	< 2	5.5	< 2	< 2	< 2	< 2	< 2	< 2
TSS (lbs/day) Average Monthly	0.66	1.96	1.83	< 1.14	< 1.22	2.58	< 0.45	0.82	1.91	1.57	4.28	3.23
TSS (mg/L) Average Monthly	2	6	5	< 4	< 4	7.5	< 1.5	3	5.5	4.5	10	7
Total Dissolved Solids (mg/L) Daily Maximum	932			792			1330			981		
Fecal Coliform (No./100 ml) Geometric Mean	< 3.2	< 2.4	< 6.8	< 29.3	3.9	< 346.2	< 9.3	< 2	< 2	< 10.4	< 2	< 2

Fecal Coliform (No./100 ml) Instantaneous Maximum	5	3	23	430	5	6100	43	< 2	< 2	54	< 2	< 2
Total Nitrogen (lbs/day) Average Monthly	< 6.93	< 5.36	< 5.95	< 5.49	< 7.68	< 8.49	< 7.13	< 11.57	< 16.81	< 13.89	< 20.46	< 4.54
Total Nitrogen (mg/L) Average Monthly	< 19.6	< 16.5	< 15.2	< 19.9	< 22.8	< 24.6	< 28.4	< 43.1	< 45.3	< 38.2	< 29.1	< 13.0
Ammonia (lbs/day) Average Monthly	0.131	0.238	0.939	0.253	< 0.11	1.718	< 0.014	< 0.011	< 0.018	0.037	0.098	0.181
Ammonia (mg/L) Average Monthly	0.42	0.74	2.51	0.915	< 0.365	4.995	< 0.05	< 0.04	< 0.05	0.115	0.165	0.415
Total Phosphorus (lbs/day) Average Monthly	0.206	0.078	0.068	0.048	0.047	0.108	0.209	0.063	0.114	0.09	0.149	0.131
Total Phosphorus (mg/L) Average Monthly	0.645	0.24	0.185	0.17	0.145	0.315	0.65	0.23	0.335	0.255	0.29	0.295

Compliance History

Effluent Violations for Outfall 001, from: August 1, 2024 To: June 30, 2025

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Fecal Coliform	01/31/25	Geo Mean	< 346.2	No./100 ml	200	No./100 ml
Fecal Coliform	01/31/25	IMAX	6100	No./100 ml	1000	No./100 ml

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .074
Latitude 39º 53' 18.95" **Longitude** -75º 29' 40.89"
Wastewater Description: Treated Sewage Effluent

Technology-Based Limitations

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

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

Water Quality-Based Limitations

The following limitations are recommended for the draft permit:

Parameter	Limit (mg/l)	SBC	Basis
CBOD5	25	Average Monthly	WQM 7.0
TSS	30	Average Monthly	DRBC
NH3-N (5-1 to 10-31)	10	Average Monthly	WQM 7.0
NH3-N (11-1 to 4-30)	20	Average Monthly	Seasonal limit
Total Phosphorus (4-30 to 10-31) *	1.0	Average Monthly	BPJ
Total Phosphorus (11-1 to 3-31) *	2.0	Average Monthly	BPJ/Seasonal limit
Dissolved Oxygen	4.0	Inst. Minimum	WQM 7.0
Total Residual Chlorine	0.5	Average Monthly	Existing
Fecal Coliform	200/1000	Geo. Mean/Inst. Max.	Chapt. 93&DRBC
pH	6.0 to 9.0 all the time		Chapt. 93
Total Nitrogen	Report	Average Monthly	Data Collection/SOP
Total Dissolved Solids	Report	Daily Maximum	DRBC
E. Coli**	Report	Inst.Max.	Chapter 92.a/SOP

All the above limits are existing except E.Coli requirement.

*Seasonal time periods for Phosphorus were 5-1 to 10-31 and 11-1 to4-30 in the existing permit. These are revised appropriately to be consistent with DEP guidance.

** E. Coli monitoring is included in the draft permit according to the DEP SOP guidance (Chapter 92.a.61). This is a new requirement and is consistent with the requirements of other similar discharges in the area.
***WQM model report is attached for reference

Anti-Backsliding

N/A

Proposed Effluent Limitations and Monitoring Requirements

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

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	4.0 Inst Min	Report	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.2	1/day	Grab
CBOD5	15.4	XXX	XXX	25	XXX	50	2/month	24-Hr Composite
TSS	18.5	XXX	XXX	30	XXX	60	2/month	24-Hr Composite
Total Dissolved Solids	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/month	Calculation
Ammonia Nov 1 - Apr 30	12.4	XXX	XXX	20	XXX	40	2/month	24-Hr Composite
Ammonia May 1 - Oct 31	6.2	XXX	XXX	10	XXX	20	2/month	24-Hr Composite

Outfall 001, Continued (from Permit Effective Date through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Total Phosphorus Nov 1 – Mar 31	1.2	XXX	XXX	2.0	XXX	4	2/month	24-Hr Composite
Total Phosphorus April 1 - Oct 31	0.6	XXX	XXX	1.0	XXX	2	2/month	24-Hr Composite

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
03G	542	WEST BRANCH CHESTER CREEK	4.700	215.00	10.29	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	0.100	0.00	1.85	0.000	0.000	0.0	0.00	0.00	20.00	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
Central STP	PA0055212	1.8000	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	20.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	2.00	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
03G	542	WEST BRANCH CHESTER CREEK	**4.230**	195.00	10.74	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	0.100	0.00	1.95	0.000	0.000	0.0	0.00	0.00	20.00	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
Fox Valley STP	PA0030431	0.0740	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	4.00	8.24	0.00	0.00
NH3-N	10.00	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
03G	542	WEST BRANCH CHESTER CREEK	2.330	163.00	12.90	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	0.100	0.00	2.43	0.000	0.000	0.0	0.00	0.00	20.00	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

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
03G	542	WEST BRANCH CHESTER CREEK	0.000	88.50	19.14	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	0.100	0.00	3.60	0.000	0.000	0.0	0.00	0.00	20.00	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
03G	542	WEST BRANCH CHESTER 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												
4.700	1.85	0.00	1.85	2.7846	0.00806	.633	23.71	37.48	0.31	0.093	23.00	7.00
4.230	1.95	0.00	1.95	2.8991	0.00319	.641	26.05	40.66	0.29	0.399	22.99	7.00
2.330	2.43	0.00	2.43	2.8991	0.00606	.647	26.54	41.03	0.31	0.459	22.72	7.00
Q1-10 Flow												
4.700	1.18	0.00	1.18	2.7846	0.00806	NA	NA	NA	0.28	0.101	23.51	7.00
4.230	1.25	0.00	1.25	2.8991	0.00319	NA	NA	NA	0.27	0.436	23.50	7.00
2.330	1.56	0.00	1.56	2.8991	0.00606	NA	NA	NA	0.28	0.507	23.25	7.00
Q30-10 Flow												
4.700	2.52	0.00	2.52	2.7846	0.00806	NA	NA	NA	0.33	0.086	22.63	7.00
4.230	2.65	0.00	2.65	2.8991	0.00319	NA	NA	NA	0.31	0.370	22.61	7.00
2.330	3.30	0.00	3.30	2.8991	0.00606	NA	NA	NA	0.34	0.421	22.34	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 D.O.Simulation

SWP Basin	Stream Code	Stream Name
03G	542	WEST BRANCH CHESTER CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
4.700	1.800	23.004	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
23.711	0.633	37.476	0.309
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
12.81	1.399	1.20	0.882
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.295	25.404	Tsivoglou	5
Reach Travel Time (days)			
0.093			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.009	12.62	1.19	6.50
0.019	12.44	1.18	6.67
0.028	12.25	1.17	6.80
0.037	12.07	1.16	6.92
0.046	11.89	1.15	7.01
0.056	11.72	1.14	7.08
0.065	11.54	1.13	7.15
0.074	11.37	1.13	7.20
0.084	11.20	1.12	7.25
0.093	11.04	1.11	7.29

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
4.230	1.874	22.989	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
26.045	0.641	40.660	0.291
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
11.18	1.350	1.29	0.881
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.231	9.456	Tsivoglou	5
Reach Travel Time (days)			
0.399			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.040	10.51	1.25	6.68
0.080	9.88	1.21	6.36
0.120	9.29	1.16	6.19
0.160	8.73	1.12	6.12
0.200	8.21	1.09	6.12
0.240	7.71	1.05	6.17
0.280	7.25	1.01	6.24
0.320	6.82	0.98	6.33
0.360	6.41	0.94	6.43
0.399	6.02	0.91	6.53

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
03G	542	WEST BRANCH CHESTER CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
2.330	1.874	22.720	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
26.541	0.647	41.030	0.310
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
5.66	1.165	0.83	0.863
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.688	19.051	Tsivoglou	5
Reach Travel Time (days)			
0.459			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.046	5.33	0.80	7.44
0.092	5.01	0.77	7.78
0.138	4.72	0.74	7.84
0.183	4.44	0.71	7.84
0.229	4.18	0.68	7.84
0.275	3.94	0.65	7.84
0.321	3.70	0.63	7.84
0.367	3.49	0.60	7.84
0.413	3.28	0.58	7.84
0.459	3.09	0.56	7.84

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
03G	542	WEST BRANCH CHESTER 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
4.700	Central STP	12.53	4	12.53	4	0	0
4.230	Fox Valley STP	16.19	20	12.54	20	0	0
2.330		NA	NA	12.8	NA	NA	NA

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
4.700	Central STP	1.59	2	1.59	2	0	0
4.230	Fox Valley STP	1.86	10	1.59	10	0	0
2.330		NA	NA	1.62	NA	NA	NA

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)		
4.70	Central STP	20	20	2	2	5	5	0	0
4.23	Fox Valley STP	25	25	10	10	4	4	0	0
2.33		NA	NA	NA	NA	NA	NA	NA	NA

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
03G	542	WEST BRANCH CHESTER 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)
4.700	Central STP	PA0055212	1.800	CBOD5	20		
				NH3-N	2	4	
				Dissolved Oxygen			5

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)
4.230	Fox Valley STP	PA0030431	0.074	CBOD5	25		
				NH3-N	10	20	
				Dissolved Oxygen			4