

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

Application No. PA0113697  
APS ID 1137014  
Authorization ID 1526682

**NPDES PERMIT FACT SHEET  
INDIVIDUAL SEWAGE**

**Applicant and Facility Information**

Applicant Name	<u>AG Bloom 1, LLC</u>	Facility Name	<u>Country Manor Apartments WWTP</u>
Applicant Address	<u>948 Ben Franklin Highway E</u> <u>Douglassville, PA 19518-9547</u>	Facility Address	<u>Millertown Road</u> <u>Bloomsburg, PA 17815</u>
Applicant Contact	<u>Brian Trombly</u>	Facility Contact	<u>Alec Engleman (Operator)</u>
Applicant Phone	<u>(484) 878-1941</u>	Facility Phone	<u>(570) 246-4347</u>
Client ID	<u>374982</u>	Site ID	<u>257211</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Mount Pleasant Township</u>
Connection Status	<u>N/A</u>	County	<u>Columbia</u>
Date Application Received	<u>May 9, 2025</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>May 14, 2025</u>	If No, Reason	
Purpose of Application	<u>Renewal of a NPDES Permit</u>		

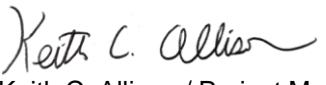
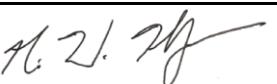
**Summary of Review**

The subject discharge serves two four-unit apartment buildings in Mount Pleasant Township, Columbia County. A map of the discharge location is attached.

Sludge use and disposal description and location(s): sludge and septage is transferred to other WWTPs for further processing.

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
✓		 Keith C. Allison / Project Manager	November 13, 2025
✓		 Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	November 19, 2025

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.0025
Latitude	41° 1' 43.01"	Longitude	-76° 27' 58.40"
Quad Name	Bloomsburg, PA	Quad Code	1034
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to Fishing Creek (CWF)	Stream Code	27752
NHD Com ID	65640233	RMI	0.25
Drainage Area	0.72 mi <sup>2</sup>	Yield (cfs/mi <sup>2</sup> )	0.06
Q <sub>7-10</sub> Flow (cfs)	0.0441	Q <sub>7-10</sub> Basis	USGS Gage 01539000, Fishing Creek near Bloomsburg, PA (1940-2008)
Elevation (ft)	529	Slope (ft/ft)	Undetermined
Watershed No.	5-C	Chapter 93 Class.	CWF
Existing Use	N/A	Existing Use Qualifier	N/A
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Attaining Use(s)		
Nearest Downstream Public Water Supply Intake	Suez Water, PA		
PWS Waters	Fishing Creek	Distance from Outfall (mi)	2.39

Changes Since Last Permit Issuance: The above stream and drainage characteristics were determined for previous reviews and remain appropriate.

Other Comments: No downstream water supply is expected to be affected by the discharge at this time with the monitoring and limitations proposed.

Treatment Facility Summary				
<b>Treatment Facility Name:</b> Country Manor Apartments				
<b>WQM Permit No.</b>	<b>Issuance Date</b>			
1987409 T-3	T-3 – 08/04/2023			
	T-2 – 11/12/97			
	T-1 – 11/6/92			
	Original – 11/17/87			
<b>Waste Type</b>	<b>Degree of Treatment</b>	<b>Process Type</b>	<b>Disinfection</b>	<b>Avg Annual Flow (MGD)</b>
Sewage	Tertiary	Extended Aeration With Solids Removal	Hypochlorite	0.0025
<b>Hydraulic Capacity (MGD)</b>	<b>Organic Capacity (lbs/day)</b>	<b>Load Status</b>	<b>Biosolids Treatment</b>	<b>Biosolids Use/Disposal</b>
0.0025	None Specified	Not Overloaded		

Changes Since Last Permit Issuance: None

Other Comments: The treatment as permitted under WQM Permit No. 1987409 T-3 consists of two 1,500-gallon septic tanks, two Nayadic aerobic tanks, two effluent filters, tablet chlorinator, and chlorine contact tank.

Compliance History

DMR Data for Outfall 001 (from October 1, 2024 to September 30, 2025)

Parameter	SEP-25	AUG-25	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24
Flow (MGD) Average Monthly	0.0001	0.001	0.001	0.001	0.0001	0.0001	ND	0.0001	0.001	0.0001	0.0001	0.0001
Flow (MGD) Daily Maximum	0.0001	0.001	0.001	0.001	0.0001	0.0001		0.0001	0.001	0.0001	0.0001	0.0001
pH (S.U.) Instantaneous Minimum	7.7	7.6	7.7	7.6	7.0	7.6		7.7	7.1	7.6	7.7	7.5
pH (S.U.) Instantaneous Maximum	8.4	8.3	8.2	8.4	8.2	8.3		8.7	8.3	8.4	8.2	8.5
DO (mg/L) Instantaneous Minimum	5.70	5.8	5.8	5.7	5.50	5.6		5.8	5.6	5.5	5.7	5.5
TRC (mg/L) Average Monthly	0.4	0.4	0.4	0.40	0.4	0.4		0.4	0.4	0.4	0.4	0.4
TRC (mg/L) Instantaneous Maximum	0.44	0.44	0.43	0.44	0.43	0.43		0.43	0.43	0.45	0.45	0.45
CBOD5 (mg/L) Average Monthly	8.0	13.0	< 12.0	< 10.0	24.0	50.0		< 6.0	< 6.0	< 6.0	< 6.0	< 6.0
CBOD5 (mg/L) Instantaneous Maximum	10.5	16.1	18.5	14.8	25.9	59.4		< 6.0	< 6.0	< 6.0	< 6.0	< 6.0
TSS (mg/L) Average Monthly	< 5.0	< 5.0	< 5.0	6.0	8.0	10.0		< 5	< 5.0	< 8.0	< 5.0	< 6.0
TSS (mg/L) Instantaneous Maximum	< 5.0	< 5.0	< 5.0	6.0	8.0	13.0		< 5	< 5.0	11.2	5.9	6.3
Fecal Coliform (No./100 ml) Geometric Mean	< 1.0	< 1.0	< 1.0	< 1.0	< 12.0	1564		< 1.0	57	< 29.0	< 9.0	< 35.0
Fecal Coliform (No./100 ml) Instantaneous Maximum	< 1.0	< 1.0	< 1.0	1.0	135.5	2419.6		< 1.0	204.6	816.4	79.4	1203.3
Ammonia (mg/L) Average Quarterly	32.3			40.7				< 0.2		2.91		

**Compliance History, Continued**

**Effluent Violations for Outfall 001, from: October 1, 2024 to September 30, 2025**

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
CBOD5	04/30/25	Avg Mo	50.0	mg/L	25	mg/L
CBOD5	04/30/25	IMAX	59.4	mg/L	50	mg/L

**Compliance History**

<b>Compliance History</b>	
<b>Summary of Inspections:</b>	The facility has been inspected approximately annually by the Department over the past permit term. The most recent inspection on January 30, 2025 noted an eDMR effluent violation but no operational violations at the time of inspection.
<b>Other Comments:</b>	There are no open violations in eFACTS for AG Bloom 1, LLC. The system was apparently pumped out for repairs in March 2025 and no discharge occurred while tanks refilled.

Proposed Effluent Limitations and Monitoring Requirements

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> 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	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	5/week	Grab
DO	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	5/week	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	5/week	Grab
CBOD5	XXX	XXX	XXX	25	XXX	50	2/month	Grab
TSS	XXX	XXX	XXX	30	XXX	60	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Ammonia	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	Grab

**Development of Effluent Limitations**

Outfall No. 001 Design Flow (MGD) 0.0025  
Latitude 41° 1' 44.00" Longitude -76° 28' 2.20"  
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 <sub>5</sub>	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
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: The above limitations are included in the existing permit.

**Water Quality-Based Limitations**

**CBOD<sub>5</sub>, DO, and NH<sub>3</sub>-N**

The WQM7.0 model allows the Department to evaluate point source discharges of dissolved oxygen (DO), carbonaceous BOD (CBOD<sub>5</sub>), and ammonia nitrogen (NH<sub>3</sub>-N) into free-flowing streams and rivers. To accomplish this the model simulates two basic processes: the mixing and degradation of NH<sub>3</sub>-N in the stream and the mixing and consumption of DO in the stream due to the degradation of CBOD<sub>5</sub> and NH<sub>3</sub>-N. WQM7.0 modeling was performed for the discharge to the unnamed tributary to Fishing Creek and showed that the secondary treatment limits listed above are adequate to protect the receiving waters. See Attachment B.

**TRC**

The Department uses a modeling spreadsheet to determine necessary WQBELs for TRC toxicity based on instream dilution. The attached modeling results (See attachment C) show that the BAT limit of 0.5 mg/l is adequate to protect the receiving stream.

**Toxics Management**

No further "Reasonable Potential Analysis" was performed to determine additional toxic parameters as candidates for limitations for this 0.0025 MGD sewage treatment facility receiving no industrial influent.

**Chesapeake Bay Requirements**

A portion of the Chesapeake Bay and many of its tidal tributaries have been listed as impaired under Section 303(d) of the Water Pollution Control Act, 33 U.S.C. §1313(d). Total Nitrogen and Total Phosphorus cap loads have been established for significant dischargers in Pennsylvania to reduce the total nutrient load to the Bay and meet State of Maryland Water Quality Standards. The Country Manor Apartments treatment plant is considered an existing Phase 5, insignificant Chesapeake Bay discharger per the Phase III Watershed Implementation Plan (WIP) and thus has not received Cap Loads. Monitoring under the previous issuance found the Total Nitrogen and Total Phosphorus to average 33.7 and 3.50 mg/L, respectively. Because the nutrient load from the discharge has adequately been characterized no further nutrient monitoring will be required at this time.

**e. Coli**

Annual e. coli monitoring will be required at this time due to recent changes to Chapter 93 of the Departments regulations and Department policy.

**Best Professional Judgment (BPJ) Limitations**

No additional BPJ limits are needed beyond the water quality and technology-based limits noted above.

**Anti-Backsliding**

No water quality based or BPJ limits were made less stringent consistent with the anti-backsliding requirements of 40 CFR 122.44(l).

**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) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> 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	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
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
CBOD5	XXX	XXX	XXX	25	XXX	50	2/month	Grab
TSS	XXX	XXX	XXX	30	XXX	60	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Ammonia-Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab

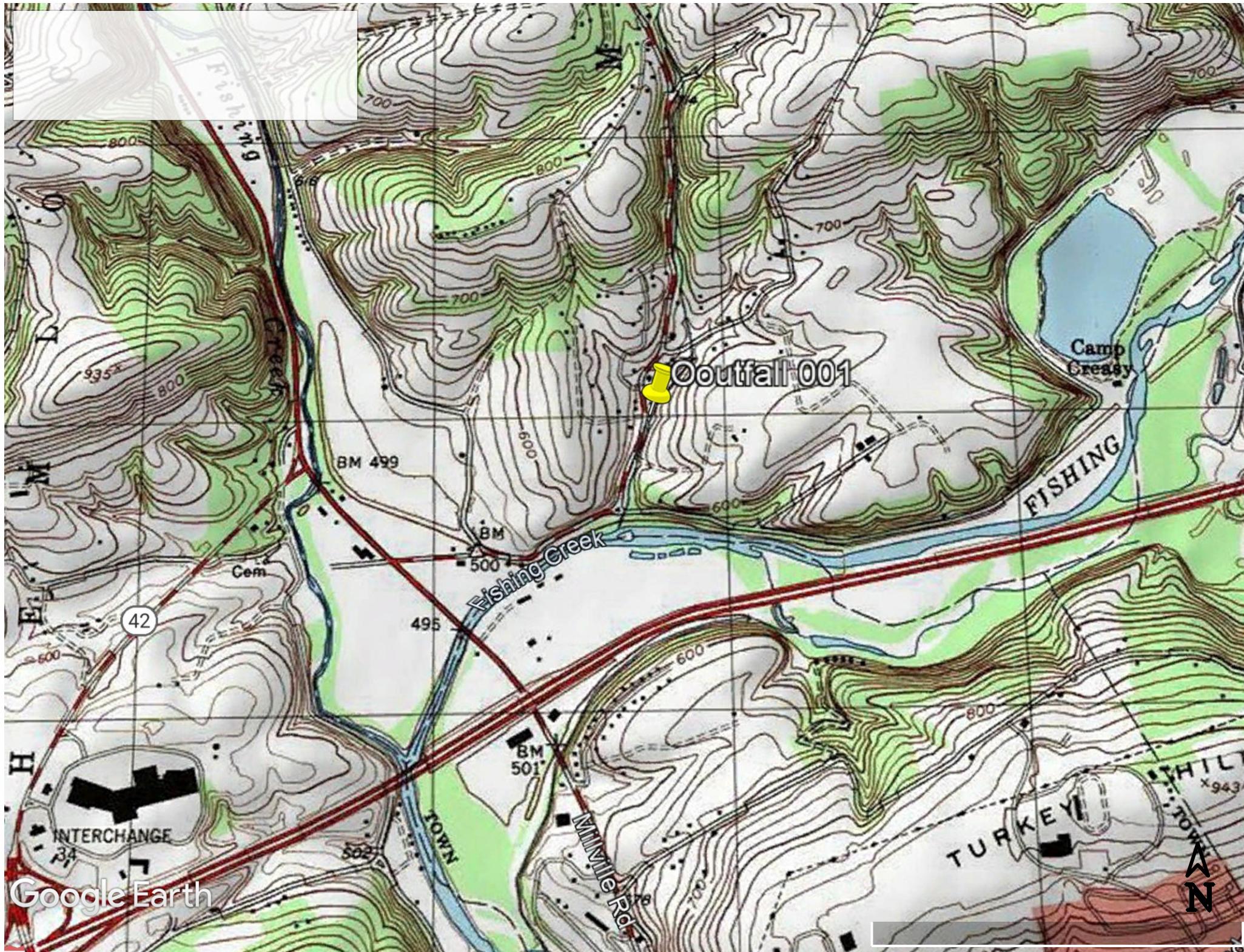
Compliance Sampling Location: Outfall 001

Other Comments: E. Coli monitoring is new as mentioned above. The monitoring frequencies have been updated from 5/week to daily for pH, DO, and TRC consistent with Department policy. Current daily DMRs indicate that the permittee is currently reporting these daily. Ammonia-nitrogen monitoring will continue at quarterly at this time but the monitoring has been changed from a quarterly average to a daily max.

Tools and References Used to Develop Permit	
<input checked="" type="checkbox"/>	WQM for Windows Model (see Attachment B)
<input type="checkbox"/>	Toxics Management Spreadsheet (see Attachment)
<input checked="" type="checkbox"/>	TRC Model Spreadsheet (see Attachment C)
<input type="checkbox"/>	Temperature Model Spreadsheet (see Attachment)
<input checked="" type="checkbox"/>	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
<input checked="" type="checkbox"/>	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
<input type="checkbox"/>	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
<input checked="" type="checkbox"/>	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
<input type="checkbox"/>	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
<input type="checkbox"/>	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
<input type="checkbox"/>	Pennsylvania CSO Policy, 386-2000-002, 9/08.
<input type="checkbox"/>	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
<input type="checkbox"/>	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
<input checked="" type="checkbox"/>	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
<input checked="" type="checkbox"/>	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
<input checked="" type="checkbox"/>	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004.
<input type="checkbox"/>	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
<input type="checkbox"/>	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
<input type="checkbox"/>	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
<input checked="" type="checkbox"/>	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
<input type="checkbox"/>	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
<input checked="" type="checkbox"/>	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
<input type="checkbox"/>	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
<input type="checkbox"/>	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
<input type="checkbox"/>	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 386-2000-020, 10/97.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
<input type="checkbox"/>	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 386-2000-010, 3/1999.
<input checked="" type="checkbox"/>	Design Stream Flows, 386-2000-003, 9/98.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98.
<input type="checkbox"/>	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
<input checked="" type="checkbox"/>	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
<input type="checkbox"/>	SOP:
<input type="checkbox"/>	Other:

Attachments:

- Discharge Location Map
- WQM7.0 Model
- TRC Model



## Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
05C	27752	Trib 27752 to Fishing Creek	0.250	529.00	0.71	0.00000	0.00	<input checked="" type="checkbox"/>

### Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD	Rch Width	Rch Depth	Tributary Temp	pH	Stream Temp	pH
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°C)		(°C)	
Q7-10	0.060	0.00	0.00	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
Country Manor	PA0113697	0.0025	0.0000	0.0000	0.000	25.00	7.00
<b>Parameter Data</b>							
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
05C	27752	Trib 27752 to Fishing Creek	0.100	501.00	0.78	0.00000	0.00	<input checked="" type="checkbox"/>

### Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD	Rch Width	Rch Depth	Tributary Temp	pH	Stream Temp	pH
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°C)		(°C)	
Q7-10	0.060	0.00	0.00	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
<b>Parameter Data</b>							
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>						
05C			27752			Trib 27752 to Fishing Creek						
RMI	Stream Flow	PWS With	Net Stream Flow	Disc Analysis Flow	Reach Slope	Depth	Width	W/D Ratio	Velocity	Reach Trav Time	Analysis Temp	Analysis pH
	(cfs)	(cfs)	(cfs)	(cfs)	(ft/ft)	(ft)	(ft)		(fps)	(days)	(°C)	
<b>Q7-10 Flow</b>												
0.250	0.04	0.00	0.04	.0039	0.03535	.316	3.08	9.76	0.05	0.192	20.42	7.00
<b>Q1-10 Flow</b>												
0.250	0.03	0.00	0.03	.0039	0.03535	NA	NA	NA	0.04	0.240	20.62	7.00
<b>Q30-10 Flow</b>												
0.250	0.06	0.00	0.06	.0039	0.03535	NA	NA	NA	0.06	0.164	20.31	7.00

## **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	6		

## WQM 7.0 D.O.Simulation

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>		
05C	27752	Trib 27752 to Fishing Creek		
<u>RMI</u> 0.250	<u>Total Discharge Flow (mgd)</u> 0.002	<u>Analysis Temperature (°C)</u> 20.416	<u>Analysis pH</u> 7.000	
<u>Reach Width (ft)</u> 3.080	<u>Reach Depth (ft)</u> 0.316	<u>Reach WDRatio</u> 9.757	<u>Reach Velocity (fps)</u> 0.048	
<u>Reach CBOD5 (mg/L)</u> 3.91	<u>Reach Kc (1/days)</u> 0.742	<u>Reach NH3-N (mg/L)</u> 2.08	<u>Reach Kn (1/days)</u> 0.723	
<u>Reach DO (mg/L)</u> 7.807	<u>Reach Kr (1/days)</u> 24.106	<u>Kr Equation</u> Owens	<u>Reach DO Goal (mg/L)</u> 6	
<u>Reach Travel Time (days)</u> 0.192	<b>Subreach Results</b>			
	TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
	0.019	3.86	2.05	8.11
	0.038	3.80	2.02	8.18
	0.058	3.75	2.00	8.18
	0.077	3.69	1.97	8.18
	0.096	3.64	1.94	8.18
	0.115	3.59	1.91	8.18
	0.134	3.54	1.89	8.18
	0.153	3.49	1.86	8.18
	0.173	3.43	1.84	8.18
	0.192	3.39	1.81	8.18

## WQM 7.0 Wasteload Allocations

**SWP Basin**    **Stream Code**    **Stream Name**  
**05C**            **27752**            **Trib 27752 to Fishing Creek**

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### **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
0.250	Country Manor	15.92	50	15.92	50	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
0.250	Country Manor	1.85	25	1.85	25	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)		
0.25	Country Manor	25	25	25	25	3	3	0	0

## **WQM 7.0 Effluent Limits**

<b><u>SWP Basin</u></b>	<b><u>Stream Code</u></b>	<b><u>Stream Name</u></b>					
<b>05C</b>	<b>27752</b>	<b>Trib 27752 to Fishing Creek</b>					
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)
0.250	Country Manor	PA0113697	0.002	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			3

TRC EVALUATION					
Input appropriate values in A3:A9 and D3:D9					
Source	Reference	AFC Calculations		Reference	CFC Calculations
TRC	1.3.2.iii	WLA_afc = 3.656		1.3.2.iii	WLA_cfc = 3.557
PENTOXSD TRG	5.1a		LTAMULT_afc = 0.373	5.1c	LTAMULT_cfc = 0.581
PENTOXSD TRG	5.1b		LTA_afc = 1.362	5.1d	LTA_cfc = 2.068
Effluent Limit Calculations					
PENTOXSD TRG	5.1f		AML MULT = 1.231		
PENTOXSD TRG	5.1g		AVG MON LIMIT (mg/l) = 0.500		BAT/BPJ
			INST MAX LIMIT (mg/l) = 1.635		
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)			