pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0051781**
Facility Type	**Industrial**	APS ID	**5530**
Major / Minor	**Minor**	Authorization ID	**1019998**

NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

Applicant and Facility Information

Applicant Name	**Reading Area Water Authority**	Facility Name	**Reading Area Water Authority**
Applicant Address	1801 Kutztown Road	Facility Address	108 Berkley Road
	Reading, PA 19604-1515		Reading, PA 19605-9270
Applicant Contact	Gary Phillips	Facility Contact	Gary Phillips
Applicant Phone	(610) 406-6300	Facility Phone	(610) 406-6300
Client ID	77883	Site ID	239748
SIC Code	4941	Municipality	Ontelaunee Township
SIC Description	Trans. & Utilities - Water Supply	County	Berks
Date Application Received	March 31, 2014	EPA Waived?	Yes
Date Application Accepted	April 9, 2014	If No, Reason	

Purpose of Application: NPDES Renewal.

Summary of Review

This protection report has been developed for the renewal of the NPDES permit for the existing industrial wastewater treatment facility for the Reading Area Water Authority. The NPDES permit application indicates that the facility has two outfalls; 001 has a design flow of 3.0 MGD and 002 has a design flow of 0.26 mgd. Outfall 001 discharges waters originating from sedimentation basin blowdown and filter backwash. Outfall 002 discharges waters originating from the chlorine analyzer, pump seal water, and diesel generator cooling water.

The water treatment plant processes water from Maiden Creek for potable water use using a treatment process that includes screening, coagulation, sedimentation, filtration and disinfection. The facility utilizes sodium permanganate and polymer for manganese removal, aluminum sulfate and activated carbon can be added to promote coagulation; ammonia nd zinc orthophosphate can be added prior to distribution.

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
		Aaron Baar / Permits Section	October 11, 2019
		Daniel W. Martin, P.E. / Environmental Engineer Manager	
		Maria D. Bebenek, P.E. / Program Manager	

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	3
Latitude	40º 25' 32.16"	Longitude	-75º 56' 36.92"
Quad Name		Quad Code	
Wastewater Description:	Water Treatment Effluent		
Receiving Waters	Maiden Creek (WWF, MF)	Stream Code	01985
NHD Com ID	26000370	RMI	0.3
Drainage Area	216 mi^2	Yield (cfs/mi^2)	0.1833
Q_{7-10} Flow (cfs)	39.6	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	249.18	Slope (ft/ft)	
Watershed No.	3-B	Chapter 93 Class.	WWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	HABITAT ALTERATIONS, PATHOGENS		
Source(s) of Impairment	DAM OR IMPOUNDMENT, SOURCE UNKNOWN		
TMDL Status	Name		
Nearest Downstream Public Water Supply Intake	Pottstown Water Supply		
PWS Waters	Schuylkill River	Flow at Intake (cfs)	
PWS RMI	57	Distance from Outfall (mi)	30

Changes Since Last Permit Issuance: N/A

Other Comments: Secondary Water is Schuylkill River.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	.26
Latitude	40º 25' 32.16"	Longitude	-75º 56' 36.92"
Quad Name		Quad Code	
Wastewater Description:	Water Treatment Effluent		
Receiving Waters	Maiden Creek (WWF, MF)	Stream Code	01985
NHD Com ID	26000370	RMI	0.3
Drainage Area	216 mi^2	Yield (cfs/mi^2)	0.1833
Q_{7-10} Flow (cfs)	39.6	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	249.18	Slope (ft/ft)	
Watershed No.	3-B	Chapter 93 Class.	WWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	HABITAT ALTERATIONS, PATHOGENS		
Source(s) of Impairment	DAM OR IMPOUNDMENT, SOURCE UNKNOWN		
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Pottstown Water Supply		
PWS Waters	Schuylkill River	Flow at Intake (cfs)	
PWS RMI	57	Distance from Outfall (mi)	30

Changes Since Last Permit Issuance: N/A

Other Comments: Other Comments: Secondary Water is Schuylkill River.

Treatment Facility Summary				
Treatment Facility Name: Reading Area Water- Maiden Cr				
WQM Permit No.	**Issuance Date**			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Industrial			No Disinfection	3.26 (total)
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
		Not Overloaded		

The treatment facility processes raw creek water in order to provide potable water for use. The treatment process includes screening, coagulation, sedimentation, filtration and disinfection. Sludge from the filtration process, sedimentation process and backwash tank are thickened via gravity thickeners; sludge is then dewatered with two centrifuges and landfilled. Backwash from the filtration process, supernatant from the thickeners, and centrate from the centrifuges are collected in a decant well and conveyed to the backwash tank, dechlorinated, sent to a holding lagoon and discharged. The effluent is discharged back to Maiden Creek. All chemicals utilized are on the Department's approved list.

Compliance History	
Summary of DMRs:	See attached spreadsheet.
Summary of Inspections:	Since the last NPDES permit renewal, there are records in the Department's File Room that the facility has been inspected two times. The notes from the inspections are as follows: February 20, 2014: The Department's inspector, Erick Ammon, performed a routine inspection of the facility. An IMAX violation was noted; otherwise, the plant was found to be operating correctly and it was well maintained. June 23, 2015: The Department's inspector, Erick Ammon, met with the permittee to discuss TRC process control and compliance sampling as well as to perform a routine inspection of the facility. Operational issues were noted; otherwise, the plant was found to be operating correctly and it was well maintained.
Other Comments:	Recent DMRs and the inspection reports indicate that the effluent has consistently met permit limits with the exception of aluminum and TRC (see below).

Compliance History

DMR Data for Outfall 001 (from September 1, 2018 to August 31, 2019)

Parameter	AUG-19	JUL-19	JUN-19	MAY-19	APR-19	MAR-19	FEB-19	JAN-19	DEC-18	NOV-18	OCT-18	SEP-18
Flow (MGD) Average Monthly	1.367	1.246	1.065	1.398	1.23	1.268	0.889	1.458	1.58	1.179	0.957	0.932
Flow (MGD) Daily Maximum	1.696	1.663	1.337	2.421	2.165	2.064	1.416	1.707	2.70	2.001	1.613	1.369
pH (S.U.) Minimum	7.2	7.2	7.1	7.1	6.5	6.5	7.2	7.2	7.2	7.02	7.2	7.20
pH (S.U.) Maximum	7.8	7.6	7.5	7.5	7.5	7.5	7.7	7.9	7.8	7.45	7.9	7.99
TRC (mg/L) Average Monthly	< 0.030	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.040	< 0.030	< 0.020	< 0.040	< 0.020
TRC (mg/L) Instantaneous Maximum	0.100	0.090	0.030	0.030	0.030	0.030	0.060	0.370	0.360	0.030	0.200	0.040
TSS (lbs/day) Average Monthly	37	< 18	22	26	23	< 19	< 17	< 20	55	< 13	18	33
TSS (lbs/day) Daily Maximum	60	38	43	36	36	37	25	28	121	20	32	49
TSS (mg/L) Average Monthly	3	< 2	2	2	2	< 2	< 4	< 2	4	< 1	2	4
TSS (mg/L) Daily Maximum	6	3	4	3	3	4	8	2	9	2	3	6
Total Aluminum (lbs/day) Average Monthly	3	2	3	4	9	5	3	5	4	3	3	2
Total Aluminum (lbs/day) Daily Maximum	4	3	4	5	21	11	6	6	5	4	5	2
Total Aluminum (mg/L) Average Monthly	0.30	0.20	0.30	0.30	1.00	0.50	0.30	0.40	0.26	0.31	0.37	0.19
Total Aluminum (mg/L) Daily Maximum	0.35	0.28	0.41	0.50	2.58	1.13	0.57	0.50	0.40	0.39	0.58	0.23
Total Iron (lbs/day) Average Monthly	< 0.2	< 0.2	< 0.2	< 0.4	< 0.3	< 0.2	< 0.2	< 0.3	< 0.3	< 0.2	< 0.2	< 0.2
Total Iron (lbs/day) Daily Maximum	< 0.3	< 0.3	0.3	0.6	0.4	0.3	0.2	0.3	< 0.3	< 0.2	< 0.2	0.3

Total Iron (mg/L) Average Monthly	< 0.02	< 0.02	< 0.03	< 0.03	< 0.03	< 0.02	< 0.03	< 0.02	< 0.02	< 0.02	< 0.02	< 0.03
Total Iron (mg/L) Daily Maximum	< 0.02	< 0.02	0.04	0.05	0.05	0.03	0.05	0.03	0.02	0.02	0.02	0.04
Total Manganese (lbs/day) Average Monthly	2	2	1	0.9	2	1	2	0.5	0.6	0.6	1	2
Total Manganese (lbs/day) Daily Maximum	3	3	1	2	5	3	8	0.9	1	0.8	1	3
Total Manganese (mg/L) Average Monthly	0.2	0.2	0.1	0.1	0.3	0.1	0.2	0.04	0.04	0.1	0.1	0.2
Total Manganese (mg/L) Daily Maximum	0.25	0.366	0.115	0.192	0.591	0.329	0.697	0.072	0.086	0.08	0.149	0.279

DMR Data for Outfall 002 (from September 1, 2018 to August 31, 2019)

Parameter	AUG-19	JUL-19	JUN-19	MAY-19	APR-19	MAR-19	FEB-19	JAN-19	DEC-18	NOV-18	OCT-18	SEP-18
Flow (MGD) Average Monthly	0.03023	0.02496	0.04053	0.04262	0.02001	0.00737	0.00613	0.00731	0.00979	0.0091	0.00543	0.01686
Flow (MGD) Daily Maximum	0.04284	0.03525	0.12797	0.06069	0.04824	0.0571	0.00889	0.02071	0.0743	0.0491	0.01067	0.1296
pH (S.U.) Minimum	7.1	7.1	7.0	7.0	6.3	6.1	7.2	7.1	7.0	6.86	7.0	7.07
pH (S.U.) Maximum	7.7	7.3	7.4	7.6	7.7	7.4	7.5	7.6	7.5	7.45	7.5	7.75
TRC (mg/L) Average Monthly	< 0.020	< 0.020	< 0.020	< 0.020	< 0.050	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TRC (mg/L) Instantaneous Maximum	0.030	0.030	0.030	0.030	1.030	0.020	0.030	0.050	0.070	0.050	0.030	0.050
TSS (lbs/day) Average Monthly	< 0.3	< 0.2	< 0.7	< 0.5	< 0.4	< 0.03	< 0.08	< 0.05	< 0.07	0.5	0.1	< 0.3
TSS (lbs/day) Daily Maximum	0.7	< 0.3	2	0.9	1	< 0.05	0.1	< 0.08	0.2	0.7	0.2	0.8
TSS (mg/L) Average Monthly	< 2	< 1	< 2	< 2	< 2	< 1	< 2	< 1	< 2	4	3	< 5
TSS (mg/L) Daily Maximum	3	1	4	3	4	1	3	1	4	7	4	12
Total Aluminum (lbs/day) Average Monthly	0.01	< 0.01	< 0.01	< 0.01	0.005	0.002	< 0.001	< 0.001	0.001	0.01	0.003	0.004

Total Aluminum (lbs/day) Daily Maximum	0.01	0.02	0.02	0.03	0.01	0.003	0.002	0.002	0.002	0.02	0.008	0.007
Total Aluminum (mg/L) Average Monthly	0.05	< 0.04	< 0.03	< 0.04	0.03	0.1	< 0.03	< 0.02	0.03	0.07	0.07	0.06
Total Aluminum (mg/L) Daily Maximum	0.05	0.07	0.04	0.09	0.04	0.2	0.04	0.03	0.04	0.14	0.21	0.07
Total Iron (lbs/day) Average Monthly	< 0.006	< 0.005	< 0.01	< 0.01	< 0.005	< 0.001	< 0.001	< 0.001	< 0.0008	< 0.01	< 0.003	0.004
Total Iron (lbs/day) Daily Maximum	0.01	0.008	0.02	0.03	0.01	0.002	0.001	< 0.002	< 0.001	0.02	0.01	0.009
Total Iron (mg/L) Average Monthly	< 0.03	< 0.02	< 0.03	< 0.05	< 0.03	< 0.03	< 0.02	< 0.02	< 0.02	< 0.1	< 0.1	0.05
Total Iron (mg/L) Daily Maximum	0.04	0.03	0.04	0.1	0.06	0.04	0.03	< 0.02	< 0.02	0.13	0.33	0.08
Total Manganese (lbs/day) Average Monthly	0.002	0.004	< 0.003	< 0.002	< 0.001	< 0.0002	< 0.0002	< 0.0003	< 0.0002	< 0.001	< 0.0006	0.0008
Total Manganese (lbs/day) Daily Maximum	0.002	0.007	0.005	< 0.002	0.005	< 0.0003	< 0.0003	< 0.0004	< 0.0003	0.003	0.001	0.002
Total Manganese (mg/L) Average Monthly	0.009	0.02	< 0.01	< 0.005	< 0.007	< 0.006	< 0.005	< 0.005	< 0.005	< 0.008	< 0.02	0.01
Total Manganese (mg/L) Daily Maximum	0.011	0.048	0.022	< 0.005	0.013	0.008	< 0.005	< 0.005	< 0.005	0.011	0.029	0.014

Existing Effluent Limits

Outfall 001

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
TRC	XXX	XXX	XXX	0.134	XXX	0.439	1/day	Grab
TSS	750	1500	XXX	30	60	75	1/week	24-Hr Composite
Total Aluminum	31	62	XXX	1.25	2.50	3.12	1/week	24-Hr Composite
Total Iron	50	100	XXX	2.0	4.0	5	1/week	24-Hr Composite
Total Manganese	25	50	XXX	1.0	2.0	2.5	1/week	24-Hr Composite

Outfall 002

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
TRC	XXX	XXX	XXX	0.134	XXX	0.439	1/day	Grab
TSS	65	130	XXX	30	60	75	1/week	24-Hr Composite
Total Aluminum	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Total Iron	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Total Manganese	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite

Compliance History

Effluent Violations for Outfall 001, from: October 1, 2018 To: August 31, 2019

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Total Aluminum	04/30/19	Daily Max	2.58	mg/L	2.50	mg/L

Effluent Violations for Outfall 002, from: October 1, 2018 To: August 31, 2019

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
TRC	04/30/19	IMAX	1.030	mg/L	0.439	mg/L

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 3
Latitude 40º 25' 29.43" **Longitude** -75º 56' 37.87"
Wastewater Description: Water Treatment Effluent

Technology-Based Limitations

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

Technology-based (BAT) effluent limits for water treatment plant wastewater discharges are presented in the Department's Guidance document entitled, "Technology Based Controls for Discharges from Water Treatment Plants" as follows:

Parameter	Monthly Avg mg/l	Daily Max. mg/l
Suspended Solids	30	60
Aluminum	4	8
Iron	2	4
Manganese	1	2
TRC	0.5	1.0
pH	6 - 9 S.U at all times	

Water Quality-Based Limitations

Stream Flow:

StreamStats was used to determine data for the stream flows for the water quality analysis. According to StreamStats, the discharge point has a Q_{7-10} of 39.6 cfs and a drainage area of 216 mi^2, which results in a Q_{7-10} low flow yield of 0.1833 cfs/mi^2.

Low Flow Yield = 0.1833 cfs/mi^2

Q_{7-10} = 0.1833 cfs/mi^2 * 216 mi^2 ≈ 39.6 cfs
Q_{30-10} = 1.36 * 39.6 cfs ≈ 53.9 cfs
Q_{1-10} = 0.64 * 39.6 cfs ≈ 25.3 cfs

Toxics

A reasonable potential (RP) analysis was done for the Group 1 and Group 2 pollutants using the sampling results provided with the application; Total Aluminum and Total Phenols were flagged for further analysis. PENTOXSD was used to calculate a WQBEL for these parameters at a pH of 7.0 and a discharge hardness of 100 mg/L. The attached PENTOXSD output (attached) indicates that tighter limits should be implemented for Total Aluminum. The recommended value calculated by PENTOXSD for Total Aluminum, 824 µg/L (0.82 mg/L), is proposed as the new limit in this renewal.

Additional Considerations

Effluent Limitations Evaluation:

The attached TRC Excel spreadsheet calculator, which uses the equations and calculations from guidance document 391-2000-015, indicates that existing limits are sufficient to be protective of water quality.

It is recommended that all existing effluent limitations remain in effect, except for aluminum (as discussed above). Recent DMRs and inspection reports indicate that the facility has generally been in compliance. Documented

exceedances are likely due to operational issues, not the ability of the existing plant to meet existing and proposed limits.

Antidegradation (93.4):

The effluent limits for this discharge have been developed to ensure that existing in-stream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. No High Quality Waters are impacted by this discharge. No Exceptional Value Waters are impacted by this discharge.

303d LISTED STREAMS:

The discharge from this facility is to Maiden Creek, which was included on the EPA Approved 303d list for impaired waters. Maiden Creek is in Category 5 for water bodies, with pathogens indicated as a source of pollution interfering with the recreational designated use. No TMDL has been developed for section of waterway the existing outfalls discharge into.

Class A Wild Trout Fisheries:

No Class A Wild Trout Fisheries are impacted by this discharge.

Development of Effluent Limitations

Outfall No. 002 **Design Flow (MGD)** .26
Latitude 40º 25' 30.00" **Longitude** -75º 56' 45.00"
Wastewater Description: Water Treatment Effluent

Water Quality-Based Limitations

Stream Flow:

Given the close proximity of the two outfalls, the conditions at Outfall 001 were used to approximate conditions at Outfall 002.

Low Flow Yield = 0.1833 cfs/mi^2
Q_{7-10} = 0.1833 cfs/mi^2 * 216 mi^2 ≈ 39.6 cfs
Q_{30-10} = 1.36 * 39.6 cfs ≈ 53.9 cfs
Q_{1-10} = 0.64 * 39.6 cfs ≈ 25.3 cfs

Toxics

A reasonable potential (RP) analysis was done for the Group 1 and Group 2 pollutants using the sampling results provided with the application; Total Phenols was flagged for further analysis. PENTOXSD was used to calculate a WQBEL for this parameter at a pH of 7.0 and a discharge hardness of 100 mg/L. The attached PENTOXSD output (attached) indicates that no additional monitoring limits for toxics are needed at this time.

Existing monitoring requirements for Aluminum, Iron and Manganese will be continued from the previous permit.

Additional Considerations

Effluent Limitations Evaluation:

The attached TRC Excel spreadsheet calculator, which uses the equations and calculations from guidance document 391-2000-015, indicates that existing limits are sufficient to be protective of water quality.

It is recommended that all existing effluent limitations remain in effect. Recent DMRs and inspection reports indicate that the facility has generally been in compliance. Documented exceedances are likely due to operational issues, not the ability of the existing plant to meet existing and proposed limits.

Antidegradation (93.4):

The effluent limits for this discharge have been developed to ensure that existing in-stream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. No High Quality Waters are impacted by this discharge. No Exceptional Value Waters are impacted by this discharge.

303d LISTED STREAMS:

The discharge from this facility is to Maiden Creek, which was included on the EPA Approved 303d list for impaired waters. Maiden Creek is in Category 5 for water bodies, with pathogens indicated as a source of pollution interfering with the recreational designated use. No TMDL has been developed for section of waterway the existing outfalls discharge into.

Class A Wild Trout Fisheries:

No Class A Wild Trout Fisheries are impacted by this discharge.

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	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
TRC	XXX	XXX	XXX	0.134	XXX	0.439	1/day	Grab
TSS	750	1500	XXX	30	60	75	1/week	24-Hr Composite
Total Aluminum	20.0	40.0	XXX	0.82	1.6	2	1/week	24-Hr Composite
Total Iron	50	100	XXX	2.0	4.0	5	1/week	24-Hr Composite
Total Manganese	25	50	XXX	1.0	2.0	2.5	1/week	24-Hr Composite

Compliance Sampling Location: Outfall 001

Proposed Effluent Limitations and Monitoring Requirements

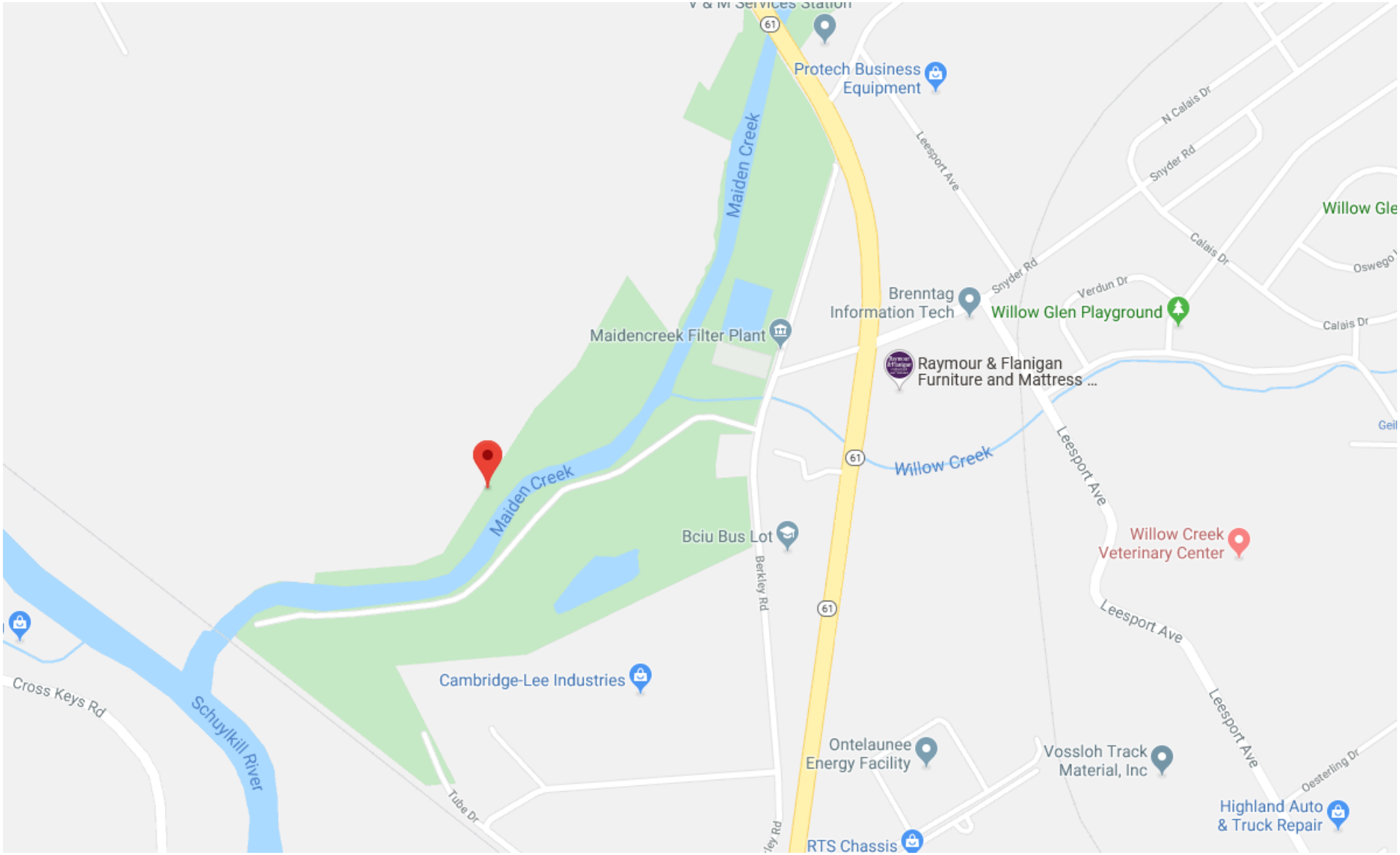
The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 002, Effective Period: Permit Effective Date through Permit Expiration Date.

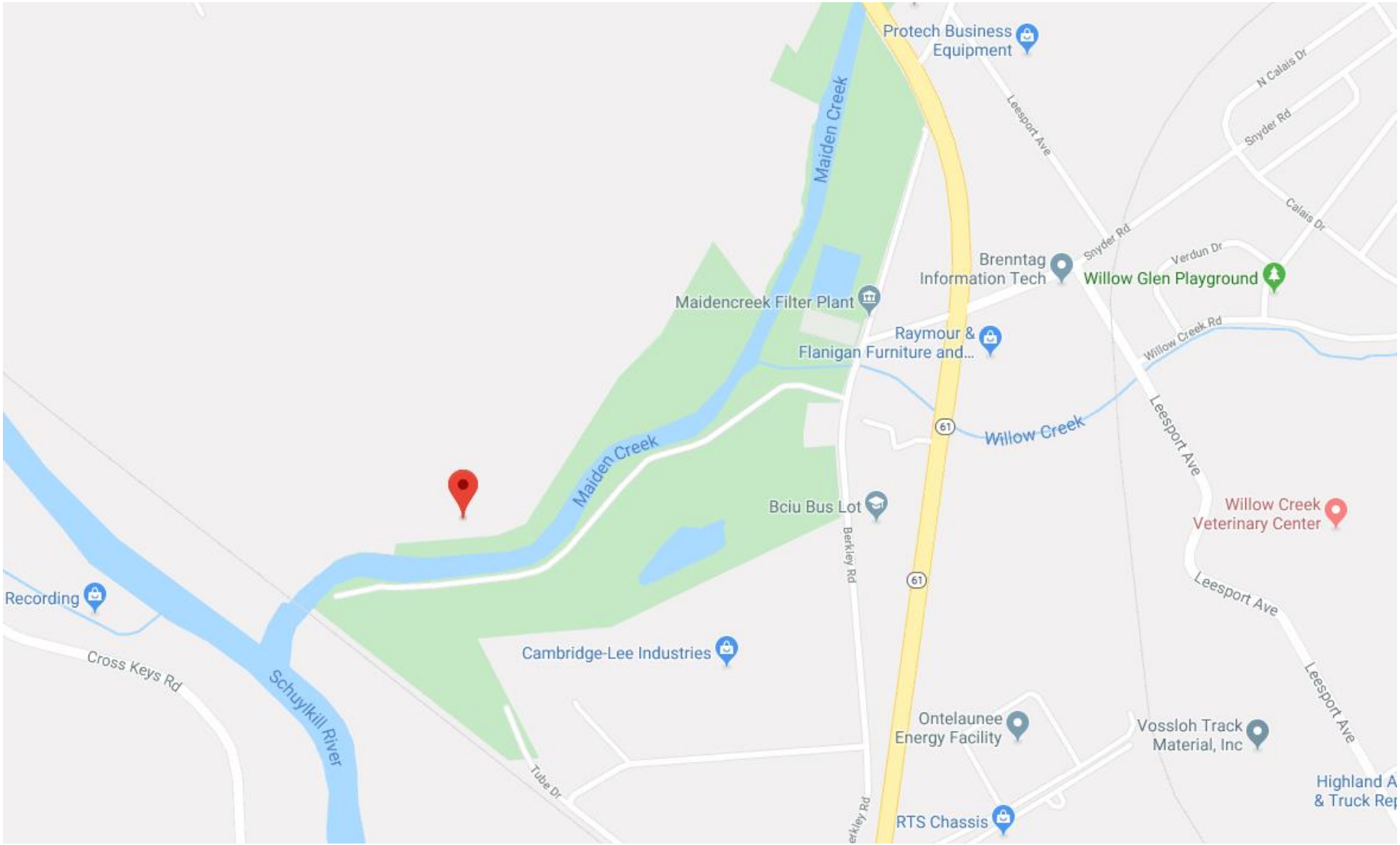
Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
TRC	XXX	XXX	XXX	0.134	XXX	0.439	1/day	Grab
TSS	65	130	XXX	30	60	75	1/week	24-Hr Composite
Total Aluminum	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Total Iron	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Total Manganese	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite

Compliance Sampling Location: Outfall 002

Outfall 001


Protech Business Equipment
Maiden Creek
Leesport Ave
N Calais Dr
Snyder Rd
Willow Gle
Calais Dr
Oswego
Brenntag Information Tech
Snyder Rd
Verdun Dr
Willow Glen Playground
Calais Dr
Maidencreek Filter Plant
Raymour & Flanigan Furniture and Mattress ...
Willow Creek
61
Leesport Ave
Maiden Creek
Bciu Bus Lot
Berkley Rd
Willow Creek Veterinary Center
61
Leesport Ave
Cross Keys Rd
Schuylkill River
Cambridge-Lee Industries
Leesport Ave
Ontelaunee Energy Facility
Vossloh Track Material, Inc
Oesterling Dr
Tube Dr
Highland Auto & Truck Repair
RTS Chassis

Outfall 002


Protech Business Equipment
Maiden Creek
Leesport Ave
N Calais Dr
Snyder Rd
Calais Dr
Brenntag Information Tech
Willow Glen Playground
Verdun Dr
Maidencreek Filter Plant
Raymour & Flanigan Furniture and...
Willow Creek Rd
Willow Creek
61
Maiden Creek
Bciu Bus Lot
Berkley Rd
Willow Creek Veterinary Center
Recording
Cross Keys Rd
Schuylkill River
Cambridge-Lee Industries
Leesport Ave
Ontelaunee Energy Facility
Vossloh Track Material, Inc
Tube Dr
RTS Chassis
Highland A
& Truck Rep

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☒	PENTOXSD for Windows Model (see Attachment)
☒	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Toxics Screening Analysis Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☒	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☒	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☒	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☒	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☒	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
☐	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, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
☐	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, 391-2000-022, 3/1999.
☐	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP:
☐	Other: