



Southwest Regional Office
CLEAN WATER PROGRAM

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

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application No. PA0217841
APS ID 1107770
Authorization ID 1473754

Applicant and Facility Information

Applicant Name	<u>PA DCNR</u>	Facility Name	<u>Ryerson St Park STP</u>
Applicant Address	<u>361 Bristoria Road</u> <u>Wind Ridge, PA 15380-1258</u>	Facility Address	<u>361 Bristoria Road</u> <u>Wind Ridge, PA 15308-1258</u>
Applicant Contact	<u>Cassandra Criss</u>	Facility Contact	<u>Same as Applicant</u>
Applicant Phone	<u>(724) 428-4254</u>	Facility Phone	<u>Same as Applicant</u>
Client ID	<u>52524</u>	Site ID	<u>249824</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Richhill Township</u>
Connection Status	<u>No Limitations</u>	County	<u>Greene</u>
Date Application Received	<u>February 20, 2024</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>February 21, 2024</u>	If No, Reason	
Purpose of Application	<u>NPDES Permit Renewal for Discharge of Treated Sewage Effluent.</u>		

Summary of Review

The State Department of Conservation and Natural Resources has applied for a renewal of the NPDES Permit PA0217841, which was last issued on August 13th, 2019 and it was expired on August 31, 2024, the renewal permit was submitted to the Department on February 20, 2024 which considered on time.

WQM Part II Permit No. 3098402 was issued by DEP on June 1, 1998 to authorize the construction of this facility, the STP is consisting of sequencing batch reactors, chlorination, and de-chlorination.

The receiving stream is North Fork Dunkard Fork Creek, which is classified as a Trout Stock Fishery (TSF) per CH93 and located in the State watershed 20-E.



DEP sent on March 28, 2024 a SDN letter to the applicant due to application deficiencies, applicant responded with a revised application that include the needed information.

No hydraulic or organic overloads are projected to occur within the next five years per CH94 report for 2023.

No industrial users are discharging to this facility per the application.

Operations compliance report on March 18, 2024 concluded that the permittee has no open violations. Last time this facility was inspected was on September 29, 2023, no violations were noted.

The facility is not operating at its full capacity throughout the year due to fluctuation in the number of the park visitors, which is reflected on the average annual flow 0.0012 MGD listed on the renewal application. An underloaded treatment facility will

Approve	Deny	Signatures	Date
X		 Hazim Aldalli / Environmental Engineering Specialist	October 25, 2024
X		 Mahbuba Iasmin, Ph.D. P.E. / Environmental Engineering Manager	January 8, 2025

Summary of Review

struggle with maintaining a proper sized biomass to treat the wastewater without enough food to maintain its mass. This condition is affecting the plant effluent treatment and keeping up with its NPDES permit limits for Ammonia, TKN, and TSS. The Act – 14 PL 834 Municipal Notifications were provided by the February 8, 2024 letters and no comments were received.

Sludge use and disposal description and location(s): Per application, no sludge been treated, used, or disposed, also this facility is not accepting any sewage sludge or biosolids from any external source.

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.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.007
Latitude	39° 53' 24"	Longitude	-80° 27' 0"
Quad Name	Wind Ridge	Quad Code	39080H4
Wastewater Description: Sewage Effluent			
Receiving Waters	North Fork Dunkard Fork (TSF)	Stream Code	32594
NHD Com ID	73873434	RMI	1.95
Drainage Area	25.9	Yield (cfs/mi²)	0.0183
Q ₇₋₁₀ Flow (cfs)	0.475	Q ₇₋₁₀ Basis	USGS StreamStats
Elevation (ft)	1296	Slope (ft/ft)	0.002
Watershed No.	20-E	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	None.	Exceptions to Criteria	None.
Assessment Status	Impaired		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Dam Or Impoundment, Streambank Modifications/Destabilization		
TMDL Status		Name	
Background/Ambient Data		Data Source	
pH (SU)			
Temperature (°F)			
Hardness (mg/L)			
Other:			
Nearest Downstream Public Water Supply Intake	None to State Border.		
PWS Waters		Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	> 5.0

Commented [HA1]: There will be a site visit to determine the stream status.

Changes Since Last Permit Issuance:

- Q₇₋₁₀ flow, elevation, drainage area, and low flow yield were all updated to match USGS Stream Stats new data (see Attachment A). Previous permit factsheet carried over the old pollution report data based on Bulletin 12 records for receiving waters flow of 0.0 cfs.
- DEP updated its WQM 7.0 criteria for Ammonia-Nitrogen (NH₃-N) in 2019. Limits and conditions of this permit need to be redeveloped to an adequate level to protect water quality.
- *E. Coli* monitoring requirements will be introduced to this renewal which is in compliance with DEP SOP No. BCW-PMT-033 revised February 5, 2024

Other Comments: To validate the receiving stream new hydraulic information, the permit writer did a site visit on December 17, 2024 to have a clear idea behind the foreseen changes. This visit included the Ryerson State Park sewage treatment facility, its Outfall and the receiving stream (North Fork Dunkard Fork Creek). The collected information from the park management, the treatment facility operator and the taken photos (see Attachment B) indicates that the USGS receiving stream modelling stands since the regulating structure upstream was removed in 2005, and the former body of water (the Ryerson Park Lake) doesn't exist anymore. Also, the stream now appears to be a free flowing stream with a defined natural channel.

Treatment Facility Summary				
Treatment Facility Name: Ryerson Station STP				
WQM Permit No.	Issuance Date			
3098402	June 1, 1998			
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary with NH3-N reduction	SBR	Chlorination	0.0012
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.007	20.0	Not Overloaded	Aeration	None

Changes Since Last Permit Issuance: None.

Other Comments: The Permittee informed DEP on June 4, 2024 that the post EQ pump failed and a temporary catch basin that drain eventually upstream of the permitted receiving waters was approved to collect the pumped effluent. The permittee informed DEP on August 18, 2024 that the repairs were done, and the effluent discharge is back to the permitted Outfall.

Operations Compliance Check Summary Report

Facility: Ryerson State Park STP

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Compliance Review Period: 3/1/19-3/18/24

Inspection Summary:

INSPECTED DATE	INSP TYPE	AGENCY	INSPECTION RESULT DESC
09/29/2023	Follow-up Inspection	PA Dept of Environmental Protection	No Violations Noted
10/30/2021	Compliance Evaluation	PA Dept of Environmental Protection	Violation(s) Noted
07/21/2021	Administrative/File Review	PA Dept of Environmental Protection	Violation(s) Noted

Violation Summary:

VIOLATION DATE	VIOLATION TYPE	VIOLATION TYPE DESC	RESOLVED DATE	VIOLATION COMMENT
10/30/2021	92A.44	NPDES - Violation of effluent limits in Part A of permit	10/21/2022	Caused by inoperable mixer.
10/30/2021	92A.41(A)5	NPDES - Failure to properly operate and maintain all facilities which are installed or used by the permittee to achieve compliance	10/21/2022	Mixer was out of service due the lack of a timely available spare.
07/21/2021	92A.44	NPDES - Violation of effluent limits in Part A of permit	01/11/2024	Ammonia effluent violations caused by insufficient treatment capacity due to an inoperable mixer.
07/21/2021	92A.41(A)5	NPDES - Failure to properly operate and maintain all facilities which are installed or used by the permittee to achieve compliance	01/11/2024	The SBR mixer was out of service for an extended period, due to the lack of a spare.

Open Violations by Client ID:

There are no open violations at any facilities overseen by SWRO's Clean Water Program.

Open violations exist for Client 52524 in Southwest and Northwest Regions as follows:

FACILITY	PF KIND	INSP PROGR AM	PROGRAM SPECIFIC ID	INSP ID	VIOLATION ID	VIOLATION DATE	VIOLATION CODE	VIOLATION	REGION
FRANCES SLOCUM STATE PRK	Sewage Non-Publicly Owned (Non-Muni)	WPC NPDE S	PA00324 33	29367 82	863003	08/06/20 19	92A.41(A)5	NPDES - Failure to properly operate and maintain all facilities which	NER O

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								are installed or used by the permittee to achieve compliance	
HICKORY RUN STATE PRK/ SEW	Sewage Non-Publicly Owned (Non-Muni)	WPC NPDES	PA003299	3383420	960052	06/28/2022	92A.44	NPDES - Violation of effluent limits in Part A of permit	NERO
LAUREL RIDGE STATE PARK	Transient Noncommunity	Safe Drinking Water	5260856	3311857	943058	01/19/2022	24	FAILED TO MONITOR OR REPORT THE REQUIRED NUMBER OF TOTAL COLIFORM SAMPLES	SWRO
LAUREL RIDGE STATE PARK	Transient Noncommunity	Safe Drinking Water	5260856	3295585	939255	12/16/2021	C1A	FAILURE TO MEET DESIGN AND CONSTRUCTION STANDARDS	SWRO
LAUREL RIDGE STATE PARK	Transient Noncommunity	Safe Drinking Water	5260856	3295585	939256	12/16/2021	C1A	FAILURE TO MEET DESIGN AND CONSTRUCTION STANDARDS	SWRO
MCCONNELLS MILL STATE PARK	Transient Noncommunity	Safe Drinking Water	6370802	3253439	930330	09/20/2021	C2F	FAILURE TO SAMPLE AT APPROPRIATE LOCATIONS OR FOLLOW SAMPLE COLLECTION PROTOCOLS	NWRO
MCCONNELLS MILL STATE PARK	Transient Noncommunity	Safe Drinking Water	6370802	3253439	930331	09/20/2021	C9	EXCEEDANCE OF A SECONDARY MCL	NWRO
MORaine STATE PARK	Sewage Non-Publicly Owned (Non-Muni)	WPC NPDES	PA0032531	3725777	8178892	03/11/2024	CSL611	CSL - Failure to comply with terms and conditions of a WQM permit	NWRO
OHIO PYLE ST PK	Transient Noncommunity	Safe Drinking Water	5260800	3562653	996961	06/01/2023	C4A	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM	SWRO
PSP ESPYVILLE LAUNCH	Transient Noncommunity	Safe Drinking Water	6201100	3381568	959738	06/22/2022	C4A	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM	NWRO
PSP ESPYVILLE LIVERY NEW	Transient Noncommunity	Safe Drinking Water	6201162	3381842	959782	06/22/2022	C4A	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM	NWRO
PSP ESPYVILLE LIVERY NEW	Transient Noncommunity	Safe Drinking Water	6201162	3381842	959783	06/22/2022	C1A	FAILURE TO MEET DESIGN AND CONSTRUCTION	NWRO

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								ON STANDARDS	
PSP ESPYVILLE LIVERY NEW	Transient Noncommu nity	Safe Drinkin g Water	6201162	33818 42	959784	06/22/20 22	C4A	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM	NWR O
PSP ESPYVILLE LIVERY NEW	Transient Noncommu nity	Safe Drinkin g Water	6201162	33818 42	959785	06/22/20 22	C4A	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM	NWR O
PYMATUNI NG WATERFO WL MUSEUM	Transient Noncommu nity	Safe Drinkin g Water	6201072	33306 81	947059	03/10/20 22	A1	CIRCUMSTAN CES EXIST WHICH ADVERSELY AFFECT THE QUANTITY OR QUALITY OF WATER	NWR O
PYMATUNI NG WATERFO WL MUSEUM	Transient Noncommu nity	Safe Drinkin g Water	6201072	33306 81	947060	03/10/20 22	C1F	CROSS- CONNECTION S EXIST WITHOUT PROPER BACKFLOW PROTECTION	NWR O
RACCOON CREEK STATE PARK	Transient Noncommu nity	Safe Drinkin g Water	5040376	37158 83	817612 8	02/22/20 24	B6C	CHRONIC FAILURE TO REPORT	SWR O
RACCOON CREEK STATE PARK	Transient Noncommu nity	Safe Drinkin g Water	5040376	37158 83	817612 9	02/22/20 24	B8A	CHRONIC FAILURE TO MONITOR	SWR O
RACCOON CREEK STATE PARK	Transient Noncommu nity	Safe Drinkin g Water	5040376	36160 33	815882 0	09/18/20 23	C3E	FAILURE TO IMPLEMENT A FILTER BED EVALUATION PROGRAM	SWR O
RACCOON CREEK STATE PARK	Transient Noncommu nity	Safe Drinkin g Water	5040376	36160 33	815882 2	09/18/20 23	B8A	CHRONIC FAILURE TO MONITOR	SWR O
RACCOON CREEK STATE PARK	Transient Noncommu nity	Safe Drinkin g Water	5040376	36160 33	815882 3	09/18/20 23	C3F	FAILURE TO TEST ALARM AND SHUTDOWN CAPABILITIES OR RESPOND TO ALARM AND SHUTDOWN EQUIPMENT FAILURES	SWR O
RACCOON CREEK STATE PARK	Transient Noncommu nity	Safe Drinkin g Water	5040376	36160 33	815882 4	09/18/20 23	C9	EXCEEDANCE OF A SECONDARY MCL	SWR O
RACCOON CREEK STATE PARK	Transient Noncommu nity	Safe Drinkin g Water	5040376	36160 33	815882 5	09/18/20 23	C4A	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM	SWR O

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RACCOON CREEK STATE PARK	Transient Noncommunity	Safe Drinking Water	5040376	3616033	8158826	09/18/2023	C1A	FAILURE TO MEET DESIGN AND CONSTRUCTION STANDARDS	SWRO
RACCOON CREEK STATE PARK	Transient Noncommunity	Safe Drinking Water	5040376	3616033	8158827	09/18/2023	C4A	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM	SWRO
RACCOON CREEK STATE PARK	Transient Noncommunity	Safe Drinking Water	5040376	3616033	8158828	09/18/2023	D3	FAILURE TO ACCURATELY REPORT DATA	SWRO
RICKETTS GLEN STATE PRK	Sewage Non-Publicly Owned (Non-Muni)	WPC NPDES	PA0032115	3076161	893343	09/03/2020	92A.41(A)5	NPDES - Failure to properly operate and maintain all facilities which are installed or used by the permittee to achieve compliance	NERO
WASHINGTON CROSSING HISTORICAL PARK LOWER WWTP	Sewage Non-Publicly Owned (Non-Muni)	WPC NPDES	PA0051268	3350012	952048	04/14/2022	92A.41(A)12B	NPDES - Failure to submit monitoring report(s) or properly complete monitoring reports	SERO
WASHINGTON CROSSING HISTORICAL PARK LOWER WWTP	Sewage Non-Publicly Owned (Non-Muni)	WPC NPDES	PA0051268	3350012	952049	04/14/2022	92A.61(F)1	NPDES - Failure to properly document monitoring activities and results	SERO
WASHINGTON CROSSING HISTORICAL PARK UPPER WWTP	Sewage Non-Publicly Owned (Non-Muni)	WPC NPDES	PA0042978	3425102	972316	09/20/2022	92A.61(G)	NPDES - Failure to use a format or process required by DEP for self-monitoring results	SERO

Enforcement Summary:

No enforcements executed during review period

Effluent Violation Summary:

<u>MON PD</u>	<u>PARAMETER</u>	<u>SAMPL E</u>	<u>PERMI I</u>	<u>UNIT</u>	<u>STAT BASE CODE</u>	<u>FACILITY COMMENTS</u>
Jan-24	Total Suspended Solids	32.3	30	mg/L	Average Monthly	

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Sep-23	Total Suspended Solids	60	30	mg/L	Average Monthly	storm water runoff infiltration.
Sep-23	Total Suspended Solids	97	60	mg/L	Instantaneous Maximum	storm water runoff infiltration
Aug-23	Fecal Coliform	3500	1000	No./100 ml	Instantaneous Maximum	Possible sample contamination.
Apr-23	Total Suspended Solids	38.5	30	mg/L	Average Monthly	High solids due to storm runoff infiltration at lift station.
Feb-23	Carbonaceous Biochemical Oxygen Demand (CBOD5)	118.62	50	mg/L	Instantaneous Maximum	All samples taken after the bad sample were within limits
Feb-23	Carbonaceous Biochemical Oxygen Demand (CBOD5)	41.52	25	mg/L	Average Monthly	All samples taken after the bad sample were within limits
Feb-23	Total Suspended Solids	33.66	30	mg/L	Average Monthly	All samples taken after the bad sample were within limits.
Nov-22	Total Suspended Solids	36.5	30	mg/L	Average Monthly	Large amount of surface run off and ground water infiltrating lift station. Waiting on contractor to repair infiltration points.
Oct-22	Ammonia-Nitrogen	2.75	1.9	mg/L	Average Monthly	Local testing consistently shows no or low ammonia nitrogen, but DEP lab results indicate higher levels. We upgraded from test strips to a Lamott test kit from USA blue book. Currently waiting on test results from an independent lab to compare with local test. Will continue to investigate.
Sep-22	Ammonia-Nitrogen	3.58	1.9	mg/L	Average Monthly	Local test indicated ammonia level to be 0.25 by test strip at time of discharge. Plant pro ammonia control is being added as needed

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						when indicated by local test.
Sep-22	Ammonia-Nitrogen	3.91	3.8	mg/L	Instantaneous Maximum	Local test indicated ammonia level to be 0.25 by test strip at time of discharge. Plant pro ammonia control is being added as needed when indicated by local test.
Aug-22	Ammonia-Nitrogen	31.28	1.9	mg/L	Average Monthly	Mechanical failure at park pool caused several thousand gallons of chlorinated water to enter plant killing most if not all bugs
Aug-22	Ammonia-Nitrogen	31.28	3.8	mg/L	Instantaneous Maximum	Mechanical failure at park pool caused several thousand gallons of chlorinated water to enter plant killing most if not all bugs
Aug-22	Carbonaceous Biochemical Oxygen Demand (CBOD5)	36.67	25	mg/L	Average Monthly	Mechanical failure at park pool caused several thousand gallons of chlorinated water to enter plant killing most if not all bugs
Aug-22	Total Suspended Solids	40	30	mg/L	Average Monthly	Mechanical failure at park pool caused several thousand gallons of chlorinated water to enter plant killing most if not all bugs
Jul-22	Ammonia-Nitrogen	25.6	1.9	mg/L	Average Monthly	We believe the problems at the plant were caused by issues at our new swimming pool complex where large amounts of chlorinated water were pumped into the plant along with

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						ground water and surface water runoff infiltrating the lift station feeding the plant. Management has been advised of the need to have the SBR pumped down and seed sludge hauled in to restart the plant.
Jul-22	Ammonia-Nitrogen	31.37	3.8	mg/L	Instantaneous Maximum	We believe the problems at the plant were caused by issues at our new swimming pool complex where large amounts of chlorinated water were pumped into the plant along with ground water and surface water runoff infiltrating the lift station feeding the plant. Management has been advised of the need to have the SBR pumped down and seed sludge hauled in to restart the plant.
Jul-22	Carbonaceous Biochemical Oxygen Demand (CBOD5)	30.65	25	mg/L	Average Monthly	We believe the problems at the plant were caused by issues at our new swimming pool complex where large amounts of chlorinated water were pumped into the plant along with ground water and surface water runoff infiltrating the lift station feeding the plant. Management has been advised of the need to have the SBR pumped down

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						and seed sludge hauled in to restart the plant.
Jul-22	Total Suspended Solids	43.5	30	mg/L	Average Monthly	We believe the problems at the plant were caused by issues at our new swimming pool complex where large amounts of chlorinated water were pumped into the plant along with ground water and surface water runoff infiltrating the lift station feeding the plant. Management has been advised of the need to have the SBR pumped down and seed sludge hauled in to restart the plant.
Jun-22	Ammonia-Nitrogen	14.67	1.9	mg/L	Average Monthly	
Jun-22	Ammonia-Nitrogen	15.79	3.8	mg/L	Instantaneous Maximum	
Jun-22	Fecal Coliform	> 6000	1000	No./100 ml	Instantaneous Maximum	possible sample contamination. samples before and after are >10/100
Jun-22	Fecal Coliform	244.9	200	No./100 ml	Geometric Mean	possible sample contamination. samples before and after this one were >10/100
May-22	Ammonia-Nitrogen	2.04	1.9	mg/L	Average Monthly	
Apr-22	Total Suspended Solids	37	30	mg/L	Average Monthly	Still receiving large amounts of sediment in surface water runoff infiltrating our lift station. Contractor has ordered material for

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						repairs and is scheduled to make repairs later this month.
Mar-22	Total Suspended Solids	31	30	mg/L	Average Monthly	After construction of our new pool facility last year we have had many issues with surface water runoff infiltrating our lift station after heavy rain events. Management has been notified several times and contractors are supposed to be coming back to rectify the problems. Until then we will try to add flocking agents to our SBR to aid with settling off soil content in the runoff water.
Feb-22	Total Suspended Solids	44	30	mg/L	Average Monthly	Large amounts of surface and ground water infiltration at lift station. Awaiting contractor to seal tank penetration's and landscape around lift station to divert water away from tank.
Jul-21	Ammonia-Nitrogen	14.93	3.8	mg/L	Instantaneous Maximum	
Jul-21	Ammonia-Nitrogen	8.78	1.9	mg/L	Average Monthly	
Jun-21	Ammonia-Nitrogen	6.64	1.9	mg/L	Average Monthly	Equipment being repaired at this time.
Jun-21	Ammonia-Nitrogen	9.05	3.8	mg/L	Instantaneous Maximum	Equipment being repaired at this time.
May-21	Ammonia-Nitrogen	3.64	1.9	mg/L	Average Monthly	Plant recovering from previous equipment malfunction/repair. Second discharge was back in limits with 0.98

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May-21	Ammonia-Nitrogen	6.31	3.8	mg/L	Instantaneous Maximum	Plant recovering from previous equipment malfunction/repair. Second discharge was back in limits with 0.98
Apr-21	Ammonia-Nitrogen	15.05	2.5	mg/L	Average Monthly	SBR mixer motor was out for repairs for several weeks. after repairs we were hit with several thousand gallons of water from our new pool installation project. My first discharge only had a reading of 1.07. The second discharge after the flow from the pool project was 29.03.
Apr-21	Ammonia-Nitrogen	29.03	5	mg/L	Instantaneous Maximum	SBR mixer motor was out for repairs for several weeks. after repairs we were hit with several thousand gallons of water from our new pool installation project. My first discharge only had a reading of 1.07. The second discharge after the flow from the pool project was 29.03.
Jan-21	Total Suspended Solids	68	30	mg/L	Average Monthly	Plant operating poorly due to low flow. Add alum to aid in flocking.
Jan-21	Total Suspended Solids	68	60	mg/L	Instantaneous Maximum	Plant operating poorly due to low flow. Add alum to aid in flocking.
Oct-20	Ammonia-Nitrogen	10.69	1.9	mg/L	Average Monthly	possible contamination caused by several thousand gallons of infiltration from

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						construction site run off at our new pool. will keep checking to see if this is a onetime event. Infiltration problem has been corrected.
Oct-20	Ammonia-Nitrogen	17.86	3.8	mg/L	Instantaneous Maximum	possible contamination caused by several thousand gallons of infiltration from construction site run off at our new pool. will keep checking to see if this is a onetime event. Infiltration problem has been corrected.
Jul-20	Fecal Coliform	244.94	200	No./100 ml	Geometric Mean	The majority of my samples come back <10/100 as well as the next sample taken 8/5/20 was <10/100. I suspect a contaminated sample either in my bottle or in the lab. One of the samples taken this month was <10/100 the other was 6000/100
Jul-20	Fecal Coliform	6000	1000	No./100 ml	Instantaneous Maximum	

Compliance Status: Facility currently has no open violations or pending enforcements with CW SWRO Operations Section. Site was last inspected on 9/29/23 during which CW Operations staff met with the newer DCNR Park Manager to discuss outstanding issues and recommendations for operational improvements. DEP's Technical Assistance Program visited the site in July 2022 as well.

Completed by: Amanda Illar

Completed date: 3/18/24

Development of Effluent Limitations

Outfall No.	001	Design Flow (MGD)	0.007
Latitude	39° 53' 24.00"	Longitude	-80° 27' 0.00"
Wastewater Description: Sewage Effluent			

Technology-Based Limitations

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

Pollutant	Limit (mg/L)	SBC	Federal Regulation	State Regulation
CBOD ₅	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)
<i>E. Coli</i> (No./100 ml)	Report	IMAX	-	92a.61
D.O. (mg/L)	4.0	Min	-	BPJ
NH ₃ -N (mg/L)	25	Average Monthly	-	BPJ
	50	IMAX		
Total N (mg/L)	Report	Average Monthly	-	92a.61
Total P (mg/L)	Report	Average Monthly	-	92a.61

Comments: The existing discharge was evaluated using WQM 7.0 for CBOD₅, Ammonia Nitrogen and Dissolved Oxygen. stream water flow ratio to wastewater discharge = 0.475/0.01083= 43.86.

The Total Suspended Solids, pH, and Fecal Coliform parameters are not evaluated using WQM 7.0. The bases for the proposed technology-based limitations are listed in the above table.

Water Quality-Based Limitations

The following limitations were determined through water quality modeling (output files attached, see Attachments C, D and E):

Parameter	Limit (mg/l)	SBC	Model
TRC	0.5	Average Monthly	DEP TRC Spreadsheet
CBOD ₅ (May1-Oct 31)	25	Average Monthly	WQM7.0
CBOD ₅ (Nov 1- Apr 30)	25	Average Monthly	WQM7.0
NH ₃ -N (May1-Oct 31)	25	Average Monthly	WQM7.0
NH ₃ -N (Nov 1- Apr 30)	25	Average Monthly	WQM7.0
Dissolved Oxygen	4.0	Minimum	WQM7.0

Per DEP SOP – *Establishing Effluent Limitations for Individual Sewage Permits, Revised, February 5, 2024*, for existing discharges, for Ammonia-Nitrogen if WQM modeling results for summer indicates that an average monthly limit of 25 mg/L is acceptable, the application manager will generally establish a year-round monitoring requirement for Ammonia-Nitrogen, at a minimum. A year around QBEL AML of 25 mg/L and an Ins. Max of 50 mg/L with a twice monthly sampling frequency will be imposed for this renewal. Checking on the eDMR, the facility can meet the newly imposed

**NPDES Permit Fact Sheet
Ryerson St Park STP**

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Ammonia limits as the plant has achieved effluent limits of NH₃-N through their reviewed eDMRs and renewal application effluent sampling more stringent than the proposed limits. No compliance schedule is necessary.

For the Carbonaceous Biochemical Oxygen Demand (CBOD₅), the WQM 7.0 model generated a WQBEL AML of 25 mg/L a year around, which shows no change from the previous permit limits. Therefore, a year around WQBEL AML of 25 mg/L and an Ins. Max of 50 mg/L with a twice monthly sampling frequency will be imposed for this renewal.

Best Professional Judgment (BPJ) Limitations

A minimum Dissolved Oxygen (DO) limit of 4.0 mg/L was established based on Best Professional Judgment (BPJ) to ensure adequate operation and maintenance as listed in the table shown on the previous page under Technology-Based Limitations section.

Anti-Backsliding

For the previous permit WQBELs of Ammonia-Nitrogen AML seasonal limits of 1.5 mg/L for the warm period and 2.5 mg/L for the cold period, Dissolved Oxygen AML of 5.0 mg/L, and Total Residual Chlorine AML of 0.01, Section 402(o)(2) lists six narrow grounds on which such effluent limits may be made less stringent, new information is on the backsliding exceptions list and stated that "*New information (other than revised regulations, guidance, or test methods) is available that justifies less stringent limits.*" DEP mapping tools like PA eMAP and USGS StreamStats provides the most accurate estimation for the receiving waters flow values; thus, the updated Q₇₋₁₀ value is considered a new information for this antibacksliding analysis.

TN and TP Monitoring

Nutrient monitoring is required to establish the nutrient load from the wastewater treatment facility and the impacts that load may have on the quality of the receiving stream(s). Sewage discharges with design flows > 2,000 gpd require monitoring. The North Fork Dunkard Fork creek segment within the facility is not impaired with nutrients. Per DEP-SOP No. BCW-PMT-033 revised February 5, 2024, 1/year monitoring for Total Nitrogen and Total Phosphorus will be applied at Outfall 001.

Disinfection

Total Residual Chlorine (TRC) limits are updated based on the DEP preset values entered in the Department Calculation Sheet (see Appendix C) for chlorine stream and discharge demands. Pursuant to State Regulation 92a.48(b)(1), a BAT limit of 0.5 mg/L and IMAX of 1.6 mg/L was calculated.

E. Coli

Pursuant to 25 Pa. code § 92a.61(b) annual monitoring for *E. Coli* will be imposed at Outfall (001) to determine if *E. Coli* will be a pollutant of concern, which is consistent with DEP SOP No. BCW-PMT-033 revised February 5, 2024.

Monitoring Frequency Considerations

Pursuant to 25 Pa. code § 92a.12 and 92a.61 effluent limits applicable at Outfall 001 are the more stringent of TBELs, WQBELs, regulatory standards, and monitoring requirements as summarized in the effluent limitations table on page 19.

Monitoring frequencies and sample types are established pursuant to DEPs "Technical Guidance for the Development and Specification of Effluent Limitations, and Other Permit Conditions in NPDES Permits", and per DEP SOP - Establishing Effluent Limitations for Individual Sewage Permits SOP No. BCW-PMT-033 Revised, February 5, 2024.

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Per the previous review, DEP's Central Office and DCNR State Park Central Office has reached an agreement to impose seasonal monitoring requirements for renewal permits of 1/ day for May – Sep, and 3/week for Oct – April that's include pH, DO, and TRC.

The daily monitoring frequencies are consistent with current policy and the Table 6-3 of DEP's Technical Guidance mentioned above.

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	XXX	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.) Oct 1 - Apr 30	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	3/week	Grab
pH (S.U.) May 1 - Sep 30	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO Oct 1 - Apr 30	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	3/week	Grab
DO May 1 - Sep 30	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC Oct 1 - Apr 30	XXX	XXX	XXX	0.5	XXX	1.6	3/week	Grab
TRC May 1 - Sep 30	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50.0	2/month	Grab
TSS	XXX	XXX	XXX	30.0	XXX	60.0	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
<i>E. Coli</i> (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report Daily Max	1/year	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Ammonia-Nitrogen	XXX	XXX	XXX	25	XXX	50	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab

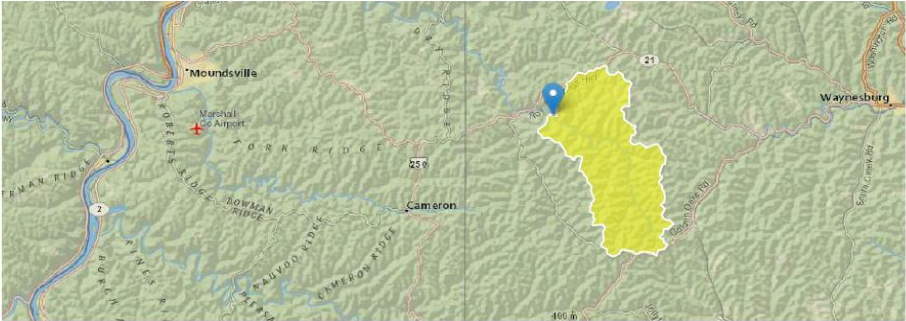
Compliance Sampling Location: Outfall 001.

Other Comments: None.

ATTACHMENT A:
USGS StreamStats

StreamStats Report

Region ID: PA
Workspace ID: PA20240313191028172000
Clicked Point (Latitude, Longitude): 39.88982, -80.44951
Time: 2024-03-13 13:15:10.50 -0400



[Collapse All](#)

> Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	25.9	square miles
ELEV	Mean Basin Elevation	1296	feet

> Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	25.9	square miles	2.26	1400
ELEV	Mean Basin Elevation	1296	feet	1050	2580

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

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	1.22	ft ³ /s	43	43
30 Day 2 Year Low Flow	2.03	ft ³ /s	38	38
7 Day 10 Year Low Flow	0.475	ft ³ /s	66	66
30 Day 10 Year Low Flow	0.802	ft ³ /s	54	54
90 Day 10 Year Low Flow	1.42	ft ³ /s	41	41

Low Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although the software has been subjected to rigorous review, the USGS reserves the right to update the software as needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.19.4
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

ATTACHMENT B:
Site Visit



Figure 1: Outfall 001.



Figure 2: The receiving stream North Fork Dunkard Fork Creek (TSF) at the point of discharge.



Figure 3: This picture illustrates the removal of the regulator upstream the treatment facility Outfall.



Figure 4: A captured area over PA eMAP showing that the treatment facility receiving water is a perennial stream flowing through the State Park area.

ATTACHMENT C: TRC Calculation

TRC EVALUATION				
Input appropriate values in A3:A9 and D3:D9				
0.475	= Q stream (cfs)	0.5	= CV Daily	
0.007	= Q discharge (MGD)	0.5	= CV Hourly	
30	= no. samples	1	= AFC_Partial Mix Factor	
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor	
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)	
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)	
0	= % Factor of Safety (FOS)		= Decay Coefficient (K)	
Source	Reference	AFC Calculations		Reference CFC Calculations
TRC	1.3.2.iii	WLA afc = 14.012		1.3.2.iii WLA cfc = 13.653
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373		5.1c LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc = 5.221		5.1d LTA_cfc = 7.937
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	$(.019/e^{-(k \cdot AFC_tc)}) + [(AFC_Yc \cdot Qs \cdot .019/Qd \cdot e^{-(k \cdot AFC_tc)}) \dots + Xd + (AFC_Yc \cdot Qs \cdot Xs/Qd)] \cdot (1-FOS/100)$			
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)			

ATTACHMENT D:
WQM7.0 Model Results (Summer)

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		
	20E	32594		NORTH FORK DUNKARD FORK		1.950	1296.00	25.90	0.00200	0.00	<input checked="" type="checkbox"/>		
Stream Data													
Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp pH		Stream Temp pH		
	(cfsm)	(cfs)	(cfs)						(°C)		(°C)		
	Q7-10	0.018	0.00	0.47	0.000	0.000	10.0	0.00	0.00	20.00	7.00	25.00	7.00
	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				
		Ryerson St Park	PA0217841	0.0070	0.0070	0.0070	0.000	20.00	7.00				
Parameter Data													
				Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)					
				CBOD5	25.00	2.00	0.00	1.50					
				Dissolved Oxygen	4.00	8.24	0.00	0.00					
				NH3-N	25.00	0.00	0.00	0.70					

Input Data WQM 7.0																																																																																																																																									
	SWP Basin	Stream Code	Stream Name			RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC																																																																																																																														
	20E	32594	NORTH FORK DUNKARD FORK			0.100	1287.00	28.00	0.00200	0.00	<input checked="" type="checkbox"/>																																																																																																																														
Stream Data																																																																																																																																									
Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary		Stream																																																																																																																														
	(cfsm)	(cfs)	(cfs)						Temp (°C)	pH	Temp (°C)	pH																																																																																																																													
Q7-10	0.019	0.00	0.52	0.000	0.000	10.0	0.00	0.00	20.00	7.00	25.00	7.00																																																																																																																													
Q1-10		0.00	0.00	0.000	0.000																																																																																																																																				
Q30-10		0.00	0.00	0.000	0.000																																																																																																																																				
<table><tr><th colspan="8">Discharge Data</th><th colspan="5"></th></tr><tr><th rowspan="2">Name</th><th rowspan="2">Permit Number</th><th colspan="2">Existing</th><th colspan="2">Permitted</th><th colspan="2">Design</th><th rowspan="2">Reserve Factor</th><th colspan="2">Disc</th><th colspan="2"></th></tr><tr><th>Disc Flow (mgd)</th><th>Disc Flow (mgd)</th><th>Disc Flow (mgd)</th><th>Disc Flow (mgd)</th><th>Disc Flow (mgd)</th><th>Disc Flow (mgd)</th><th>Temp (°C)</th><th>pH</th><th colspan="2"></th></tr><tr><td>Ryerson St Park</td><td>PA00217841</td><td>0.0000</td><td>0.0000</td><td>0.0000</td><td>0.0000</td><td>0.0000</td><td>0.0000</td><td></td><td>20.00</td><td>7.00</td><td colspan="2"></td></tr><tr><th colspan="13">Parameter Data</th></tr><tr><th colspan="2" rowspan="2">Parameter Name</th><th colspan="2">Disc</th><th colspan="2">Trib</th><th colspan="2">Stream</th><th colspan="5">Fate</th></tr><tr><th>Conc (mg/L)</th><th>Conc (mg/L)</th><th>Conc (mg/L)</th><th>Conc (mg/L)</th><th>Conc (mg/L)</th><th>Conc (mg/L)</th><th colspan="5">Coef (1/days)</th></tr><tr><td colspan="2">CBOD5</td><td>25.00</td><td>2.00</td><td>0.00</td><td>1.50</td><td colspan="7"></td></tr><tr><td colspan="2">Dissolved Oxygen</td><td>4.00</td><td>8.24</td><td>0.00</td><td>0.00</td><td colspan="7"></td></tr><tr><td colspan="2">NH3-N</td><td>25.00</td><td>0.00</td><td>0.00</td><td>0.70</td><td colspan="7"></td></tr></table>													Discharge Data													Name	Permit Number	Existing		Permitted		Design		Reserve Factor	Disc				Disc Flow (mgd)	Disc Flow (mgd)	Disc Flow (mgd)	Disc Flow (mgd)	Disc Flow (mgd)	Disc Flow (mgd)	Temp (°C)	pH			Ryerson St Park	PA00217841	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		20.00	7.00			Parameter Data													Parameter Name		Disc		Trib		Stream		Fate					Conc (mg/L)	Conc (mg/L)	Conc (mg/L)	Conc (mg/L)	Conc (mg/L)	Conc (mg/L)	Coef (1/days)					CBOD5		25.00	2.00	0.00	1.50								Dissolved Oxygen		4.00	8.24	0.00	0.00								NH3-N		25.00	0.00	0.00	0.70							
Discharge Data																																																																																																																																									
Name	Permit Number	Existing		Permitted		Design		Reserve Factor	Disc																																																																																																																																
		Disc Flow (mgd)	Disc Flow (mgd)	Disc Flow (mgd)	Disc Flow (mgd)	Disc Flow (mgd)	Disc Flow (mgd)		Temp (°C)	pH																																																																																																																															
Ryerson St Park	PA00217841	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		20.00	7.00																																																																																																																															
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Parameter Name		Disc		Trib		Stream		Fate																																																																																																																																	
		Conc (mg/L)	Conc (mg/L)	Conc (mg/L)	Conc (mg/L)	Conc (mg/L)	Conc (mg/L)	Coef (1/days)																																																																																																																																	
CBOD5		25.00	2.00	0.00	1.50																																																																																																																																				
Dissolved Oxygen		4.00	8.24	0.00	0.00																																																																																																																																				
NH3-N		25.00	0.00	0.00	0.70																																																																																																																																				

WQM 7.0 Hydrodynamic Outputs

SWP Basin		Stream Code		Stream Name								
20E		32594		NORTH FORK DUNKARD FORK								
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)	
Q7-10 Flow												
1.950	0.47	0.00	0.47	.0108	0.00200	.875	8.75	10	0.06	1.780	24.89	7.00
Q1-10 Flow												
1.950	0.30	0.00	0.30	.0108	0.00200	NA	NA	NA	0.05	2.269	24.83	7.00
Q30-10 Flow												
1.950	0.65	0.00	0.65	.0108	0.00200	NA	NA	NA	0.08	1.503	24.92	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 checked="" 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

SWP Basin	Stream Code	Stream Name	
20E	32594	NORTH FORK DUNKARD FORK	

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
1.950	0.007	24.889	7.000
Reach Width (ft)	Reach Depth (ft)	Reach WDRatio	Reach Velocity (fps)
8.746	0.875	10.000	0.064
Reach CBOD5 (mg/L)	Reach Kc (1/days)	Reach NH3-N (mg/L)	Reach Kn (1/days)
2.51	0.102	0.56	1.020
Reach DO (mg/L)	Reach Kr (1/days)	Kr Equation	Reach DO Goal (mg/L)
8.148	4.925	Owens	6
Reach Travel Time (days)	Subreach Results		
1.780	TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)
			D.O. (mg/L)
	0.178	2.46	0.46
	0.356	2.40	0.39
	0.534	2.35	0.32
	0.712	2.29	0.27
	0.890	2.24	0.22
	1.068	2.19	0.19
	1.246	2.14	0.16
	1.424	2.09	0.13
	1.602	2.05	0.11
	1.780	2.00	0.09

WQM 7.0 Wasteload Allocations

SWP Basin		Stream Code		Stream Name					
20E		32594		NORTH FORK DUNKARD FORK					

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
1.950	Ryerson St Park	6.85	50	6.85	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
1.950	Ryerson St Park	1.35	25	1.35	25	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
1.95	Ryerson St Park	25	25	25	25	4	4	0	0

WQM 7.0 Effluent Limits							
SWP Basin	Stream Code	Stream Name					
20E	32594	NORTH FORK DUNKARD FORK					
RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
1.950	Ryerson St Park	PA0217841	0.007	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4

ATTACHMENT E:
WQM7.0 Model Results (Winter)

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	
	20E	32594		NORTH FORK DUNKARD FORK		1.950	1296.00	25.90	0.00200	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 Temp	Stream Temp	pH	
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°C)	(°C)		
	Q7-10	0.027	0.00	0.47	0.000	0.000	10.0	0.00	0.00	0.00	5.00	7.00
	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			
		Ryerson St Park	PA0217841	0.0070	0.0070	0.0070	0.000	15.00	7.00			
Parameter Data												
Parameter Name				Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)					
CBOD5				25.00	2.00	0.00	1.50					
Dissolved Oxygen				4.00	12.51	0.00	0.00					
NH3-N				25.00	0.00	0.00	0.70					

Input Data WQM 7.0												
	SWP Basin	Stream Code	Stream Name			RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC	
	20E	32594	NORTH FORK DUNKARD FORK			0.100	1287.00	28.00	0.00200	0.00	<input checked="" type="checkbox"/>	
Stream Data												
Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary		Stream	
	(cfsm)	(cfs)	(cfs)						Temp	pH	Temp	pH
									(°C)		(°C)	
Q7-10	0.027	0.00	0.52	0.000	0.000	10.0	0.00	0.00	0.00	0.00	5.00	7.00
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				
	Ryerson St Park	PA00217841	0.0000	0.0000	0.0000	0.000	15.00	7.00				
Parameter Data												
	Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)							
	CBOD5	25.00	2.00	0.00	1.50							
	Dissolved Oxygen	4.00	12.51	0.00	0.00							
	NH3-N	25.00	0.00	0.00	0.70							

WQM 7.0 Hydrodynamic Outputs

SWP Basin		Stream Code		Stream Name								
20E		32594		NORTH FORK DUNKARD FORK								
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)	
Q7-10 Flow												
1.950	0.47	0.00	0.47	.0108	0.00200	.875	8.75	10	0.06	1.780	5.22	7.00
Q1-10 Flow												
1.950	0.30	0.00	0.30	.0108	0.00200	NA	NA	NA	0.05	2.269	5.34	7.00
Q30-10 Flow												
1.950	0.65	0.00	0.65	.0108	0.00200	NA	NA	NA	0.08	1.503	5.16	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 checked="" 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

SWP Basin	Stream Code	Stream Name	
20E	32594	NORTH FORK DUNKARD FORK	

<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>	<u>Analysis pH</u>
1.950	0.007	5.223	7.000
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>	<u>Reach Velocity (fps)</u>
8.746	0.875	10.000	0.064
<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>
2.51	0.199	0.56	0.224
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>	<u>Reach DO Goal (mg/L)</u>
12.320	3.089	Owens	6
<u>Reach Travel Time (days)</u>	<u>Subreach Results</u>		
1.780	<u>TravTime (days)</u>	<u>CBOD5 (mg/L)</u>	<u>NH3-N (mg/L)</u>
			<u>D.O. (mg/L)</u>
	0.178	2.47	0.54
	0.356	2.42	0.51
	0.534	2.38	0.49
	0.712	2.34	0.47
	0.890	2.30	0.46
	1.068	2.26	0.44
	1.246	2.22	0.42
	1.424	2.18	0.40
	1.602	2.14	0.39
	1.780	2.10	0.37

<u>WQM 7.0 Wasteload Allocations</u>									
<u>SWP Basin</u>		<u>Stream Code</u>		<u>Stream Name</u>					
20E		32594		NORTH FORK DUNKARD FORK					
NH3-N Acute Allocations									
RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction		
1.950	Ryerson St Park	20.59	50	20.59	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		
1.950	Ryerson St Park	4.08	25	4.08	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)		
1.95	Ryerson St Park	25	25	25	25	4	4	0	0

WQM 7.0 Effluent Limits							
SWP Basin		Stream Code		Stream Name			
20E		32594		NORTH FORK DUNKARD FORK			
RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
1.950	Ryerson St Park	PA0217841	0.007	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4