pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0100536**
Facility Type	**Industrial**	APS ID	**1052546**
Major / Minor	**Minor**	Authorization ID	**1377743**

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

Applicant and Facility Information

Applicant Name	**PA DCNR**	Facility Name	**Chapman State Park**
Applicant Address	4790 Chapman Dam Road	Facility Address	4790 Chapman Dam Road
	Clarendon, PA 16313-2830		Clarendon, PA 16313
Applicant Contact	Robert Sweeney	Facility Contact	
Applicant Phone	(814) 723-0250	Facility Phone	(814) 723-0250
Applicant E Mail	robsweeney@pa.gov	Facility E Mail	
Client ID	52524	Site ID	264069
Municipality	Pleasant Township	County	Warren
SIC Code	7999	SIC Code	4941
SIC Description	Services - Amusement And Recreation, NEC	SIC Description	Trans. & Utilities - Water Supply
Date Application Received	December 2, 2021	EPA Waived?	Yes
Date Application Accepted	December 9, 2021	If No, Reason	
Purpose of Application	NPDES renewal		

Summary of Review

Connection to the local public operated treatment works for treatment and disposal has been proposed but no schedule has been submitted. Upon connection to the municipal collection system both the NPDES Permit PA0100536 and Water Quality Management Permit 6280201 can be surrendered and cancelled. Waste treatment then will be regulated by the local pretreatment regulations.

~~No current open violations~~ *There are 31 open violations in WMS for Client ID 52524 as of 12/15/2023. The Draft Permit Cover Letter will notify the permittee of they have open violations and give them an opportunity to address the violations prior to final permit issuance. CWY 12/15/2023*

Public Participation

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

Approve	Deny	Signatures	Date
X		*William H. Mentzer* William H. Mentzer, P.E. Environmental Engineering Specialist	October 18, 2023
X		Chad W. Yurisic Chad W. Yurisic, P.E. Environmental Engineer Manager	12/15/2023

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.002
Latitude DP	41º 44' 43.97"	Longitude DP	-79º 10' 26.35"
Latitude NHD	41º 44' 43.10"	Longitude NHD	-79º 10' 26.20"
Quad Name	Cherry Grove	Quad Code	0512
Wastewater:	Treated potable water production wastes		
Receiving Waters	Unnamed Tributary to W Branch Tionesta Creek	Stream Code	55546
NHD Com ID	100467769	RMI	0.26
Drainage Area	0.32	Yield (cfs/mi^2)	NA
Q_{7-10} Flow (cfs)	0	Q_{7-10} Basis	Dry stream
Elevation (ft)	1463.75	Slope (ft/ft)	0.02367
Watershed No.	16-F	Chapter 93 Class.	HQ-CWF
Existing Use	Statewide	Existing Use Qualifier	None
Exceptions to Use	None	Exceptions to Criteria	None
Comments:	NHD assigns the downstream tributary Farnsworth Branch name to this node.		
	The measured USGS map RMI and NHD node RMI are similar.		

Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Background/Ambient Data		Data Source
pH (SU)		
Temperature (°F)		
Hardness (mg/L)		
Other:		

Nearest Downstream Public Water Supply Intake	Aqua PA (Emlenton Water Company)		
PWS Waters	Allegheny River	Flow at Intake (cfs)	1250
PWS RMI	90.57	Distance from Outfall (mi)	116

Changes Since Last Permit Issuance: none

Other Comments:

The stream flow is the minimum regulated Allegheny River flow above the water intake in Franklin Pa.

This is an isolated facility within the state park it serves. The facility sewerage is now conveyed off-site for treatment. Long term plans include further sanitary sewers and facility discharge connection.

The discharge is conveyed through a dry stream channel to Chapman Dam State Park Reservoir (HQ classification).

Treatment Facility Summary				
Treatment Facility Name: Chapman State Park				
WQM Permit No.	**Issuance Date**			
6280201	27 March 1980			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Industrial	Physical (Industrial Waste)	Sedimentation	No Disinfection	0.002
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.002	None	Not overloaded	None	None

Changes Since Last Permit Issuance: none

Other Comments: none

Treatment is sedimentation in an 8100-gallon tank with a 6463 gallons or 864 cubic foot operating design based on a 12 feet long by 12 feet wide by 6-foot side water depth with a 3.5-foot freeboard tank.

Currently the wastewater green sand filtration is backwashed at 1500-gallon per cycle with 6000-gallon maximum discharge. The discharge period 6 hours once a week for 52 weeks a year with a 5.6-gpm average decant. Formerly the discharge was 2000 gallon per cycle five times a year. The discharge period was 2 hours a day once month with a 5.6-gpm average decant rate. Permitted is a twice per week 2000-gallon, 10-minute discharge to the 8100-gallon sedimentation tank followed by a 23-hour settling period prior to decanting.

Water treatment is pH adjustment with soda ash and potassium permanganate feed, 60” greensand (manganese zeolite) filtration and hypo-chlorination.

Waste treatment is sedimentation with landfill sludge disposal.

Development of Effluent Limitations			
Outfall No.	001	**Design Flow (MGD)**	.002
Latitude	41º 44' 43.83"	Longitude	-79º 10' 26.09"
Wastewater Description:	Treated potable water production wastes		

Technology-Based Limitations

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

Parameter	Limit (mg/l)				Federal Regulation
	1 Day	30 day	1 Day	Instantaneous	
	Minimum	Average	Maximum	Maximum	
Flow		Monitor			No Guidelines
Total Suspended Solids		**30.**	**60**	75	
Total Aluminum		**4.0**	**8.0**	10.0	
Total Iron		**2.0**	**4.0**	5.0	
Total Manganese		**1.0**	**2.0**	2.5	-
Total Residual Chlorine		**0.5**	**1.0**	1.6	-
pH	**6.0**			**9.0**	-

Comments:

The normal IW instantaneous maximum is 2.5 times the 30 day mean. For TRC the 1.6-mg/l modelled daily maximum is recommended.

Best Professional Judgment (BPJ) Limitations

Comments: No treatment changes are necessary

No significant TDS discharge is reported so further effluent testing is precluded. TRC is assumed to be significantly less than 0.5-mg/L but has not been verified. Effluent TDS should be similar to the 120-mg/L previously reported.

Additional Considerations

		Chemical Use Outfall 001 Previous Evaluation	
Potassium Permanganate		0.5 – 1 ppm	White rate LD50 1.5-g/kg
Sodium Hypochlorite	7681-52-9	2 – 6 gpm	
Sodium Hydroxide	1310-73-2	6 – 24 ppm	
Sodium Carbonate, anhydrous	497-19-8		rat LD50 4.09 g/kg Blue gill sun fish LC50 300 to 320 mg/L Daphnia 265 to 565 mg/L

Current Chemical Usage	
Sodium hypochlorite	2-5 gal/mo
Potassium permanganate	0.50 1#/mo
Soda ash	6-24#/mo

These chemicals are for potable water treatment and are not additives as defined in the Department's Rules and Regulations.

Furthermore, effluent testing should identify if these chemicals have a residual impact on the effluent.

Water Quality-Based Limitations

This is a dry stream discharge to the Chapman Dam State Park reservoir where no uses including chlorine should be impaired by the discharge.

Compliance History

Effluent Violations for Outfall 001, from: December 1, 2020 To: October 31, 2021

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Total Iron	07/31/21	Avg Mo	4.56	mg/L	2.0	mg/L
Total Iron	06/30/21	Avg Mo	3.390	mg/L	2.0	mg/L
Total Iron	07/31/21	Daily Max	4.67	mg/L	4.0	mg/L
Total Manganese	07/31/21	Avg Mo	4.68	mg/L	1	mg/L

Other Comments: Routine maintenance resolved the violations,

Compliance History

DMR Data for Outfall 001 (from November 1, 2020 to October 31, 2021)

Parameter	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20
Flow (MGD) Average Monthly			0.00003935	0.000042857	0.04800							
Flow (MGD) Daily Maximum			0.0000417	0.00002313	0.04800							
pH (S.U.) Minimum			7.70	7.50	7.55							
pH (S.U.) Maximum			7.95	7.65	7.63							
TRC (mg/L) Average Monthly			0.055	< 0.355	< 0.15							
TSS (mg/L) Average Monthly			9	< 9	< 13							
TSS (mg/L) Daily Maximum			11	< 5	< 11							
Total Aluminum (mg/L) Average Monthly			0.00003	< 0.3	< 0.3							
Total Aluminum (mg/L) Daily Maximum			0.00030	< 0.3	< 0.3							
Total Iron (mg/L) Average Monthly			0.3955	4.56	3.390							
Total Iron (mg/L) Daily Maximum			0.505	4.67	0.290							
Total Manganese (mg/L) Average Monthly			0.1215	4.68	0.484							
Total Manganese (mg/L) Daily Maximum			0.167	1.61	0.464							

DMR Data for Outfall 001 (from September 1, 2022 to August 31, 2023)

Parameter	AUG-23	JUL-23	JUN-23	MAY-23	APR-23	MAR-23	FEB-23	JAN-23	DEC-22	NOV-22	OCT-22	SEP-22
Flow (MGD) Ave Mon	0.00140	0.0014225	0.001281	0.00105	0.0016	0.001409	0.001227	0.001227	0.001568	0.001299	0.000109	0.000489
Flow (MGD) Daily Max	0.00175	0.00175	0.001833	0.0015	0.002	0.0015	0.001227	0.001227	0.001636	0.0018	0.0015	0.000675
pH (S.U.) Minimum	7.29	7.93	7.85	7.61	8.12	7.80	8.43	8.59	7.93	7.85	8.16	7.47
pH (S.U.) Maximum	8.31	8.49	8.49	8.39	8.35	8.20	8.43	8.59	8.01	8.5	8.28	7.85
TRC (mg/L) Ave Mon	0.28	0.299	0.16875	0.09571	0.01	0.02	0.02	0.04	0.02	0.048	0.032	0.03
TSS (mg/L) Ave Mon	8.5	9	< 8	< 0.008	9.5	7.5	6	6	6	5	< 8	9.5
TSS (mg/L) Daily Max	9	10	< 8	< 0.008	11	8	6	6	8	5	< 8	11
T Al (mg/L) Ave Mon	< 0.3	< 0.300	< 0.300	< 0.300	0.02465	0.057	0.243	0.085	0.13	0.1455	0.311	0.329
T Al (mg/L) Daily Max	< 0.3	< 0.300	< 0.300	< 0.300	0.300	0.103	0.243	0.085	0.180	0.159	0.322	0.358
T Fe (mg/L) Ave Mony	0.4565	0.45	0.1045	0.1715	0.2575	1.4685	0.307	0.097	0.12225	0.1835	0.578	0.323
T Fe (mg/L) Daily Max	0.616	0.685	0.109	0.180	0.322	2.83	0.307	0.097	0.158	0.187	0.885	0.358
T Mn (mg/L) Ave Mon	0.062	0.1035	< 0.010	0.010	0.0135	0.2575	0.010	0.011	0.0105	0.011	0.063	< 0.010
T Mn (mg/L) Daily Max	0.108	0.107	0.010	0.010	0.017	0.504	0.010	0.011	0.013	0.013	0.116	< 0.010

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Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

Chapman State Park, NPDES Permit No. PA0100536, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All ○ Inputs ○ Results ○ Limits

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.503 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Aluminum	0	0		0	750	750	63,533	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	

☑ ***CFC*** CCT (min): 0.503 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	127,066	WQC = 30 day average; PMF = 1
Total Manganese	0	0		0	N/A	N/A	N/A	

☑ ***THH*** CCT (min): 0.503 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	84,710	

☑ ***CRL*** CCT (min): 0.123 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Aluminum	0	0		0	N/A	N/A	N/A	

Total Iron	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments

☑ ***Other Pollutants without Limits or Monitoring***

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Total Aluminum	40,722	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	127,066	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	84,710	µg/L	Discharge Conc ≤ 10% WQBEL

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	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	2/month	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	2/month	Grab
TSS	XXX	XXX	XXX	30.0	60.0	75	2/month	8-Hr Composite
Total Aluminum	XXX	XXX	XXX	4.0	8.0	10.0	2/month	8-Hr Composite
Total Iron	XXX	XXX	XXX	2.0	4.0	5.0	2/month	8-Hr Composite
Total Manganese	XXX	XXX	XXX	1.0	2.0	2.5	2/month	8-Hr Composite

Compliance Sampling Location: at Outfall 001 and prior to mixing with any other waters,