pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0050431**
Facility Type	**Industrial**	APS ID	**1108640**
Major / Minor	**Minor**	Authorization ID	**1475303**

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

Applicant and Facility Information

Applicant Name	**Refresco North America**	Facility Name	**Refresco Beverages IWTP**
Applicant Address	20 Aldan Avenue	Facility Address	20 Aldan Avenue
	Concordville, PA 19342		Concordville, PA 19342-2278
Applicant Contact	Mark Digiacomo	Facility Contact	Mark Digiacomo
Applicant Phone	(484) 840-4800	Facility Phone	(484) 840-4800
Client ID	239242	Site ID	451596
SIC Code	2086	Municipality	Concord Township
SIC Description	Manufacturing - Bottled and Canned Soft Drinks	County	Delaware
Date Application Received	February 1, 2024	EPA Waived?	Yes
Date Application Accepted		If No, Reason	
Purpose of Application	Permit Renewal		

Summary of Review

The applicant requests renewal of an NPDES permit to discharge treated process wastewater, RO reject water, and stormwater.

Refresco's IWTP process consists of a dissolved air flotation (DAF) unit to separate oils and grease, an equalization tank, and a membrane bio reactor (MBR) to treat up to 0.07 mgd of wastewater generated by Refresco's on-site beverage production facility. The components of the plant are the following: a pump station, fine screen, buffer tank (pH adjustment), Dissolved Air Floatation unit, EQ tank, aeration tank, sludge tank, membrane tank, and permeate pump skid.

The IWTP operates to treat cooling water, cleaning waste, and other process waste. No changes are proposed to the IWTP. Wastewater is collected and pumped through screens to the DAF unit with pH adjustment. DAF effluent flows to an EQ tank and is fed at a constant rate to the aeration tank. Mixed liquor is passed through membranes prior to discharge (MP 101). Cleaning waste (also referred to as clean-in-place (CIP)) from RO process is routed to the IWTP for treatment upon completion of CIP activities.

The AMBEC aeration system is no longer in use at the facility and has been removed. Therefore, there is no longer a NCCW discharge to Outfall 001.

No upgrades are proposed at this time.

The following are the Outfalls/Monitoring Points at the site:

Outfall 001: discharge includes IWTP effluent, RO concentrate (RO reject), and stormwater runoff.

Approve	Deny	Signatures	Date
X		*Sara Abraham* Sara Reji Abraham, E.I.T. / Project Manager	August 27, 2024
X		*Pravin Patel* Pravin C. Patel, P.E. / Environmental Engineer Manager	08/27/2024

Summary of Review

Monitoring Point 101: internal monitoring point for the IWTP discharge which includes treated process wastewater and blowdown water from the refrigeration system, boilers, and air compressor.

Monitoring Point 201: internal monitoring point for the RO reject.

The following chemical additives are used for cleaning-in-place processes and other general cleaning at the site: Principal, Heavy Duty Acid LC30, Vortexx, Octave, Octave FS, XY-12, Enforce LP, Soil off II, Quorum Copper, CD-234, and Surpass 100. All these chemicals were previously approved.

The following Cooling tower chemical additives are also used at the facility: 3D Trasar 3DT230, Nalco 7330 and Stabrex ST70.Vitec 1600 is used as Reverse Osmosis antiscalant. Chemical Additives Notification forms are submitted for these chemical additives.

Since the permittee is using many chemical additives at the facility for various purposes, to evaluate the cumulative toxic effect on the receiving stream DEP decided to include a onetime Whole Effluent Toxicity (WET) testing requirement in the permit. Permittee is required to conduct the WET testing during the first year of the permit term. Samples shall be collected during the period when the facility uses most chemical additives. Based on the results of this testing the need for future WET testing will be evaluated.

DMR review shows few exceedances of TN, TP and Ammonia effluent limitations.

No comments were received from Operations Section.

The existing effluent limits for MP101 was historically established based on the Q7-10 (0.576 cfs) for the West Branch Chester Creek. According to a stream study conducted by our biologists in 2010, the point of first use by aquatic life was established at upstream of the Refresco Beverages IWTP discharge on the UNT to West Branch Chester Creek. Effluent limits for MP201 are based on the Q7-10 for the UNT.

There has been no discharge from MP201, therefore the facility was not able to collect any samples from MP201. The only time a discharge occurred at MP201 was when the closed-circuit reverse osmosis (CCRO) system was not operating and the CCRO bypass valve located in the RO concentrate discharge line was open to allow RO concentrate to be discharged via MP201.

Due to operating and disposal costs associated with the CCRO system, Refresco continued to refine its RO system to produce an effluent that can be discharged via MP201 in compliance with the permit limits (according to the application).

We are later informed that the RO system refinement and installation of a TN monitoring station was completed, and final commissioning of the new equipment occurred on June 20, 2024 at the facility.

Stormwater runoff sheet flows across the impervious areas to the inlets for the stormwater drains along the road. Production process is housed inside and there is no storage of potential pollutants in the drainage area. The standard condition related to the stormwater discharge is included in Part C of the permit.

Public Participation

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

Act 14 Notifications:

Concord Township - 01/31/2024
Delaware County - 01/31/2024

Summary of Review
Permit Conditions: A. Acquire Necessary Property Rights B. Proper Sludge Disposal C. WQM Permit Conditions D. BAT/ELG Reopener E. Chlorine Minimization F. Small Stream Discharge G. 2° Change in the Temperature H. Chemical Additives Condition I. Stormwater Requirements

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.358
Latitude	39º 53' 38.19"	Longitude	-75º 31' 49.30"
Quad Name	West Chester	Quad Code	1941
Wastewater Description:	IW Process Effluent without ELG, RO reject water, Stormwater		
Receiving Waters	UNT to West Branch Chester Creek (TSF, MF)	Stream Code	00542
NHD Com ID	25621496	RMI	0.24
Drainage Area	0.04 sq.mi.		
Q_{7-10} Flow (cfs)	0.00377	Q_{7-10} Basis	USGS Streamstats
Elevation (ft)	344		
Watershed No.	3-G	Chapter 93 Class.	TSF, MF
Assessment Status	Impaired		
Cause(s) of Impairment	cause unknown, flow regime modification, habitat alterations, siltation		
Source(s) of Impairment	habitat modification - other than hydromodification, urban runoff/storm sewers		
TMDL Status	None		

Treatment Facility Summary

Treatment Facility Name: Refresco Beverages **IWTP**

WQM Permit No.	Issuance Date
2307201	02/22/2019

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Industrial	Biological (Industrial Waste), Physical (Industrial Waste)	Dissolved air floatation, Post Aeration	No Disinfection	0.07

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.08	4665			

Compliance History

DMR Data for Outfall 001 (from February 1, 2023 to January 31, 2024)

Parameter	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23	APR-23	MAR-23	FEB-23
pH (S.U.) Instantaneous Minimum	7.32	7.49	7.74	8.10	7.71	7.71	7.62	7.88	6.07	7.19	7.86	7.13
pH (S.U.) Instantaneous Maximum	8.46	8.44	8.56	8.79	8.50	8.50	8.39	8.67	8.01	8.60	8.20	8.52
DO (mg/L) Instantaneous Minimum	7.06	8.67	7.14	7.14	6.90	6.5	6.13	7.48	7.83	7.50	7.38	6.20
Temperature (ºF) Instantaneous Maximum	61.3	57.20	67.40	79.30	72.30	79.3	79.3	79.6	74.5	74.70	58.10	63.0
Total Dissolved Solids (lbs/day) Average Monthly	139.17	166.86	114.10	124.84	142.37	204.02	35.87	200.71	251.2	< 242.49	52.12	191.39
Total Dissolved Solids (lbs/day) Daily Maximum	139.17	166.86	114.10	124.84	142.37	204.02	35.87	200.71	251	< 242.49	52.12	191.39
Total Dissolved Solids (mg/L) Average Monthly	410	513	3.92	396	454	515	448	536	656	< 5.22	558	530
Total Dissolved Solids (mg/L) Daily Maximum	410	513	3.92	396	454	515	448	536	656	< 5.22	558	530
Oil and Grease (lbs/day) Average Monthly	< 1.71	< 0.98	1.47	< 1.64	< 1.78	1.66	< 1.39	< 1.48	< 1.35	< 1.97	< 0.77	< 1.52
Oil and Grease (lbs/day) Instantaneous Maximum	< 1.83	< 1.63	1.93	< 1.73	< 1.99	2.1	< 2.18	< 1.94	< 1.95	< 2.32	< 1.53	< 1.81
Oil and Grease (mg/L) Average Monthly	< 5.0	< 5	5	< 5.0	< 5	< 5	< 5	< 5.0	< 5	< 5	< 5	< 5.0
Oil and Grease (mg/L) Instantaneous Maximum	< 5.0	< 5	5	< 5.0	< 5	< 5	< 5	< 5.0	< 5	< 5	< 5	< 5.0

Total Nitrogen (lbs/day) Average Monthly	< 1.79	< 0.65	< 0.26	< 0.69	< 0.28	< 0.36	< 0.83	< 0.32	< 4.6	< 1.61	< 0.003	< 0.68
Total Nitrogen (lbs/day) Daily Maximum	< 3.03	< 2.05	< 0.36	< 2.05	< 0.39	< 0.42	< 2.27	< 0.67	< 16.77	< 2.51	< 0.006	< 1.29
Total Nitrogen (mg/L) Average Monthly	< 5.12	< 2.96	< 1.08	< 2.04	< 0.78	< 1.14	< 3.45	< 1.78	< 10.99	< 4.23	< 1.97	< 1.91
Total Nitrogen (mg/L) Daily Maximum	< 8.42	< 8.26	< 1.95	< 5.96	< 1.0	< 1.46	< 7.17	< 1.80	< 38.60	< 7.07	< 2.45	< 2.67
Total Phosphorus (lbs/day) Average Monthly	< 0.03	< 0.02	< 0.02	< 0.06	< 0.01	< 0.01	0.03	< 0.01	0.24	< 1.28	< 0.13	0.02
Total Phosphorus (lbs/day) Daily Maximum	< 1.83	< 0.05	< 0.03	< 0.15	< 0.01	< 0.1	0.09	< 0.02	0.65	< 3.34	< 0.61	0.04
Total Phosphorus (mg/L) Average Monthly	< 0.10	< 0.13	< 0.07	< 0.18	< 0.03	< 0.02	0.10	0.04	0.64	< 3.50	< 0.10	0.07
Total Phosphorus (mg/L) Daily Maximum	< 0.17	< 0.20	< 0.09	< 0.50	< 0.04	< 0.03	0.23	0.05	1.67	< 9.09	< 0.11	0.09

DMR Data for Outfall 101 (from February 1, 2023 to January 31, 2024)

Parameter	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23	APR-23	MAR-23	FEB-23
Flow (MGD) Average Monthly	292	0.035	0.0328	0.0356	0.0381	0.0408	0.0379	0.0374	0.0362	0.0387	0.0388	0.0428
Flow (MGD) Daily Maximum	507	0.0544	0.0479	0.0529	0.0519	0.0509	0.0522	0.0522	0.0521	0.0557	0.0522	0.0579
TRC (mg/L) Average Monthly	0.16	0.10	0.11	< 0.06	0.08	0.08	0.27	0.17	0.07	0.10	0.11	0.09
TRC (mg/L) Instantaneous Maximum	0.48	0.13	0.29	< 0.26	0.19	0.19	0.30	0.45	0.16	0.24	0.22	0.021
CBOD5 (lbs/day) Average Monthly	< 2.0	< 0.4	< 1.1	< 0.8	< 0.7	< 0.7	< 0.6	< 0.6	< 0.7	< 0.8	< 0.7	< 1.9
CBOD5 (lbs/day) Daily Maximum	< 3.0	< 0.7	< 2.2	< 1.1	< 0.8	< 0.8	< 0.9	< 0.8	< 0.8	< 1.0	< 1.3	< 2.1
CBOD5 (mg/L) Average Monthly	< 5.9	< 2.0	< 3.5	< 2.3	< 2.0	< 2.0	< 2.3	< 2.0	< 2.0	< 2.0	< 4.5	< 6.4
CBOD5 (mg/L) Daily Maximum	< 8.4	< 2.0	< 5.6	< 3.2	< 2.0	< 2.0	< 3.0	< 2.0	< 2.0	< 2.1	< 8.6	< 8.0

TSS (lbs/day) Average Monthly	< 0.3	< 0.9	< 0.4	< 1.0	< 0.6	< 0.3	< 0.6	< 0.3	< 0.6	< 0.9	< 0.4	< 1.0
TSS (lbs/day) Daily Maximum	< 0.4	< 1.6	< 0.8	< 2.8	< 1.0	< 0.4	< 0.9	< 0.4	< 0.8	< 2.6	< 0.9	< 1.6
TSS (mg/L) Average Monthly	< 1.0	< 4.3	< 1.4	< 3.0	< 1.8	< 1.0	< 2.3	< 1.0	< 1.5	< 2.5	< 3.4	< 3.0
TSS (mg/L) Daily Maximum	< 1.0	< 8.0	< 2.0	< 9.0	< 3.0	< 1.0	< 3.0	< 1.0	< 2.0	< 7.0	< 10	< 5.0
Ammonia (lbs/day) Average Monthly	< 0.05	< 0.4	< 0.01	< 0.01	< 0.01	< 0.01	< 0.26	< 0.01	< 0.01	< 2.61	< 0.003	< 0.01
Ammonia (lbs/day) Daily Maximum	< 0.17	< 0.14	< 0.02	< 0.01	< 0.01	< 0.02	< 1.02	< 0.01	< 0.02	< 9.97	< 0.006	< 0.01
Ammonia (mg/L) Average Monthly	< 0.15	< 0.16	< 0.03	< 0.02	< 0.03	< 0.05	< 1.40	< 0.02	< 0.02	< 7.1	< 0.02	< 0.02
Ammonia (mg/L) Daily Maximum	< 0.51	< 0.57	< 0.05	< 0.02	< 0.04	< 0.12	< 5.55	< 0.02	< 0.02	< 27.1	< 0.02	< 0.02

Compliance History

Effluent Violations for Outfall 001, from: March 1, 2023 To: January 31, 2024

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Total Nitrogen	05/31/23	Daily Max	< 38.60	mg/L	30.0	mg/L
Total Phosphorus	04/30/23	Avg Mo	< 3.50	mg/L	1.0	mg/L
Total Phosphorus	04/30/23	Daily Max	< 9.09	mg/L	2.0	mg/L

Effluent Violations for Outfall 101, from: March 1, 2023 To: January 31, 2024

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Ammonia	04/30/23	Daily Max	< 9.97	lbs/day	7.0	lbs/day
Ammonia	04/30/23	Avg Mo	< 7.1	mg/L	6.0	mg/L
Ammonia	04/30/23	Daily Max	< 27.1	mg/L	12.0	mg/L
Ammonia	07/31/23	Daily Max	< 5.55	mg/L	4.0	mg/L

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .358
Latitude 39º 53' 28.00" **Longitude** -75º 31' 50.00"
Wastewater Description: IWTP effluent, RO reject water, and stormwater runoff.

Parameter	Limit (mg/l)	SBC	Basis
pH*	6.0 to 9.0 std units at all times		See the below MP101 and MP201 limit tables
DO*	6.0	Inst.Min.	
TDS*	1000	Monthly Average	
Oil and Grease*	15.0	Monthly Average	
Total Phosphorus*	1.0	Monthly Average	
Total Nitrogen*	10	Monthly Average	
Temperature(ºF) *	110	Inst.Max.	
PFOA**	Report	Daily Max	Data Collection/SOP
PFOS**	Report	Daily Max	Data Collection/SOP
HFPO-DA**	Report	Daily Max	Data Collection/SOP
PFBS**	Report	Daily Max	Data Collection/SOP

* All these are existing limits.

**These are new parameters required to be monitored according to our new guidance. The permittee may discontinue monitoring for these parameters if the results in 4 consecutive monitoring periods indicate non-detect results at or below Quantitation Limits of 4.0 ng/L for PFOA, 3.7 ng/L for PFOS, 3.5 ng/L for PFBS and 6.4 ng/L for HFPO-DA. When monitoring is discontinued, permittee must enter a No Discharge Indicator (NODI) Code of “GG” on DMRs.

Anti-Backsliding

N/A

Development of Effluent Limitations

Outfall No. 201 **Design Flow (MGD)** 0.288
Latitude 39º 53' 28.00" **Longitude** -75º 31' 50.00"
Wastewater Description: RO reject water

Parameter	Limit (mg/l)	SBC	Basis
CBOD5	10	Monthly Average	WQM/ doc. # 391-2000-014 */BAT
Total Suspended Solids	10	Monthly Average	doc. # 391-2000-014*/BAT
Oil and Grease	15	Monthly Average	Chapter 95
NH3-N (05-1 to 10-31)	2.0	Monthly Average	Existing limits /previous WQM
NH3-N (11-1 to 04-30)	6.0	Monthly Average	Seasonal limits
Total Nitrogen	10	Monthly Average	**
Total Dissolved Solids	1000	Monthly Average	DRBC
Total Phosphorus			***
Dissolved Oxygen	6.0	Inst. Min.	doc. # 391-2000-014*
pH	6.0 to 9.0 SU at all times		Chapter 95

All these are existing limits.

*For discharge to this UNT, DEP's guidance, Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales and Storm sewers applies.

** According to the recommendation of our hydrogeologist the Total Nitrogen effluent limit was established as 10 mg/l in the 2019 permit; it is based on the drinking water standard . Currently this parameter is monitored at Outfall 001.

*** Originally Total Phosphorus limit was 0.5 mg/l for MP201 based on doc. # 391-2000-014 and 2 mg/l at MP101 based on Chapter 96.5. Based on permittee's request the TP limit was revised to 1.0 mg/l for the combined discharge requiring the permittee to sample at Outfall 001 at the 2019 permit renewal. It was decided that the samples should be collected from the site manhole on the western side of the facility.

Temperature limit is eliminated because NCCW from AMBEC Unit is eliminated from the system. No NCCW is tied up to MP201.

Since pH, Dissolved Oxygen, Total Dissolved Solids, and Oil and Grease are common parameters for MP 101 and MP 201 those parameters will be monitored at Outfall 001.

Since no sampling results are submitted, reasonable potential analysis could not be conducted.

All the current limits are carried over to the draft permit.

Development of Effluent Limitations

Outfall No. 101 **Design Flow (MGD)** 0.07
Latitude 39º 53' 28.00" **Longitude** -75º 31' 50.00"
Wastewater Description: IWTP effluent (treated process wastewater and blowdown water from the refrigeration system, boilers, and air compressor).

Parameter	Limit (mg/l)	SBC	Basis
CBOD5	20	Monthly Average	WQM modeling
Total Suspended Solids	30	Monthly Average	DRBC
Oil and Grease	15	Monthly Average	Chapter 95
NH3-N (05-1 to 10-31)	2.0	Monthly Average	WQM modeling
NH3-N (11-1 to 04-30)	6.0	Monthly Average	Seasonal limits
Total Phosphorus*			
TRC**	0.5/0.75	Mon/Ave./I Max.	Spreadsheet
Total Dissolved Solids	1000	Monthly Average	DRBC
Temperature (ºF)	110	I Max.	DRBC
Dissolved Oxygen	6.0	Inst. Min.	WQM modeling
pH	6.0 to 9.0 SU at all times		Chapter 95

All these are existing limits. See the attached WQM model report.

* Total Phosphorus is monitored at 001
** Due to the many chlorinated chemical additives usage, daily TRC monitoring is included.

Common parameters pH, Dissolved Oxygen, Total Dissolved Solids, Temperature and Oil and Grease will be monitored at Outfall 001. Temperature will also be monitored at Outfall 001 similar to the existing permit.

Reasonable Potential Analysis using TMS model recommended the following parameters of concern with limits/ monitoring.

Parameter	Limit (mg/l)	SBC	Basis/comment
Total Copper*	0.077	Average Monthly	TMS
Total Lead	Report	Average Monthly	TMS
Total Thallium*	0.001	Average Monthly	TMS
Total Zinc	Report	Average Monthly	TMS

* Only three results are available. Monitoring is included to collect more data. This will be re-evaluated at the next renewal.

See the attached TMS report.

Anti-Backsliding

N/A

WET Testing:

Evaluation of Test Type, IWC and Dilution Series for Renewed Permit

Acute Partial Mix Factor (PMFa): **1** Chronic Partial Mix Factor (PMFc): **1**

PMFs from TMS

1. **Determine IWC – Acute (IWCa)**:

   (0.07 x 1.547) / ((0.00377 x 1) + (0.07 x 1.547)) X 100 = 97 %

   Is IWCa < 1%? ☐ **YES** ☒ **NO**

   Type of Test required: **Chronic**

2. **Determine Target IWCc (If Chronic Tests Required)**

   TIWCc = 97%

3. **Determine Dilution Series**

   Dilution Series = 100%, 97%, 73%, 49%, and 24%.

A condition detailing the WET testing requirements also included in the Part C of the permit.

WET calculations are based on the discharge to the Unnamed tributary to the West Branch Chester Creek.

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
03G	542	WEST BRANCH CHESTER CREEK	**6.700**	275.00	3.20	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.100	0.00	0.58	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Refresco Beverg	PA0050431	0.0000	0.0000	0.0700	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	20.00	2.00	0.00	1.50
Dissolved Oxygen	6.00	8.24	0.00	0.00
NH3-N	2.00	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
03G	542	WEST BRANCH CHESTER CREEK	**4.700**	215.00	10.29	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.100	0.00	1.85	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

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

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
6.700	0.58	0.00	0.58	.1083	0.00568	.474	10.86	22.89	0.13	0.919	20.79	7.00
Q1-10 Flow												
6.700	0.37	0.00	0.37	.1083	0.00568	NA	NA	NA	0.11	1.125	21.14	7.00
Q30-10 Flow												
6.700	0.78	0.00	0.78	.1083	0.00568	NA	NA	NA	0.15	0.793	20.61	7.00

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

WQM 7.0 Wasteload Allocations

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

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
6.700	Refresco Beverg	15.25	4	15.25	4	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
6.700	Refresco Beverg	1.81	2	1.81	2	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)		
6.70	Refresco Beverg	20	20	2	2	6	6	0	0

WQM 7.0 D.O.Simulation

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

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
6.700	0.070	20.791	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
10.856	0.474	22.894	0.133
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
4.85	0.720	0.32	0.744
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.888	22.748	Owens	5
Reach Travel Time (days)			
0.919			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.092	4.53	0.30	8.12
0.184	4.23	0.28	8.12
0.276	3.95	0.26	8.12
0.368	3.68	0.24	8.12
0.460	3.44	0.22	8.12
0.552	3.21	0.21	8.12
0.644	3.00	0.20	8.12
0.736	2.80	0.18	8.12
0.827	2.61	0.17	8.12
0.919	2.44	0.16	8.12

WQM 7.0 Effluent Limits

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

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
6.700	Refresco Beverg	PA0050431	0.000	CBOD5	20		
				NH3-N	2	4	
				Dissolved Oxygen			6

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: Refresco Beverages IWTP NPDES Permit No.: PA0050431 Outfall No.: MP101

Evaluation Type: Major Sewage / Industrial Waste Wastewater Description: IWTP effluent

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.07	343	7						

					0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		463									
	Chloride (PWS)	mg/L		43									
	Bromide	mg/L		0.24									
	Sulfate (PWS)	mg/L		7.27									
	Fluoride (PWS)	mg/L		0.31									
Group 2	Total Aluminum	µg/L		40									
	Total Antimony	µg/L		0.5									
	Total Arsenic	µg/L	<	1									
	Total Barium	µg/L	<	3									
	Total Beryllium	µg/L	<	1									
	Total Boron	µg/L	<	200									
	Total Cadmium	µg/L	<	0.2									
	Total Chromium (III)	µg/L		1									
	Hexavalent Chromium	µg/L	<	0.25									
	Total Cobalt	µg/L	<	3									
	Total Copper	µg/L		49									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	10									
	Dissolved Iron	µg/L		170									
	Total Iron	µg/L		190									
	Total Lead	µg/L		8									
	Total Manganese	µg/L		8									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L		4									
	Total Phenols (Phenolics) (PWS)	µg/L	<	2									
	Total Selenium	µg/L	<	1									
	Total Silver	µg/L	<	0.4									
	Total Thallium	µg/L	<	3									
	Total Zinc	µg/L		104									
	Total Molybdenum	µg/L											
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										
	Carbon Tetrachloride	µg/L	<										
	Chlorobenzene	µg/L											
	Chlorodibromomethane	µg/L	<										
	Chloroethane	µg/L	<										
	2-Chloroethyl Vinyl Ether	µg/L	<										

Group 3	Chloroform	µg/L	<											
	Dichlorobromomethane	µg/L	<											
	1,1-Dichloroethane	µg/L	<											
	1,2-Dichloroethane	µg/L	<											
	1,1-Dichloroethylene	µg/L	<											
	1,2-Dichloropropane	µg/L	<											
	1,3-Dichloropropylene	µg/L	<											
	1,4-Dioxane	µg/L	<											
	Ethylbenzene	µg/L	<											
	Methyl Bromide	µg/L	<											
	Methyl Chloride	µg/L	<											
	Methylene Chloride	µg/L	<											
	1,1,2,2-Tetrachloroethane	µg/L	<											
	Tetrachloroethylene	µg/L	<											
	Toluene	µg/L	<											
	1,2-trans-Dichloroethylene	µg/L	<											
	1,1,1-Trichloroethane	µg/L	<											
	1,1,2-Trichloroethane	µg/L	<											
	Trichloroethylene	µg/L	<											
	Vinyl Chloride	µg/L	<											
Group 4	2-Chlorophenol	µg/L	<											
	2,4-Dichlorophenol	µg/L	<											
	2,4-Dimethylphenol	µg/L	<											
	4,6-Dinitro-o-Cresol	µg/L	<											
	2,4-Dinitrophenol	µg/L	<											
	2-Nitrophenol	µg/L	<											
	4-Nitrophenol	µg/L	<											
	p-Chloro-m-Cresol	µg/L	<											
	Pentachlorophenol	µg/L	<											
	Phenol	µg/L	<											
	2,4,6-Trichlorophenol	µg/L	<											
Group 5	Acenaphthene	µg/L	<											
	Acenaphthylene	µg/L	<											
	Anthracene	µg/L	<											
	Benzidine	µg/L	<											
	Benzo(a)Anthracene	µg/L	<											
	Benzo(a)Pyrene	µg/L	<											
	3,4-Benzofluoranthene	µg/L	<											
	Benzo(ghi)Perylene	µg/L	<											
	Benzo(k)Fluoranthene	µg/L	<											
	Bis(2-Chloroethoxy)Methane	µg/L	<											
	Bis(2-Chloroethyl)Ether	µg/L	<											
	Bis(2-Chloroisopropyl)Ether	µg/L	<											
	Bis(2-Ethylhexyl)Phthalate	µg/L	<											
	4-Bromophenyl Phenyl Ether	µg/L	<											
	Butyl Benzyl Phthalate	µg/L	<											
	2-Chloronaphthalene	µg/L	<											
	4-Chlorophenyl Phenyl Ether	µg/L	<											
	Chrysene	µg/L	<											
	Dibenzo(a,h)Anthrancene	µg/L	<											
	1,2-Dichlorobenzene	µg/L	<											
	1,3-Dichlorobenzene	µg/L	<											
	1,4-Dichlorobenzene	µg/L	<											
	3,3-Dichlorobenzidine	µg/L	<											
	Diethyl Phthalate	µg/L	<											
	Dimethyl Phthalate	µg/L	<											
	Di-n-Butyl Phthalate	µg/L	<											
	2,4-Dinitrotoluene	µg/L	<											
	2,6-Dinitrotoluene	µg/L	<											
	Di-n-Octyl Phthalate	µg/L	<											
	1,2-Diphenylhydrazine	µg/L	<											
	Fluoranthene	µg/L	<											
	Fluorene	µg/L	<											
	Hexachlorobenzene	µg/L	<											
	Hexachlorobutadiene	µg/L	<											
	Hexachlorocyclopentadiene	µg/L	<											
	Hexachloroethane	µg/L	<											
	Indeno(1,2,3-cd)Pyrene	µg/L	<											

	Isophorone	µg/L	<											
	Naphthalene	µg/L	<											
	Nitrobenzene	µg/L	<											
	n-Nitrosodimethylamine	µg/L	<											
	n-Nitrosodi-n-Propylamine	µg/L	<											
	n-Nitrosodiphenylamine	µg/L	<											
	Phenanthrene	µg/L	<											
	Pyrene	µg/L	<											
	1,2,4-Trichlorobenzene	µg/L	<											
Group 6	Aldrin	µg/L	<											
	alpha-BHC	µg/L	<											
	beta-BHC	µg/L	<											
	gamma-BHC	µg/L	<											
	delta BHC	µg/L	<											
	Chlordane	µg/L	<											
	4,4-DDT	µg/L	<											
	4,4-DDE	µg/L	<											
	4,4-DDD	µg/L	<											
	Dieldrin	µg/L	<											
	alpha-Endosulfan	µg/L	<											
	beta-Endosulfan	µg/L	<											
	Endosulfan Sulfate	µg/L	<											
	Endrin	µg/L	<											
	Endrin Aldehyde	µg/L	<											
	Heptachlor	µg/L	<											
	Heptachlor Epoxide	µg/L	<											
	PCB-1016	µg/L	<											
	PCB-1221	µg/L	<											
	PCB-1232	µg/L	<											
	PCB-1242	µg/L	<											
	PCB-1248	µg/L	<											
	PCB-1254	µg/L	<											
	PCB-1260	µg/L	<											
	PCBs, Total	µg/L	<											
	Toxaphene	µg/L	<											
	2,3,7,8-TCDD	ng/L	<											
Group 7	Gross Alpha	pCi/L												
	Total Beta	pCi/L	<											
	Radium 226/228	pCi/L	<											
	Total Strontium	µg/L	<											
	Total Uranium	µg/L	<											
	Osmotic Pressure	mOs/kg												

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Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Refresco Beverages IWTP, NPDES Permit No. PA0050431, Outfall MP101

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **West Branch Chester Creek** No. Reaches to Model: **1**

- (•) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	000542	6.7	275	3.2			Yes
End of Reach 1	000542	4.7	215	10.29			Yes

$Q_{7\text{-}10}$

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	6.7	0.1	0.576									100	7		
End of Reach 1	4.7	0.1	1.85												

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	6.7														
End of Reach 1	4.7														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Refresco Beverages IWTP, NPDES Permit No. PA0050431, Outfall MP101

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 4.650 PMF: 1 Analysis Hardness (mg/l): 138.46 Analysis pH: 7.00

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	4,739	
Total Antimony	0	0		0	1,100	1,100	6,951	
Total Arsenic	0	0		0	340	340	2,148	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	132,700	
Total Boron	0	0		0	8,100	8,100	51,184	
Total Cadmium	0	0		0	2.763	2.97	18.8	Chem Translator of 0.93 applied
Total Chromium (III)	0	0		0	743.750	2,354	14,873	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	103	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	600	
Total Copper	0	0		0	18.260	19.0	120	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	91.865	124	781	Chem Translator of 0.744 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	10.4	Chem Translator of 0.85 applied
Total Nickel	0	0		0	616.612	618	3,904	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	5.630	6.62	41.9	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	411	
Total Zinc	0	0		0	154.378	158	997	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): 4.650 PMF: 1 Analysis Hardness (mg/l): 138.46 Analysis pH: 7.00

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	1,390	
Total Arsenic	0	0		0	150	150	948	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	25,908	
Total Boron	0	0		0	1,600	1,600	10,110	
Total Cadmium	0	0		0	0.308	0.34	2.18	Chem Translator of 0.895 applied
Total Chromium (III)	0	0		0	96.747	112	711	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	65.7	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	120	
Total Copper	0	0		0	11.826	12.3	77.8	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	9,479	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	3.580	4.81	30.4	Chem Translator of 0.744 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	5.72	Chem Translator of 0.85 applied
Total Nickel	0	0		0	68.487	68.7	434	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	4.600	4.99	31.5	Chem Translator of 0.922 applied
Total Silver	0	0		0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0		0	13	13.0	82.1	
Total Zinc	0	0		0	155.641	158	997	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 4.650 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Fluoride (PWS)	0	0		0	2,000	2,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	35.4	
Total Arsenic	0	0		0	10	10.0	63.2	
Total Barium	0	0		0	2,400	2,400	15,166	
Total Boron	0	0		0	3,100	3,100	19,589	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	300	300	1,896	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	

Total Manganese	0	0		0	1,000	1,000	6,319	
Total Mercury	0	0		0	0.050	0.05	0.32	
Total Nickel	0	0		0	610	610	3,855	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	1.52	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 1.757 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	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
Total Copper	0.045	0.07	77.0	120	193	µg/L	77.0	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Lead	Report	Report	Report	Report	Report	µg/L	30.4	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Thallium	0.0009	0.001	1.52	2.37	3.79	µg/L	1.52	THH	Discharge Conc ≥ 50% WQBEL (RP)

Total Zinc	Report	Report	Report	Report	Report	µg/L	639	AFC	Discharge Conc > 10% WQBEL (no RP)

☑ ***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 Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	N/A	N/A	PWS Not Applicable
Total Aluminum	3,038	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	35.4	µg/L	Discharge Conc ≤ 10% WQBEL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	15,166	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	10,110	µg/L	Discharge Conc < TQL
Total Cadmium	2.18	µg/L	Discharge Conc < TQL
Total Chromium (III)	711	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	65.7	µg/L	Discharge Conc < TQL
Total Cobalt	120	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	1,896	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	9,479	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	6,319	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.32	µg/L	Discharge Conc < TQL
Total Nickel	434	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc < TQL
Total Selenium	31.5	µg/L	Discharge Conc < TQL
Total Silver	26.8	µg/L	Discharge Conc < TQL

Proposed Effluent Limitations and Monitoring Requirements

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		
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	6.0 Inst Min	XXX	XXX	XXX	1/day	Grab
Temperature (ºF)	XXX	XXX	XXX	XXX	XXX	110	1/week	I-S
Total Dissolved Solids	3036.0	6072.0 Daily Max	XXX	1000.0	2000.0	2500	1/month	24-Hr Composite
Oil and Grease	45.5	91.1 IMAX	XXX	15.0	XXX	30.0	1/week	Grab
Total Nitrogen	30.4	60.7 Daily Max	XXX	10.0	20.0	25	1/week	24-Hr Composite
Total Phosphorus	3.0	6.1 Daily Max	XXX	1.0	2.0	2.5	1/week	24-Hr Composite
PFOA (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
PFOS (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
PFBS (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
HFPO-DA (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab

Proposed Effluent Limitations and Monitoring Requirements

Outfall 101, Effective Period: Permit Effective Date through End of Interim Period 1.

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		
Toxicity, Chronic - Ceriodaphnia Survival (TUc)	XXX	XXX	XXX	XXX	Report	XXX	1/year	24-Hr Composite
Toxicity, Chronic - Ceriodaphnia Reproduction (TUc)	XXX	XXX	XXX	XXX	Report	XXX	1/year	24-Hr Composite
Toxicity, Chronic - Pimephales Survival (TUc)	XXX	XXX	XXX	XXX	Report	XXX	1/year	24-Hr Composite
Toxicity, Chronic - Pimephales Growth (TUc)	XXX	XXX	XXX	XXX	Report	XXX	1/year	24-Hr Composite

Proposed Effluent Limitations and Monitoring Requirements

Outfall 101, 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	Metered
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	0.75	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	12.0	24.0	XXX	20.0	40.0	50	1/week	24-Hr Composite
Total Suspended Solids	18.0	36.0	XXX	30.0	60.0	75	1/week	24-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	3.5	7.0	XXX	6.0	12.0	15	1/week	24-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	1.2	2.4	XXX	2.0	4.0	5	1/week	24-Hr Composite
Copper, Total	XXX	XXX	XXX	XXX	Report	XXX	1/month	24-Hr Composite
Lead, Total	XXX	XXX	XXX	XXX	Report	XXX	1/month	24-Hr Composite
Thallium, Total	XXX	XXX	XXX	XXX	Report	XXX	1/month	24-Hr Composite
Zinc, Total	XXX	XXX	XXX	XXX	Report	XXX	1/month	24-Hr Composite

Proposed Effluent Limitations and Monitoring Requirements

Outfall 201, 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	Metered
Carbonaceous Biochemical Oxygen Demand (CBOD5)	24.0	48.0	XXX	10.0	20.0	25	1/week	24-Hr Composite
Total Suspended Solids	24.0	48.0	XXX	10.0	20.0	25	1/week	24-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	14.4	28.8	XXX	6.0	12.0	15	1/week	24-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	4.8	9.6	XXX	2.0	4.0	5	1/week	24-Hr Composite
Antimony, Total	XXX	XXX	XXX	XXX	Report	XXX	1/month	24-Hr Composite
Cadmium, Total	0.0019	0.0038	XXX	0.0008	0.0016	0.002	1/week	24-Hr Composite
Selenium, Total	0.012	0.024	XXX	0.005	0.01	0.013	1/week	24-Hr Composite
Thallium, Total	0.0005	0.0010	XXX	0.0002	0.0004	0.0005	1/week	24-Hr Composite