

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
PERMITS SECTION  
235 PROMENADE STREET  
PROVIDENCE, RHODE ISLAND 02908-5767

PUBLIC NOTICE OF PROPOSED PERMIT ACTIONS UNDER THE RHODE ISLAND POLLUTANT DISCHARGE ELIMINATION SYSTEM (RIPDES) PROGRAM WHICH REGULATES DISCHARGES INTO THE WATERS OF THE STATE UNDER CHAPTER 46-12 OF THE RHODE ISLAND GENERAL LAWS OF 1956, AS AMENDED.

DATE OF NOTICE: February 9, 2024

PUBLIC NOTICE NUMBER: PN 24-01

**DRAFT RIPDES PERMITS**

RIPDES PERMIT NUMBER: RI0100366

NAME AND MAILING ADDRESS OF APPLICANT:

Town of Jamestown  
P.O. Box 377  
Jamestown, Rhode Island 02835

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Jamestown Wastewater Treatment Facility  
Taylor Point  
Jamestown, Rhode Island 02835

RECEIVING WATER: Narragansett Bay (Waterbody ID #:RI0007029E-01F)

RECEIVING WATER CLASSIFICATION: SB1

The facility, which is the source of the discharge, is located in Jamestown and is engaged in the treatment of domestic and commercial sewage from the sanitary sewer system in the Town of Jamestown. On June 1, 2021, the facility reapplied to the Rhode Island Department of Environmental Management for reissuance of an individual RIPDES permit to discharge water from the treatment plant, which includes the use of the following equipment: course screening, grit removal using an aerated grit chamber, extended aeration, secondary clarification, and chlorination. The discharge of treated effluent is made to Narragansett Bay through outfall 001A. The permit includes limits to ensure that the discharge will not cause a water quality violation.

The draft permit contains new requirements for monitoring perfluorinated compounds, additional monitoring of Nitrogen parameters, more stringent limits for biotoxicity, the submittal of a resiliency plan, and inspection of the facility's outfall.

RIPDES PERMIT NUMBER: RI0100196

NAME AND MAILING ADDRESS OF APPLICANT:

New Shoreham Sewer Commission & New Shoreham Water Commission  
P.O. Drawer 774  
Block Island, RI 02807

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

New Shoreham Water Pollution Control Facility  
20 Spring Street  
Block Island, RI 02807  
&  
Block Island Water Company  
436 Sand's Pond Road  
Block Island, RI 02807

RECEIVING WATER: Rhode Island Sound (Waterbody ID: RI0010046E-02A (Block Island Waters))

RECEIVING WATER CLASSIFICATION: SB1

The facility which is the source of the wastewater discharge is engaged in treatment of wastewater from the sanitary sewer system in New Shoreham. On March 9, 2021, the facility reapplied to the Rhode Island Department of Environmental Management for reissuance of an individual RIPDES permit to discharge water from the treatment plant. The wastewater is treated via coarse screening/bar racks, grit removal, fine screening/mechanical filter screen, aeration, secondary settling, chlorination and dechlorination. The Block Island Water Company is engaged in the operation of a Reverse Osmosis (RO) process located on Sands Pond Road to treat well water for domestic consumption. The discharges are from the New Shoreham WPCF effluent (Outfall 100A) that discharges into Rhode Island Sound. The above two facilities are the sources of the wastewater discharges. The permit includes limits to ensure that the discharge will not cause a water quality violation.

The draft permit contains new requirements for monitoring perflourinated compounds, additional monitoring of Nitrogen parameters, for the submittal of a resiliency plan, and for inspection of the facility's outfall.

RIPDES PERMIT NUMBER: RI0100374

NAME AND MAILING ADDRESS OF APPLICANT:

Town of South Kingstown  
180 High Street  
Wakefield, RI 02879

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

South Kingstown Regional Wastewater Treatment Plant  
275 Westmoreland Street

Narragansett, Rhode Island

RECEIVING WATER: Rhode Island Sound (Waterbody ID: RI0010042E-01A)

RECEIVING WATER CLASSIFICATION: SB1

The facility, which is the source of the wastewater discharge, is located in South Kingstown and is engaged in treatment of wastewater from the sewer system in the Town of South Kingstown. On November 18, 2021, the facility reapplied to the Rhode Island Department of Environmental Management for reissuance of an individual RIPDES Permit to discharge water from the treatment plant, which includes the use of the following equipment and processes: coarse screening, comminution, primary settling, fine bubble aeration, secondary settling, chlorination, and dechlorination. The discharge of treated effluent is made to Rhode Island Sound through outfall 001A. The permit includes limits to ensure that the discharge will not cause a water quality violation.

The draft permit contains new requirements for monitoring perfluorinated compounds, additional monitoring of Nitrogen parameters, for the submittal of a resiliency plan, and for inspection of the facility's outfall.

**II. DRAFT RIPDES PERMIT MODIFICATIONS**

RIPDES PERMIT NUMBER: RI0100455

NAME AND MAILING ADDRESS OF APPLICANT:

Burrillville Sewer Commission  
P.O. Box 71  
Harrisville, RI 02830

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Burrillville Wastewater Treatment Facility  
141 Clear River Drive  
Harrisville, Rhode Island 02830

RECEIVING WATER: Clear River [RI0001002R-05D]

RECEIVING WATER CLASSIFICATION: B1

The facility, which is the source of the wastewater discharge, is engaged in the treatment of domestic sewage from the sanitary sewer system in the Town of Burrillville. The treatment system consists of the following processes: Treatment consists of Preliminary Treatment, Primary Settling, Activated Sludge, Secondary Clarification, Phosphorous Removal, Chlorination/Dechlorination and Effluent Re-Aeration. DEM reissued the facility's RIPDES permit on February 8, 2020. On November 8, 2023, the facility submitted a written request to DEM that the facility's permit be modified allow the facility to begin using an Aluminum-based flocculant compound in its wastewater treatment process. The permit modification, which was drafted in response to the November 8, 2023 request, permits the use of the Aluminum-based flocculant compound and ensures that the discharge will not cause a water quality violation.

The DEM has determined that the proposed activities comply with the Policy on the Implementation of the Antidegradation Provisions of the Rhode Island Water Quality Regulations and that existing uses will be maintained and protected. A detailed evaluation of the water quality impact from the proposed activities and any important benefits demonstrations, if required, may be found in the fact sheets which are available as noted below.

**FURTHER INFORMATION:**

Fact sheets (describing the type of facility and significant factual, legal and policy questions considered in these permit actions) may be obtained at no cost by writing or calling DEM as noted below:

Samuel Kaplan, P.E.  
Environmental Engineer II  
Rhode Island Department of Environmental Management  
Office of Water Resources  
Permits Section  
235 Promenade Street  
Providence, Rhode Island 02908-5767  
samuel.kaplan@dem.ri.gov  
(401) 537-4240

The administrative record containing all documents relating to these permit actions is on file and may be inspected, by appointment, at the DEM's Providence office mentioned above between 8:30 a.m. and 4:00 p.m., Monday through Friday, except holidays.

**PUBLIC COMMENT AND REQUEST FOR PUBLIC HEARING:**

Pursuant to Chapter 42-17.4 of the Rhode Island General Laws a public hearing has been scheduled to consider these permits if requested. Requests for a Public Hearing must be submitted in writing to the attention of Samuel Kaplan at the address indicated above. Notice should be taken that if DEM receives a request from twenty-five (25) people, a governmental agency or subdivision, or an association having no less than twenty-five (25) members on or before 4:00 PM, March 12, a public hearing will be held at the following time and place:

5:00 PM Wednesday, March 20  
Room 280  
235 Promenade Street  
Providence, Rhode Island 02908

Interested persons should contact DEM to confirm if a hearing will be held at the time and location noted above.

235 Promenade Street is accessible to individuals who are handicapped. If communication assistance (readers/interpreters/captioners) is needed, or any other accommodation to ensure equal participation, please call Samuel Kaplan or RI Relay 711 at least three (3) business days prior to the meeting so arrangements can be made to provide such assistance at no cost to the person requesting.

Interested parties may submit comments on the permit actions and the administrative record to the address above no later than 4:00 PM Thursday, March 21.

If, during the public comment period, significant new questions are raised concerning the permit, DEM may require a new draft permit or statement of basis or may reopen the public comment period. A public notice will be issued for any of these actions.

Any person, including the permittee/applicant, who believes these permit actions are inappropriate, must raise all reasonably ascertainable issues and submit all reasonably available arguments and factual grounds supporting their position, including all supporting material, by the close of the public comment period under 250-RICR-150-10-1.42 of the Regulations for the Rhode Island Pollutant Discharge Elimination System. The public comment period is from February 9, 2024 to March 21, 2024. Commenters may request a longer comment period if necessary to provide a reasonable opportunity to comply with these requirements. Comments should be directed to DEM as noted above.

**FINAL DECISION AND APPEALS:**

Following the close of the comment period, and after a public hearing, if such hearing is held, the Director will issue a final decision and forward a copy of the final decision to the permittee and each person who has submitted written comments or requested notice. Within 30 days following the notice of the final decision, any interested person may submit a request for a formal hearing in accordance with the requirements of 250-RICR-150-10-1.50 of the Regulations for the Rhode Island Pollutant Discharge Elimination System.

01 Feb 2024  
Date

Heidi Traverso  
Heidi Travers, P.E.  
Environmental Engineer IV  
RIPDES, Office of Water Resources  
Department of Environmental Management

AUTHORIZATION TO DISCHARGE UNDER THE  
RHODE ISLAND POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of Chapter 46-12 of the Rhode Island General Laws, as amended, the

**Town of Jamestown**  
P.O. Box 377  
Jamestown, Rhode Island 02835

is authorized to discharge from a facility located at the

**Jamestown Wastewater Treatment Facility**  
Taylor Point  
Jamestown, Rhode Island 02835

to receiving waters named

Narragansett Bay (Waterbody ID #: RI0007029E-01F)

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on \_\_\_\_\_, 20\_\_.

This permit and the authorization to discharge expire at midnight, five (5) years from the effective date.

This permit supersedes the permit issued on December 16, 2016.

This permit consists of nineteen (19) pages in Part I including effluent limitations, monitoring requirements, etc. and thirteen (13) pages in Part II including General Conditions.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

**DRAFT**

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Joseph B. Haberek, P.E., Administrator for Surface Water Protection  
Office of Water Resources  
Rhode Island Department of Environmental Management  
Providence, Rhode Island

PART I

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

1. During the period beginning on the effective date and lasting through permit expiration, the permittee is authorized to discharge from outfall serial number 001A. Outfall 001A is the final discharge after chlorination. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations					Monitoring Requirement	
	Quantity – lbs./day		Concentration – Specify Units			Measurement Frequency	Sample Type
	Average Monthly	Maximum Daily	Average Monthly	Average Weekly	Maximum Daily		
<b>Flow<sup>1</sup></b>	0.73 MGD	-- MGD				Continuous	Recorder
<b>BOD<sub>5</sub><sup>2</sup></b>	183	304	30 mg/l	45 mg/l	50 mg/l	3/Week	24-Hr. Comp.
<b>BOD<sub>5</sub> - % Removal<sup>2</sup></b>			≥85%			1/Month	Calculated
<b>TSS<sup>2</sup></b>	183	304	30 mg/l	45 mg/l	50 mg/l	3/Week	24-Hr. Comp.
<b>TSS - % Removal<sup>2</sup></b>			≥85%			1/Month	Calculated
<b>Settleable Solids<sup>1</sup></b>				--- ml/l	--- ml/l	1/Day	Grab

--- Signifies a parameter which must be monitored and data must be reported; no limit has been established at this time.

<sup>1</sup>Sampling for Flow and Settleable Solids shall be performed Sunday-Saturday.

<sup>2</sup>Influent and effluent sampling is required for TSS and BOD<sub>5</sub>. Sampling for TSS and BOD<sub>5</sub> influent and effluent shall be performed Sunday, Tuesday, and Thursday with appropriate allowances for hydraulic detention (flow-through) time.

PART I

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

2. During the period beginning on the effective date and lasting through permit expiration, the permittee is authorized to discharge from outfall serial number 001A. Outfall 001A is the final discharge after chlorination. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations					Monitoring Requirement	
	Quantity – lbs./day		Concentration – Specify Units			Measurement Frequency	Sample Type
	Average Monthly	Maximum Daily	Average Monthly *(Minimum)	Average Weekly *(Average)	Maximum Daily *(Maximum)		
Fecal Coliform			--- MPN/100 ml <sup>1</sup>	--- MPN/100 ml <sup>1</sup>	--- MPN/100 ml <sup>1</sup>	3/Week	Grab
Enterococci			35 cfu/100 ml <sup>1</sup>		276 cfu/100 ml <sup>1</sup>	3/Week	Grab
Total Residual Chlorine (TRC) <sup>2</sup>			2.0 mg/l		2.0 mg/l	3/Day	Grab <sup>3</sup>
pH <sup>2</sup>			(6.0 SU)		(9.0 SU)	1/Day	Grab

--- Signifies a parameter which must be monitored, and data must be reported; no limit has been established at this time.

<sup>^</sup>Values in parentheses ( ) are to be reported as Minimum/Average/Maximum for the reporting period rather than Average Monthly/ Average Weekly/ Maximum Daily.

<sup>1</sup>Two (2) of the three (3) Enterococci samples are to be taken on Wednesday and Friday. The Fecal Coliform samples shall be taken at the same time as the Enterococci samples. The Geometric Mean shall be used to obtain the “average monthly” and “average weekly” values. The facility shall report any fecal coliform sample result that exceeds 400 MPN/100 ml to the DEM in accordance with the 24-hour reporting requirements under Part II(l)(5) of the permit.

<sup>2</sup>Sampling for pH and Chlorine Residual shall be performed Sunday-Saturday.

<sup>3</sup>The use of a continuous TRC recorder after chlorination is required to provide a record that proper disinfection was achieved at all times. Compliance with these limitations shall be determined by taking three grab samples per day, Monday - Friday (except holidays), equally spaced over one (1) eight hour working shift with a minimum of three hours between grabs, and on Saturdays, Sundays, and Holidays by taking at least two (2) grab samples each day with a minimum of two (2) hours between grabs. The maximum daily and average monthly values are to be computed from the averaged grab sample results for each day. The following methods may be used to analyze the grab samples: (1) DPD spectrophotometric, EPA No. 330.5 or Standard Methods (18<sup>th</sup> Edition) No.4500-CI G; (2) DPD Titrimetric, EPA No. 330.4 or Standard Methods (18<sup>th</sup> Edition) No. 4500-CI F; (3) Amperometric Titration, EPA No. 330.1 or Standard Methods (18<sup>th</sup> Edition) No. 4500-CI D or ASTM No. D1253-86(92); (4) Iodometric Direct Titration, EPA No. 330.3 or Standard Methods (18<sup>th</sup> Edition) No. 4500-CI B; (5) Iodometric Back Titration (either end-point), EPA No. 330.2 or Standard Methods (18<sup>th</sup> Edition) No. 4500-CI C.



PART I

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

3. During the period beginning on the effective date and lasting through permit expiration, the permittee is authorized to discharge from outfall serial number 001A. Outfall 001A is the final discharge after chlorination. Such discharges shall be monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations					Monitoring Requirement	
	Quantity – lbs./day		Concentration – Specify Units			Measurement Frequency	Sample Type
	Average Monthly	Maximum Daily	Average Monthly	Average Weekly	Maximum Daily		
Oil and Grease					--- mg/l	1/Month	Grabs <sup>1</sup>
TKN (as N)			--- mg/l		--- mg/l	1/Month	24-Hr. Comp.
Nitrate, Total (as N)			--- mg/l		--- mg/l	1/Month	24-Hr. Comp.
Nitrite, Total (as N)			--- mg/l		--- mg/l	1/Month	24-Hr. Comp.
Nitrogen, Total (TKN + Nitrate + Nitrite, as N)	-- lb/day		-- mg/l		--- mg/l	1/Month	Calculated

--- signifies a parameter which must be monitored and data must be reported; no limit has been established at this time.

<sup>1</sup>Three (3) grab samples shall be equally spaced over the course of one (1) eight (8) hour shift with a minimum of three (3) hours between grab samples. Each grab sample must be analyzed individually, and the maximum values reported.

Samples taken in compliance with the monitoring requirements specified above shall be taken Monday through Friday.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

4. During the period beginning on the effective date and lasting through permit expiration, the permittee is authorized to discharge from outfall serial number(s) 001A. Outfall 001A is the final discharge after chlorination. Samples taken in compliance with the monitoring requirement below shall be collected **prior to chlorination**. Such discharges shall be monitored by the permittee as specified below:

Effluent Characteristic	Quantity – lbs./day		Discharge Limitations Concentration – Specify Units			Monitoring Requirement	
	Average Monthly	Maximum Daily	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
<u><i>Mysidopsis bahia</i></u> <sup>1</sup> LC <sub>50</sub> <sup>2</sup>					≥100%	1/Quarter	24-Hr. Comp.

<sup>1</sup>Testing may be conducted using *Americamysis bahia*.

<sup>2</sup>LC<sub>50</sub> is defined as the concentration of wastewater that causes mortality to 50% of the test organisms. Therefore, a 100% limit means that a sample of 100% effluent (no dilution) shall cause no more than a 50% mortality rate.

Samples taken in compliance with the monitoring requirements in accordance with Part I.B. of the permit.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

5. During the period beginning on the effective date and lasting through permit expiration, the permittee is authorized to discharge from outfall serial number 001A. Outfall 001A is the final discharge after chlorination. Such discharges shall be monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations					Monitoring Requirement	
	Quantity – lbs/day		Concentration – Specify Units			Measurement Frequency	Sample Type
	Average Monthly	Maximum Daily	Average Monthly	Average Weekly	Maximum Daily		
Copper, Total <sup>1</sup>			--- µg/l		--- µg/l	1/Quarter	24-Hr. Comp.
Cyanide, Free <sup>1, 2</sup>			-- µg/l		-- µg/l	1/Quarter	Composite
Phenols, Total <sup>1</sup>			--- µg/l		--- µg/l	1/Quarter	Grab
Cadmium, Total <sup>1</sup>			--- µg/l		--- µg/l	1/Quarter	24-Hr. Comp.
Lead, Total <sup>1</sup>			--- µg/l		--- µg/l	1/Quarter	24-Hr. Comp.
Chromium, Hexavalent <sup>1</sup>			--- µg/l		--- µg/l	1/Quarter	24-Hr. Comp.
Zinc, Total <sup>1</sup>			--- µg/l		--- µg/l	1/Quarter	24-Hr. Comp.
Nickel, Total <sup>1</sup>			--- µg/l		--- µg/l	1/Quarter	24-Hr. Comp.
Aluminum, Total <sup>1</sup>			--- µg/l		--- µg/l	1/Quarter	24-Hr. Comp.
Ammonia, Total (as N) <sup>1</sup>			-- mg/L		-- mg/L	1/Quarter	24-Hr. Comp.
Organic Carbon, Total <sup>1</sup>			-- mg/L		-- mg/L	1/Quarter	24-Hr. Comp.

--- Signifies a parameter which must be monitored, and data must be reported; no limit has been established at this time.

<sup>1</sup> Monitoring data may be obtained in conjunction with the bioassay testing required in Part I.B of the permit.

<sup>2</sup> Composite shall be obtained by taking three grab samples per day, spaced over one (1) day with a minimum of three hours between grabs, and preserved immediately upon collection. All three (3) samples shall be composited, then analyzed for free Cyanide.

Samples taken in compliance<sup>1</sup> with the monitoring requirements specified above shall be taken Monday through Friday.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

6. During the period beginning on the effective date and lasting through permit expiration, the permittee is authorized to discharge from outfall serial number 001A. Outfall 001A is the final discharge after chlorination. Such discharges shall be monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations					Monitoring Requirement	
	Quantity – lbs./day		Concentration – Specify Units			Measurement Frequency	Sample Type
	Average Monthly	Maximum Daily	Average Monthly *(Minimum)	Average Weekly *(Average)	Maximum Daily *(Maximum)		
PFAS Analytes <sup>1</sup>					--- ng/L	1/Quarter	Grab <sup>2</sup>

--- signifies a parameter which must be monitored, and data must be reported; no limit has been established at this time.

<sup>1</sup>Influent and effluent sampling for the listed PFAS parameters are listed in Attachment A. PFAS shall be analyzed using Clean Water Act wastewater draft analytical method 1633 until a 40 CFR Part 136 approved test method for wastewater is approved. Report in NetDMR the results of all PFAS analytes required to be tested as part of the method as shown in Attachment A. Sampling and analysis for PFAS Analytes shall begin no earlier than July 1, 2024, or during the first calendar quarter in which the permit becomes effective, whichever is later.

<sup>2</sup>Influent samples taken in compliance with the monitoring requirements specified above shall be taken at the facility headworks at the same sampling location where influent BOD<sub>5</sub> and influent TSS are sampled. Effluent samples shall be taken after the chlorination contact tank.

7. Per 40 CFR 122.42(b), prior to acceptance, the permittee shall notify DEM of the following:
  - a. Any new introduction of pollutants into the Permittee's treatment facility from an indirect discharger which would be subject to section 301 or 306 of CWA if it were directly discharging those pollutants; and
  - b. Any substantial change in the volume or character of pollutants being introduced into the Permittee's treatment facility by a source that was discharging pollutants into the facility at the time of permit issuance.
  - c. Notice shall include information on:
    - i. the quality and quantity of effluent introduced into the Permittee's treatment facility, and
    - ii. any anticipated impact of the change on the quantity or quality of effluent to be discharged from the Permittee's treatment facility
8.
  - a. The pH of the effluent shall not be less than 6.0 nor greater than 9.0 standard units at any time, unless these values are exceeded due to natural causes or as a result of the approved treatment processes.
  - b. The discharge shall not cause visible discoloration of the receiving waters.
  - c. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.
  - d. The permittee's treatment facility shall maintain a minimum of 85 percent removal of both total suspended solids and 5-day biochemical oxygen demand. The percent removal shall be based on monthly average values.
  - e. When the effluent discharged for a period of 90 consecutive days exceeds 80 percent of the designed flow, the permittee shall submit to the permitting authorities a projection of loadings up to the time when the design capacity of the treatment facility will be reached, and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans.
  - f. The permittee shall analyze its effluent annually for the EPA Priority Pollutants as listed in 40 CFR 122, Appendix D, Tables II and III. These priority pollutant scans shall be coordinated with the 3<sup>rd</sup> quarter bioassay sample and the results of these analyses shall be submitted to the Department of Environmental Management by October 15<sup>th</sup> of each year. All sampling and analysis shall be done in accordance with EPA Regulations, including 40 CFR, Part 136; grab and composite samples shall be taken as appropriate.
  - g. This permit serves as the State's Water Quality Certificate for the discharges described herein.

## **B. BIOMONITORING REQUIREMENTS AND INTERPRETATION OF RESULTS**

### **1. General**

Beginning on the effective date of the permit, the permittee shall perform four (4) acute toxicity tests per year on samples collected from discharge outfall 001A prior to chlorination. The permittee shall conduct the tests during dry weather periods (no rain within forty-eight (48) hours prior to or during sampling unless approved by DEM) according to the following test frequency and protocols. Acute data shall be reported as outlined in Part I.B.9. The State may require additional screening, range finding, definitive acute or chronic bioassays as deemed necessary

based on the results of the initial bioassays required herein. Indications of toxicity could result in requiring a Toxicity Reduction Evaluation (TRE) to investigate the causes and to identify corrective actions necessary to eliminate or reduce toxicity to an acceptable level.

2. Test Frequency

On four (4) sampling events, (one (1) each calendar quarter) the permittee shall conduct forty-eight-hour (48) acute definitive toxicity tests on the specie, listed below, for a total of four (4) acute toxicity tests per year.

<b>Species</b>	<b>Test Type</b>	<b>Frequency</b>
Mysids ( <i>Mysidopsis bahia</i> )	One (1) Species Test Four (4) Times Annually  Definitive 48-Hour Acute Static (LC <sub>50</sub> )	Quarterly

3. Testing Methods

Acute definitive toxicity tests shall be conducted in accordance with protocols listed in 40 CFR Part 136.

4. Sample Collection

For each sampling event a twenty-four- (24) hour flow-proportioned composite effluent sample shall be collected at a location just prior to chlorination during dry weather (no rain forty-eight (48) hours prior to or during sampling unless approved by DEM). This sample shall be kept cool (at 4°C) and testing shall begin within twenty-four (24) hours after the last sample of the composite is collected. In the laboratory, the sample will be split into two (2) subsamples, after thorough mixing, for the following:

- A. Chemical Analysis
- B. Acute Toxicity Testing

All samples held overnight shall be refrigerated at 4°C. Grab samples must be used for pH and temperature.

5. Salinity Adjustment

Prior to the initiation of testing, the effluent must be adjusted to make the salinity of the effluent equal to that of the marine dilution water. The test solution must be prepared by adding non-toxic dried ocean salts to a sufficient quantity of 100% effluent to raise the salinity to the desired level. After the addition of the dried salts, stir gently for thirty (30) to sixty (60) minutes, preferably with a magnetic stirrer, to ensure that the salts are in solution. It is important to check the final salinity with a refractometer or salinometer. Salinity adjustments following this procedure and in accordance with EPA protocol will ensure that the concentrations (% effluent) of each dilution are real and allow for an accurate evaluation with the acute LC<sub>50</sub> ≥ 100% permit limit and acute monitoring requirements.

6. Dilution Water

Dilution water used for marine acute toxicity analyses should be of sufficient quality to meet minimum acceptability of test results (See Part I.B.7). For these tests, natural seawater shall be

used as the dilution water. This water shall be collected from Narragansett Bay off the dock at the URI's Graduate School of Oceanography of South Ferry Road, Narragansett. It is noted that the University claims no responsibility for the personal safety of this dock. The permittee shall observe the rules posted at the dock. If this natural seawater diluent is found to be, or suspected to be toxic or unreliable, an alternate source of natural seawater or, deionized water mixed with hypersaline brine or artificial sea salts of known quality with a salinity and pH similar to that of the receiving water may be substituted AFTER RECEIVING WRITTEN APPROVAL FROM DEM.

7. Effluent Toxicity Test Conditions for Mysids<sup>1</sup> (*Mysidopsis bahia*)

Test conditions are required to be compliant with 40 CFR 136 using the following effluent concentrations:

Five (5) dilutions plus a control: 100%, 50%, 25%, 12.5%, 6.25%, and 0% effluent.

8. Chemical Analysis

The following chemical analysis shall be performed for each sampling event. A sample analyzed as part of the required third-quarter priority pollutant scan may be used to satisfy this sampling requirement.

Parameter	Effluent	Saline Diluent	Detection Limit
pH	√	√	--
Specific Conductance	√	√	--
Total Solids and Suspended Solids	√	√	--
Total Ammonia	√		0.1 mg/l
Total Organic Carbon	√		0.5 mg/l
Free Cyanide <sup>1</sup>	√		0.01 mg/l
Total Phenols	√		0.05 mg/l
Salinity	√	√	PPT (0/00)
Total Aluminum	√	√	5 µg/L
Total Cadmium <sup>2</sup>	√	√	0.1 µg/L
Hexavalent Chromium <sup>3</sup>	√	√	20.0 µg/L
Total Copper <sup>2</sup>	√	√	1.0 µg/L
Total Lead <sup>2</sup>	√	√	1.0 µg/L
Total Zinc <sup>2</sup>	√	√	5.0 µg/L
Total Nickel <sup>2</sup>	√	√	1.0 µg/L

<sup>1</sup> Free cyanide analysis is in addition to the total cyanide analysis that is required as part of the priority pollutant scan.

<sup>2</sup>Priority pollutant.

<sup>3</sup> Hexavalent chromium analysis is in addition to the total chromium analysis that is required as part of the priority pollutant scan.

The above analyses may be used to fulfill, in part or in whole, monitoring requirements in the permit for these specific metals.

During the third calendar quarter bioassay sampling event, the final effluent sample collected during the same twenty-four (24) hour period as the bioassay sample, shall be analyzed for priority pollutants (as listed in Tables II and III of Appendix D of 40 CFR 122). The bioassay

priority pollutant scan shall be a full scan and may be coordinated with the other permit conditions to fulfill any priority pollutant scan requirements.

9. Toxicity Test Report Elements

A report of results will include the following:

- Description of sample collection procedures and site description.
- Names of individuals collecting and transporting samples, times, and dates of sample collection and analysis.
- General description of tests: age of test organisms, origin, dates and results of standard toxicant tests (quality assurance); light and temperature regime; dilution water description; other information and test conditions if different than procedures recommended.
- The method used to adjust the salinity of the effluent must be reported.
- All chemical and physical data generated (include detection limits).
- Raw data and bench sheets.
- Any other observations or test conditions affecting test outcome.

Toxicity test data shall include the following:

- Survival for each concentration and replication at time twenty-four (24) and forty-eight (48) hours.
- LC<sub>50</sub> and 95% confidence limits shall be calculated using one of the following methods in order of preference: Probit, Trimmed Spearman Karber, Moving Average Angle, or the graphical method. All printouts (along with the name of the program, the date, and the author(s)) and graphical displays must be submitted. When data is analyzed by hand, worksheets should be submitted. The report shall also include the No Observed Acute Effect Level (NOAEL) which is defined as the highest concentration of the effluent (in % effluent) in which 90% or more of the test animals survive.
- The Probit, Trimmed Spearman Karber, and Moving Average Angle methods of analyses can only be used when mortality of some of the test organisms are observed in at least two (2) of the (percent effluent) concentrations tested (i.e., partial mortality). If a test results in a 100% survival and a 100% mortality in adjacent treatments ("all or nothing" effect), an LC<sub>50</sub> may be estimated using the graphical method.

10. Special Condition

Due to the fact that the suggested dilution water for this facility to use in conducting the bioassays is from the end of the dock at the URI's Narragansett Bay Campus, a Letter of Agreement must be signed and submitted to the Graduate School of Oceanography granting authorization to collect samples. Requests to use another source of dilution water will have to be approved by the Department of Environmental Management, Office of Water Resources.

11. Species Sensitivity Screening Report.



For four (4) quarters of the permit beginning the third year of the permit ( ), the permittee shall conduct a chronic species sensitivity screening for the discharge. Species sensitivity screening for chronic toxicity shall include, at minimum, chronic toxicity testing for four consecutive calendar quarters using 40 CFR Part 136 approved methods for mysid (*Mysidopsis bahia*), sea urchin (*Arbacia punctulate*), and fish (*Menidia beryllina*). Samples shall be obtained from the effluent collected prior to chlorination during dry weather periods (no rain within forty-eight (48) hours prior to or during sampling unless approved by DEM).

If only a single species in the species sensitivity screening testing exceeds 1 chronic Toxic Unit (TUc) (as 100/NOEC), then that species shall be established as the most sensitive species. If there are more than one species that exceed 1 TUc (as 100/NOEC), then the species with the highest TUc (as 100/NOEC) shall be established as the most sensitive species. DEM shall have final discretion to determine which species is the most sensitive considering the test results from the species sensitivity screening.

Test No.	Quarter Screening is to be Performed
1	( )
2	( )
3	( )
4	( )

The final Species Sensitivity Screening Report shall include all the elements required under Part I.B.9 for each quarterly test and shall be submitted to DEM by .

12. Reporting of Bioassay Testing

Bioassay Testing shall be conducted as follows:

Quarter Testing to be Performed	Report Due No Later Than	Results Submitted on DMR for
January 1 – March 31	April 15	March
April 1 – June 30	July 15	June
July 1 – September 30	October 15	September
October 1 – December 31	January 15	December

Reports shall be maintained by the permittee and shall be made available upon request by DEM.

**C. INDUSTRIAL USERS**

1. Within 90 days of the effective date of the permit, the Permittee shall submit an Industrial User Evaluation with the name of any Industrial User (IU):
  - Subject to Categorical Pretreatment Standards under 40 CFR § 403.6 and 40 CFR chapter I, subchapter N (Parts 405-415, 417-430, 432, 447, 449- 451, 454, 455, 457-461, 463-469, and 471 as amended) who discharge to the facility.

- Other users that discharge an average of 25,000 gallons per day or more of process wastewater into the facility (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contribute a process wastewater which makes up five (5) percent or more of the average dry weather hydraulic or organic capacity of the facility; or has a reasonable potential to adversely affect the wastewater treatment facility's operation, or for violating any pretreatment standard or requirement (in accordance with 40 CFR § 403.8(f)(6)).

New dischargers shall be submitted 30 days prior to discharge.

## 2. Monitoring and Reporting for Emerging Contaminants

The Permittee shall commence annual sampling of the below-listed types of industrial discharges into the POTW. PFAS sampling requirements do not apply to any below-listed industries that only discharge sanitary waste. PFAS shall be analyzed using Clean Water Act wastewater draft analytical method 1633 until a 40 CFR Part 136 approved test method for wastewater is made available to the public.

- Platers/Metal Finishers
- Paper and Packaging Manufacturers
- Tanneries and Leather/Fabric/Carpet Treaters
- Manufacturers of Parts with Polytetrafluorethylene (PTFE) or Teflon type coatings (i.e. bearings)
- Landfill Leachate
- Centralized Waste Treaters
- Contaminated Sites
- Fire Fighting Training Facilities
- Airports
- Any Other Known or Expected Sources of PFAS

Sampling shall be for the PFAS analytes shown in Attachment A.

The industrial discharges sampled, and the sampling results (including the full lab report) shall be summarized and submitted as an electronic attachment to the March discharge monitoring report due April 15<sup>th</sup> of the calendar year following the testing. In the case that there are no relevant dischargers, the annual submittal must include a description of the process used to determine that there were no relevant dischargers. If the first year's PFAS sampling is not completed by the due date of the above April 15<sup>th</sup> due date, the annual submittal shall include a listing of the relevant dischargers along with the anticipated sample date within one year of **this permit's effective date**.

## D. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

Operation and maintenance of the sewer system shall be in compliance with the General Requirements of Part II and the following terms and conditions:

### 1. Maintenance Staff

The permittee shall provide an adequate staff to carry out the operation, maintenance, repair, and testing functions required to ensure compliance with the terms and conditions of this permit.

2. Infiltration/Inflow

The permittee shall minimize infiltration/inflow to the sewer system. A summary report of all actions taken to minimize infiltration/inflow during the previous six (6) months shall be submitted to DEM, Office of Water Resources, by the 15<sup>th</sup> day of January and July of each year. The first report is due                     , 20    .

3. Resiliency Planning

Within one year of the effective date of this permit, the Town shall submit a Resiliency Plan and schedule of short- and long-term actions that will be taken to maintain, operate, and protect key collection and treatment system assets. The plan shall be consistent with the most current version of DEM's Guidance for the Consideration of Climate Change Impacts in the Planning and Design of Municipal Wastewater Collection and Treatment Infrastructure and include consideration of the findings of the 2017 DEM report Implications of Climate Change for Rhode Island Wastewater Collection and Treatment Infrastructure. The Resiliency Plan shall include, but not be limited to: (i) an assessment of current and projected impacts from natural hazards on critical components within the Town's collection and treatment systems, as well as on the systems themselves; (ii) a plan to adapt and protect vulnerable components and systems; (iii) an analysis that provides justification for selected adaptation methods, including relevant cost-benefit analyses. The overall analysis must consider component and system design life and sea-level rise projections. For the purposes of this Resiliency Plan, critical components are considered those necessary to ensure the forward flow and treatment of wastewater in accordance with the limits set forth in this permit. The Resiliency Plan shall also consider impacts—such as debris carried in high winds—on the Town's treatment facility and wastewater collection system from neighboring facilities during high hazard events. This Plan shall be subject to DEM review and approval. If DEM determines that modifications need to be made to the Plan, DEM shall notify the permittee in writing which elements of the Plan need to be modified and the reason for the needed modification. This notification shall include a schedule for making required changes. After such notification from the DEM, the permittee shall make changes to the Plan and submit the revisions to the DEM for their approval.

4. Outfall Inspection

- a. The outfall pipe and associated effluent diffuser shall be maintained to ensure proper operation. Proper operation means that the outfall pipe be intact, operating as designed, and have unobstructed flow and that the plumes from each discharge port are balanced relative to each other. Maintenance may include dredging in the vicinity of the diffuser, removal of solids and debris in the diffuser header pipe, and repair/replacement.
- b. To determine if maintenance will be required, the Permittee shall inspect and videotape the operation of the outfall pipe/diffuser either remotely or using a qualified diver or marine contractor. Within one (1) year of the effective date of this permit, the Permittee shall inspect and videotape the operation of the outfall pipe/diffuser and submit to the DEM a video of the diffuser/outfall pipe inspection along with copies of reports summarizing the results of the diffuser/outfall pipe inspection. Where it is determined that maintenance will be necessary, the Permittee shall provide the proposed schedule for the maintenance along with the results of the inspection.

- c. Any necessary maintenance dredging must be performed only after receiving all necessary permits from DEM, Coastal Resources Management Council, U.S. Coast Guard, U.S. Army Corps of Engineers, and other appropriate agencies.

**E. SLUDGE**

The permittee shall conform and adhere to all conditions, practices and regulations as contained in the State of Rhode Island Rules and Regulations for the Treatment, Disposal, Utilization and Transportation of Sewage Sludge (250-RICR-150-10-3). The permittee shall comply with its DEM Order of Approval for the disposal of sludge.

**F. DETECTION LIMITS**

All analyses of parameters under this permit must comply with the National Pollutant Discharge Elimination System (NPDES): *Use of Sufficiently Sensitive Test Methods for Permit Applications and Reporting* rule. Only sufficiently sensitive test methods may be used for analysis of parameters under this permit. The permittee shall assure that all wastewater testing required by this permit, is performed in conformance with the method detection limits listed below. All sludge testing required by this permit shall be in conformance with the method detection limits found in 40 CFR 503.8. In accordance with 40 CFR Part 136, EPA approved analysis techniques, quality assurance procedures and quality control procedures shall be followed for all reports required to be submitted under the RIPDES program. These procedures are described in "Methods for the Determination of Metals in Environmental Samples" (EPA/600/4-91/010) and "Methods for Chemical Analysis of Water and Wastes" (EPA/600/4-79/020).

The report entitled "Methods for the Determination of Metals in Environmental Samples" includes a test which must be performed in order to determine if matrix interferences are present, and a series of tests to enable reporting of sample results when interferences are identified. Each step of the series of tests becomes increasingly complex, concluding with the complete Method of Standard Additions analysis. The analysis need not continue once a result which meets the applicable quality control requirements has been obtained. Documentation of all steps conducted to identify and account for matrix interferences shall be submitted along with the monitoring reports.

If, after conducting the complete Method of Standard Additions analysis, the laboratory is unable to determine a valid result, the laboratory shall report "could not be analyzed". Documentation supporting this claim shall be submitted along with the monitoring report. If valid analytical results are repeatedly unobtainable, DEM may require that the permittee determine a method detection limit (MDL) for their effluent or sludge as outlined in 40 CFR Part 136, Appendix B.

Therefore, all sample results shall be reported as: an actual value, "could not be analyzed", less than the reagent water MDL, or less than an effluent or sludge specific MDL. The effluent or sludge specific MDL must be calculated using the methods outlined in 40 CFR Part 136, Appendix B. Samples which have been diluted to ensure that the sample concentration will be within the linear dynamic range shall not be diluted to the extent that the analyte is not detected. If this should occur the analysis shall be repeated using a lower degree of dilution.

When calculating sample averages for reporting on discharge monitoring reports (DMRs):

- a. "could not be analyzed" data shall be excluded, and shall not be considered as failure to comply with the permit sampling requirements;
- b. results reported as less than the MDL shall be included as zeros

**LIST OF TOXIC POLLUTANTS**

The following list of toxic pollutants has been designated pursuant to Section 307(a)(1) of the Clean Water Act. The Method Detection Limits (MDLs) represent the required Rhode Island MDLs.

<b>Volatiles - EPA Method 624</b>		<b>MDL µg/l (ppb)</b>	<b>Pesticides - EPA Method 608</b>		<b>MDL µg/l (ppb)</b>
1V	acrolein	10.0	18P	PCB-1242	0.289
2V	acrylonitrile	5.0	19P	PCB-1254	0.298
3V	benzene	1.0	20P	PCB-1221	0.723
5V	bromoform	1.0	21P	PCB-1232	0.387
6V	carbon tetrachloride	1.0	22P	PCB-1248	0.283
7V	chlorobenzene	1.0	23P	PCB-1260	0.222
8V	chlorodibromomethane	1.0	24P	PCB-1016	0.494
9V	chloroethane	1.0	25P	toxaphene	1.670
10V	2-chloroethylvinyl ether	5.0	<b>Base/Neutral - EPA Method 625</b>		<b>MDL µg/l (ppb)</b>
11V	chloroform	1.0	1B	acenaphthene *	1.0
12V	dichlorobromomethane	1.0	2B	acenaphthylene *	1.0
14V	1,1-dichloroethane	1.0	3B	anthracene *	1.0
15V	1,2-dichloroethane	1.0	4B	benzidine	4.0
16V	1,1-dichloroethylene	1.0	5B	benzo(a)anthracene *	2.0
17V	1,2-dichloropropane	1.0	6B	benzo(a)pyrene *	2.0
18V	1,3-dichloropropylene	1.0	7B	3,4-benzofluoranthene *	1.0
19V	ethylbenzene	1.0	8B	benzo(ghi)perylene *	2.0
20V	methyl bromide	1.0	9B	benzo(k)fluoranthene *	2.0
21V	methyl chloride	1.0	10B	bis(2-chloroethoxy)methane	2.0
22V	methylene chloride	1.0	11B	bis(2-chloroethyl)ether	1.0
23V	1,1,2,2-tetrachloroethane	1.0	12B	bis(2-chloroisopropyl)ether	1.0
24V	tetrachloroethylene	1.0	13B	bis(2-ethylhexyl)phthalate	1.0
25V	toluene	1.0	14B	4-bromophenyl phenyl ether	1.0
26V	1,2-trans-dichloroethylene	1.0	15B	butylbenzyl phthalate	1.0
27V	1,1,1-trichloroethane	1.0	16B	2-chloronaphthalene	1.0
28V	1,1,2-trichloroethane	1.0	17B	4-chlorophenyl phenyl ether	1.0
29V	trichloroethylene	1.0	18B	chrysene *	1.0
31V	vinyl chloride	1.0	19B	dibenzo (a,h)anthracene *	2.0
<b>Acid Compounds - EPA Method 625</b>		<b>MDL µg/l (ppb)</b>	20B	1,2-dichlorobenzene	1.0
1A	2-chlorophenol	1.0	21B	1,3-dichlorobenzene	1.0
2A	2,4-dichlorophenol	1.0	22B	1,4-dichlorobenzene	1.0
3A	2,4-dimethylphenol	1.0	23B	3,3 <sup>1</sup> -dichlorobenzidine	2.0
4A	4,6-dinitro-o-cresol	1.0	24B	diethyl phthalate	1.0
5A	2,4-dinitrophenol	2.0	25B	dimethyl phthalate	1.0
6A	2-nitrophenol	1.0	26B	di-n-butyl phthalate	1.0
7A	4-nitrophenol	1.0	27B	2,4-dinitrotoluene	2.0
8A	p-chloro-m-cresol	2.0	28B	2,6-dinitrotoluene	2.0
9A	pentachlorophenol	1.0	29B	di-n-octyl phthalate	1.0
10A	phenol	1.0	30B	1,2-diphenylhydrazine	1.0
11A	2,4,6-trichlorophenol	1.0		(as azobenzene)	
<b>Pesticides - EPA Method 608</b>		<b>MDL µg/l (ppb)</b>	31B	fluoranthene *	1.0
1P	aldrin	0.059	32B	fluorene *	1.0
2P	alpha-BHC	0.058	33B	hexachlorobenzene	1.0
3P	beta-BHC	0.043	34B	hexachlorobutadiene	1.0
4P	gamma-BHC	0.048	35B	hexachlorocyclopentadiene	2.0
5P	delta-BHC	0.034	36B	hexachloroethane	1.0
6P	chlordanes	0.211	37B	indeno(1,2,3-cd)pyrene *	2.0
7P	4,4'-DDT	0.251	38B	isophorone	1.0
8P	4,4'-DDE	0.049	39B	naphthalene *	1.0
9P	4,4'-DDD	0.139	40B	nitrobenzene	1.0
10P	dieldrin	0.082	41B	N-nitrosodimethylamine	1.0
11P	alpha-endosulfan	0.031	42B	N-nitrosodi-n-propylamine	1.0
12P	beta-endosulfan	0.036	43B	N-nitrosodiphenylamine	1.0
13P	endosulfan sulfate	0.109	44B	phenanthrene *	1.0
14P	endrin	0.050	45B	pyrene *	1.0
15P	endrin aldehyde	0.062	46B	1,2,4-trichlorobenzene	1.0
16P	heptachlor	0.029			
17P	heptachlor epoxide	0.040			

\* Polynuclear Aromatic Hydrocarbons

## OTHER TOXIC POLLUTANTS

	MDL µg/l (ppb)
Antimony, Total	3.0
Arsenic, Total	1.0
Beryllium, Total	0.2
Cadmium, Total	0.1
Chromium, Total	5.0
Chromium, Hexavalent	20.0
Copper, Total	20.0
Lead, Total	3.0
Mercury, Total	0.5
Nickel, Total	10.0
Selenium, Total	5.0
Silver, Total	1.0
Thallium, Total	5.0
Zinc, Total	20.0
Asbestos	**
Cyanide, Free Available	10.0
Phenols, Total	50.0
TCDD	**
MTBE (Methyl Tert Butyl Ether)	1.0
Aluminum, Total	5.0

\*\* No Rhode Island Department of Environmental Management (DEM) MDL

### NOTE:

The MDL for a given analyte may vary with the type of sample. MDLs which are determined in reagent water may be lower than those determined in wastewater due to fewer matrix interferences. Wastewater is variable in composition and may therefore contain substances (interferents) that could affect MDLs for some analytes of interest. Variability in instrument performance can also lead to inconsistencies in determinations of MDLs.

To help verify the absence of matrix or chemical interference the analyst is required to complete specific quality control procedures. For the metals analyses listed above the analyst must withdraw from the sample two equal aliquots; to one aliquot add a known amount of analyte, and then dilute both to the same volume and analyze. The unspiked aliquot multiplied by the dilution factor should be compared to the original. Agreement of the results within 10% indicates the absence of interference. Comparison of the actual signal from the spiked aliquot to the expected response from the analyte in an aqueous standard should help confirm the finding from the dilution analysis. (Methods for Chemical Analysis of Water and Wastes EPA-600/4-79/020).

For Methods 624 and 625 the laboratory must on an ongoing basis, spike at least 5% of the samples from each sample site being monitored. For laboratories analyzing 1 to 20 samples per month, at least one spiked sample per month is required. The spike should be at the discharge permit limit or 1 to 5 times higher than the background concentration determined in Section 8.3.2, whichever concentration would be larger. (40 CFR Part 136 Appendix B Method 624 and 625 subparts 8.3.1 and 8.3.11).

## G. MONITORING AND REPORTING

The monitoring program in the permit specifies sampling and analysis, which will provide continuous information on compliance and the reliability and effectiveness of the installed pollution abatement equipment. The approved analytical procedures found in 40 CFR Part 136 are required unless other procedures are explicitly required in the permit. The Permittee is obligated to monitor and report sampling results to the DEM within the time specified within the permit.

Unless otherwise specified in this permit, the permittee shall submit reports, requests, and information and provide notices in the manner described in this section.

### 1. Submittal of DMRs Using NetDMR

The permittee shall continue to submit its monthly monitoring data in discharge monitoring reports (DMRs) to DEM no later than the 15th day of the month electronically using NetDMR. When the permittee submits DMRs using NetDMR, it is not required to submit hard copies of DMRs to DEM.

### 2. Submittal of Reports as NetDMR Attachments

Unless otherwise specified in this permit, the permittee must submit electronic copies of documents in NetDMR that are directly related to the DMR. These include the following:

- DMR Cover Letters
- Below Detection Limit summary tables
- Monthly Operating Reports

*All other reports (i.e. I/I reports, Priority Pollutant Scans, etc.) should be submitted to DEM hard copy via regular US mail (see Part I.F.3 below).*

### 3. Submittal of Unauthorized Discharges Using NeT-SewerOverflow

The permittee shall submit, as needed to comply with Part II of this permit, written notice of unauthorized discharges, including Sanitary Sewer Overflow (SSO) reporting, bypasses, dry weather CSO reporting, extreme event, and anticipated bypasses using NeT-SewerOverflow. The permittee is not required to submit hard copies of these reports to DEM.

### 4. Submittal of Requests and Reports to DEM

The following requests, reports, and information described in this permit shall be submitted to the DEM.

- A. Transfer of Permit notice
- B. Request for changes in sampling location
- C. Request for reduction in testing frequency
- D. Request for reduction in WET testing requirement
- E. Report on unacceptable dilution water / request for alternative dilution water for WET testing

These reports, information, and requests shall be submitted to DEM by hard copy mail to the following address:

Rhode Island Department of Environmental Management  
RIPDES Program  
235 Promenade Street  
Providence, RI 02908

4. Submittal of Reports in Hard Copy Form

The following notifications and reports shall be submitted as hard copy with a cover letter describing the submission. These reports shall be signed and dated originals submitted to DEM.

- A. Written notifications required under Part II (as needed) other than those required to be submitted using NeT-SewerOverflow as described Part I.G.3 above.
- B. Priority Pollutant Scan results (October 15 each year)
- C. Species Sensitivity Report ( [REDACTED] )
- D. Infiltration/Inflow Reports (January 15 and July 15 each year)
- E. Resiliency Plan ( [REDACTED] )
- F. Outfall Inspection Report ( [REDACTED] )
- G. Industrial Users Evaluation ( [REDACTED] )
- H. PFAS Industrial Users Sampling Results (April 15 each year)

This information shall be submitted to DEM at the following address:

Rhode Island Department of Environmental Management  
RIPDES Program  
235 Promenade Street  
Providence, Rhode Island 02908

5. Verbal Reports and Verbal Notifications

Any verbal reports or verbal notifications, if required in Parts I and/or II of this permit, shall be made to the DEM. This includes verbal reports and notifications which require reporting within 24 hours. (See Part II.(I)(5) General Requirements for 24-hour reporting) Verbal reports and verbal notifications shall be made to DEM at (401) 222-4700 or (401) 222-3070 at night.



**Part II**

PART II  
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DEFINITIONS

## GENERAL REQUIREMENTS

(a) Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Chapter 46-12 of the Rhode Island General Laws and the Clean Water Act (CWA) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

- (1) The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
- (2) The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA is subject to a civil penalty not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing Sections 301, 302, 306, 307 or 308 of the Act is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment of not more than 1 year, or both.
- (3) Chapter 46-12 of the Rhode Island General Laws provides that any person who violates a permit condition is subject to a civil penalty of not more than \$5,000 per day of such violation. Any person who willfully or negligently violates a permit condition is subject to a criminal penalty of not more than \$10,000 per day of such violation and imprisonment for not more than 30 days, or both. Any person who knowingly makes any false statement in connection with the permit is subject to a criminal penalty of not more than \$5,000 for each instance of violation or by imprisonment for not more than 30 days, or both.

(b) Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The permittee shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Director. (The Director shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

(c) Need to Halt or Reduce Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(d) Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

(e) Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures, and, where applicable, compliance with DEM "Rules and Regulations Pertaining to the Operation and Maintenance of Wastewater Treatment Facilities" and "Rules and Regulations Pertaining to the Disposal and Utilization of Wastewater Treatment Facility Sludge." This provision requires the operation of back-up or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of the permit.

(f) Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause, including but not limited to: (1) Violation of any terms or conditions of this permit; (2) Obtaining this permit by misrepresentation or failure to disclose all relevant facts; or (3) A change in any conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

(g) Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege.

(h) Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

(i) Inspection and Entry

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- (1) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- (2) Have access to and copy, at reasonable times any records that must be kept under the conditions of this permit;
- (3) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and

- (4) Sample or monitor any substances or parameters at any location, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA or Rhode Island law.

(j) Monitoring and Records

- (1) Samples and measurements taken for the purpose of monitoring shall be representative of the volume and nature of the discharge over the sampling and reporting period.
- (2) The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings from continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 5 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.
- (3) Records of monitoring information shall include:
  - (i) The date, exact place, and time of sampling or measurements;
  - (ii) The individual(s) who performed the sampling or measurements;
  - (iii) The date(s) analyses were performed;
  - (iv) The individual(s) who performed the analyses;
  - (v) The analytical techniques or methods used; and
  - (vi) The results of such analyses.
- (4) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136 and applicable Rhode Island regulations, unless other test procedures have been specified in this permit.
- (5) The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall upon conviction, be punished by a fine of not more than \$10,000 per violation or by imprisonment for not more than 6 months per violation or by both. Chapter 46-12 of the Rhode Island General Laws also provides that such acts are subject to a fine of not more than \$5,000 per violation, or by imprisonment for not more than 30 days per violation, or by both.
- (6) Monitoring results must be reported on a Discharge Monitoring Report (DMR).
- (7) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR Part 136, applicable State regulations, or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

(k) Signatory Requirement

All applications, reports, or information submitted to the Director shall be signed and certified in accordance with 250-RICR-150-10-1.12 of the Rhode Island Pollutant Discharge Elimination System (RIPDES) Regulations. Rhode Island General Laws, Chapter 46-12 provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$5,000 per violation, or by imprisonment for not more than 30 days per violation, or by both.

(l) Reporting Requirements

- (1) Planned changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility.
- (2) Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with the permit requirements.
- (3) Transfers. This permit is not transferable to any person except after written notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under State and Federal law.
- (4) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.
- (5) Twenty-four hour reporting. The permittee shall immediately report any noncompliance which may endanger health or the environment by calling DEM at (401) 222-4700 or (401) 222-3070 at night.

A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The following information must be reported immediately:

- (i) Any unanticipated bypass which causes a violation of any effluent limitation in the permit; or
- (ii) Any upset which causes a violation of any effluent limitation in the permit; or
- (iii) Any violation of a maximum daily discharge limitation for any of the pollutants specifically listed by the Director in the permit.

The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

- (6) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (1), (2), and (5), of this section, at the time monitoring reports are submitted. The reports shall contain the information required in paragraph (1)(5) of the section.
- (7) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, they shall promptly submit such facts or information.

(m) Bypass

"Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

- (1) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (2) and (3) of this section.
- (2) Notice.
  - (i) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten (10) days before the date of the bypass.
  - (ii) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in 250-RICR-150-10-1.14(R) of the RIPDES Regulations.
- (3) Prohibition of bypass.
  - (i) Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:
    - (A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage, where "severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production;
    - (B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
    - (C) The permittee submitted notices as required under paragraph (2) of this section.

- (ii) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph (3)(i) of this section.

(n) Upset

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

- (1) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph (2) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- (2) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
  - (a) An upset occurred and that the permittee can identify the cause(s) of the upset;
  - (b) The permitted facility was at the time being properly operated;
  - (c) The permittee submitted notice of the upset as required in 250-RICR-150-10-1.14(R) of the RIPDES Regulations; and
  - (d) The permittee complied with any remedial measures required under 250-RICR-150-10-1.14(E) of the RIPDES Regulations.
- (3) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

(o) Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit. Discharges which cause a violation of water quality standards are prohibited. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, production increases, or process modifications which will result in new, different or increased discharges of pollutants must be reported by submission of a new NPDES application at least 180 days prior to commencement of such discharges, or if such changes will not violate the effluent limitations specified in this permit, by notice, in writing, to the Director of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.



Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by the permit constitutes a violation.

(p) Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner consistent with applicable Federal and State laws and regulations including, but not limited to the CWA and the Federal Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq., Rhode Island General Laws, Chapters 46-12, 23-19.1 and regulations promulgated thereunder.

(q) Power Failures

In order to maintain compliance with the effluent limitation and prohibitions of this permit, the permittee shall either:

In accordance with the Schedule of Compliance contained in Part I, provide an alternative power source sufficient to operate the wastewater control facilities;

or if such alternative power source is not in existence, and no date for its implementation appears in Part I,

Halt reduce or otherwise control production and/or all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.

(r) Availability of Reports

Except for data determined to be confidential under paragraph (w) below, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the DEM, 235 Promenade Street, Providence, Rhode Island 02908. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the CWA and under Section 46-12-14 of the Rhode Island General Laws.

(s) State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law.

(t) Other Laws

The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, nor does it relieve the permittee of its obligation to comply with any other applicable Federal, State, and local laws and regulations.

(u) Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

(v) Reopener Clause

The Director reserves the right to make appropriate revisions to this permit in order to incorporate any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the CWA or State law. In accordance with 250-RICR-150-10-1.16 and 250-RICR-150-10-1.24 of the RIPDES Regulations, if any effluent standard or prohibition, or water quality standard is promulgated under the CWA or under State law which is more stringent than any limitation on the pollutant in the permit, or controls a pollutant not limited in the permit, then the Director may promptly reopen the permit and modify or revoke and reissue the permit to conform to the applicable standard.

(w) Confidentiality of Information

(1) Any information submitted to DEM pursuant to these regulations may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, DEM may make the information available to the public without further notice.

(2) Claims of confidentiality for the following information will be denied:

- (i) The name and address of any permit applicant or permittee;
- (ii) Permit applications, permits and any attachments thereto; and
- (iii) NPDES effluent data.

(x) Best Management Practices

The permittee shall adopt Best Management Practices (BMP) to control or abate the discharge of toxic pollutants and hazardous substances associated with or ancillary to the industrial manufacturing or treatment process and the Director may request the submission of a BMP plan where the Director determines that a permittee's practices may contribute significant amounts of such pollutants to waters of the State.

(y) Right of Appeal

Within thirty (30) days of receipt of notice of a final permit decision, the permittee or any interested person may submit a request to the Director for an adjudicatory hearing to reconsider or contest that decision. The request for a hearing must conform to the requirements of 250-RICR-150-10-1.50 of the RIPDES Regulations.

**DEFINITIONS**

1. For purposes of this permit, those definitions contained in the RIPDES Regulations and the Rhode Island Pretreatment Regulations shall apply.
2. The following abbreviations, when used, are defined below.

cu. M/day or M <sup>3</sup> /day	cubic meters per day
mg/l	milligrams per liter
ug/l	micrograms per liter
lbs/day	pounds per day
kg/day	kilograms per day
Temp. °C	temperature in degrees Centigrade
Temp. °F	temperature in degrees Fahrenheit
Turb.	turbidity measured by the Nephelometric Method (NTU)
TNFR or TSS	total nonfilterable residue or total suspended solids
DO	dissolved oxygen
BOD	five-day biochemical oxygen demand unless otherwise specified
TKN	total Kjeldahl nitrogen as nitrogen
Total N	total nitrogen
NH <sub>3</sub> -N	ammonia nitrogen as nitrogen
Total P	total phosphorus
COD	chemical oxygen demand
TOC	total organic carbon
Surfactant	surface-active agent
pH	a measure of the hydrogen ion concentration
PCB	polychlorinated biphenyl
CFS	cubic feet per second
MGD	million gallons per day
Oil & Grease	Freon extractable material
Total Coliform	total coliform bacteria
Fecal Coliform	total fecal coliform bacteria
ml/l	milliliter(s) per liter
NO <sub>3</sub> -N	nitrate nitrogen as nitrogen
NO <sub>2</sub> -N	nitrite nitrogen as nitrogen
NO <sub>3</sub> -NO <sub>2</sub>	combined nitrate and nitrite nitrogen as nitrogen
Cl <sub>2</sub>	total residual chlorine

## Attachment A PFAS Analyte List

Target Analyte Name	Abbreviation	CAS Number
<b>Perfluoroalkyl carboxylic acids</b>		
Perfluorobutanoic acid	PFBA	375-22-4
Perfluoropentanoic acid	PFPeA	2706-90-3
Perfluorohexanoic acid	PFHxA	307-24-4
Perfluoroheptanoic acid	PFHpA	375-85-9
Perfluorooctanoic acid	PFOA	335-67-1
Perfluorononanoic acid	PFNA	375-95-1
Perfluorodecanoic acid	PFDA	335-76-2
Perfluoroundecanoic acid	PFUnA	2058-94-8
Perfluorododecanoic acid	PFDoA	307-55-1
Perfluorotridecanoic acid	PFTTrDA	72629-94-8
Perfluorotetradecanoic acid	PFTeDA	376-06-7
<b>Perfluoroalkyl sulfonic acids</b>		
<b>Acid Form</b>		
Perfluorobutanesulfonic acid	PFBS	375-73-5
Perfluoropentanesulfonic acid	PFPeS	2706-91-4
Perfluorohexanesulfonic acid	PFHxS	355-46-4
Perfluoroheptanesulfonic acid	PFHpS	375-92-8
Perfluorooctanesulfonic acid	PFOS	1763-23-1
Perfluorononanesulfonic acid	PFNS	68259-12-1
Perfluorodecanesulfonic acid	PFDS	335-77-3
Perfluorododecanesulfonic acid	PFDoS	79780-39-5
<b>Fluorotelomer sulfonic acids</b>		
1H,1H, 2H, 2H-Perfluorohexane sulfonic acid	4:2FTS	757124-72-4
1H,1H, 2H, 2H-Perfluorooctane sulfonic acid	6:2FTS	27619-97-2
1H,1H, 2H, 2H-Perfluorodecane sulfonic acid	8:2FTS	39108-34-4
<b>Perfluorooctane sulfonamides</b>		
Perfluorooctanesulfonamide	PFOSA	754-91-6
N-methyl perfluorooctanesulfonamide	NMeFOSA	31506-32-8
N-ethyl perfluorooctanesulfonamide	NEtFOSA	4151-50-2
<b>Perfluorooctane sulfonamidoacetic acids</b>		
N-methyl perfluorooctanesulfonamidoacetic acid	NMeFOSAA	2355-31-9
N-ethyl perfluorooctanesulfonamidoacetic acid	NEtFOSAA	2991-50-6
<b>Perfluorooctane sulfonamide ethanols</b>		
N-methyl perfluorooctanesulfonamidoethanol	NMeFOSE	24448-09-7
N-ethyl perfluorooctanesulfonamidoethanol	NEtFOSE	1691-99-2
<b>Per- and Polyfluoroether carboxylic acids</b>		
Hexafluoropropylene oxide dimer acid	HFPO-DA	13252-13-6
4,8-Dioxa-3H-perfluorononanoic acid	ADONA	919005-14-4

Target Analyte Name	Abbreviation	CAS Number
Perfluoro-3-methoxypropanoic acid	PFMPA	377-73-1
Perfluoro-4-methoxybutanoic acid	PFMBA	863090-89-5
Nonafluoro-3,6-dioxaheptanoic acid	NFDHA	151772-58-6
<b>Ether sulfonic acids</b>		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	9Cl-PF3ONS	756426-58-1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	11Cl-PF3OUdS	763051-92-9
Perfluoro(2-ethoxyethane)sulfonic acid	PFEESA	113507-82-7
<b>Fluorotelomer carboxylic acids</b>		
3-Perfluoropropyl propanoic acid	3:3FTCA	356-02-5
2H,2H,3H,3H-Perfluorooctanoic acid	5:3FTCA	914637-49-3
3-Perfluoroheptyl propanoic acid	7:3FTCA	812-70-4

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
235 PROMENADE STREET  
PROVIDENCE, RHODE ISLAND 02908-5767

**FACT SHEET**

RHODE ISLAND POLLUTANT DISCHARGE ELIMINATION SYSTEM (RIPDES) PERMIT TO DISCHARGE  
TO WATERS OF THE STATE

**RIPDES PERMIT NO. RI0100366**

**NAME AND ADDRESS OF APPLICANT:**

Town of Jamestown  
P.O. Box 377  
Jamestown, Rhode Island 02835

**NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:**

Jamestown Wastewater Treatment Facility  
Taylor Point  
Jamestown, Rhode Island 02835

**RECEIVING WATER:** East Passage  
**WBID:** RI0007029E-01F  
**CLASSIFICATION:** SB1

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**I. Proposed Action, Type of Facility, and Discharge Location**

The above-named applicant has applied to the Rhode Island Department of Environmental Management for reissuance of a RIPDES Permit to discharge into the designated receiving water. The facility is engaged in the treatment of domestic and commercial sewage. The discharge to the East Passage of Narragansett Bay is from the Jamestown Wastewater Treatment Facility (WWTF) at Outfall 001A. The latitude / longitude coordinates of the outfall are 41.507306, -71.35775 which is approximately 350 feet from shore, and is located in water approximately 50 feet deep at low tide. Site layout and process diagrams of the facility are shown in Attachment A.

**II. Description of Discharge**

A quantitative description of the discharge in terms of significant effluent parameters based on the facility's Discharge Monitoring Report (DMR) data from January 1, 2017 to June 2023 is shown on Attachment B.

**III. Permit Limitations and Conditions**

The final effluent limitations and monitoring requirements may be found in the permit.

**IV. Permit Basis and Explanation of Effluent Limitation Derivation**

**Variations, Alternatives, and Justifications for Waivers of Application Requirements**

No variances or alternatives to required standards were requested or granted. No waivers were requested or granted for any application requirements per 40 CFR §122.21(j) or (q).

**Facility Description**

The Town of Jamestown owns and operates the Wastewater Treatment Facility located on at Taylor Point in Jamestown, Rhode Island. The discharge to the East Passage of Narragansett Bay consists of treated sewage contributed by the municipality of Jamestown.

Treatment consists of coarse screening, grit removal using an aerated grit chamber, extended aeration, secondary clarification, and chlorination.

The Jamestown WWTF's most recent RIPDES permit, authorizing discharges from the above-mentioned facility, was issued on December 16, 2016. This permit became effective on January 1, 2017 and expired on January 1, 2022. The facility submitted an application for permit reissuance to the DEM on April 9, 2021, which was resubmitted on May 20, 2021 in response to DEM's comments on the April 9, 2021 application. On June 1, 2021, the DEM issued an application complete letter to the facility. In accordance with 250-RICR-150-10-1 §13 of the Regulations for the Rhode Island Pollutant Discharge Elimination System, the facility's 2017 permit remains in effect since the DEM has determined that a timely and complete permit application was submitted. Once this permit is reissued, it will supersede the 2017 permit.

The Jamestown WWTF does not have an industrial pretreatment program. The facility accepts septage for treatment.

**Receiving Water Description**

The waterbody segment for the area of Narragansett Bay into which the discharge takes place is waterbody ID #: RI0007029E-01F and is located in Jamestown, Rhode Island. This segment is delineated by East Passage waters in the vicinity of Taylor Point which are within a 300-foot radius of the Jamestown WWTF outfall. This segment is not listed as impaired on DEM's March 2022 Integrated Report. Impaired waters include those where TMDLs are required (i.e., Category 5 Waters or 303d List of Impaired Waters) and those where TMDLs are not required (i.e., Category 4 Waters). Permit limits for the Jamestown WWTF were developed to be consistent with water quality regulations.

This segment of the East Passage has a Waterbody Classification of SB1. SB1 waters are



designated for primary and secondary contact recreational activities and fish and wildlife habitat. They shall be suitable for aquacultural uses (other than shellfish for direct human consumption), navigation, and industrial cooling. These waters shall have good aesthetic value. Primary contact recreational activities may be impacted due to pathogens from approved wastewater discharges. However, all SB criteria must be met.

### **Industrial Users**

While Jamestown does not have an industrial pretreatment program, the permit requires that Jamestown submit the names of any industrial users that are subject to Categorical Pretreatment and other significant users that meet the criteria detailed in the permit. This information shall be submitted to DEM within ninety days of the permit effective date. After the initial inventory is submitted to DEM, any new dischargers that meet the criteria shall be submitted to DEM 30 days prior to discharge. Additional details are located in Part I.C.1 of the permit.

### **Permit Limit Development**

The requirements set forth in this permit are from the State's Water Quality Regulations and the State's Regulations for the Rhode Island Pollutant Discharge Elimination System, both filed pursuant to RIGL Chapter 46-12, as amended. DEM's primary authority over the permit comes from EPA's delegation of the program in September 1984 under the Federal Clean Water Act (CWA).

Development of RIPDES permit limitations is a multi-step process consisting of: determining if Federal effluent guidelines apply; calculation of allowable water quality-based discharge levels based on background data and available dilution; assigning appropriate Best Professional Judgement (BPJ) based limits; comparing existing and proposed limits; comparing discharge data to proposed limits; performing an antidegradation/antibacksliding analysis to determine the final permit limits; and developing interim limits as appropriate.

Water quality criteria are comprised of numeric and narrative criteria. Numeric criteria are scientifically derived ambient concentrations developed by EPA or the State for various pollutants of concern to protect human health and aquatic life. Narrative criteria are statements that describe the desired water quality goal. A water quality-based permit limit protects receiving water quality by ensuring that water quality standards are met.

A technology-based limit is a numeric limit, which is determined by examining the capability of a treatment process to reduce or eliminate pollutants.

### WWTF Conventional Pollutant Permit Limitations

#### *Flow Limits*

The basis for the facility's average monthly flow limit of 0.73 MGD is the facility's 2009 Operations and Maintenance Manual approved April 17, 2013.

#### *BOD<sub>5</sub>, TSS, and pH*

The biochemical oxygen demand (BOD<sub>5</sub>) and total suspended solids (TSS) limitations as well as the pH limitations contained in this permit are based upon the secondary treatment requirements of Section 301 (b)(1)(B) of the CWA as defined in 40 CFR 133.102 (a) - (c). The "Maximum Daily" BOD<sub>5</sub> and TSS limits and the enterococci limits are based on Rhode Island requirements for Publicly Owned Treatment Works (POTW's) under Section 401 (a)(1) of the CWA and in 40 CFR 124.53 and 124.56. The "Percent Removal" requirements for BOD<sub>5</sub> and TSS are assigned in accordance with 40 CFR 133.102(a) and (b) respectively.

#### *Settleable Solids*

Settleable Solids monitoring has been included as a process-control parameter that can aid in the assessment of the operation of the plant but does not need to have an effluent limit.

#### *Oil and Grease*

Oil and Grease monitoring requirements have been maintained in this permit in order to serve as a process control parameter. Monitoring data will serve as a monitor of potential excessive levels

of Oil and Grease in the collection system that may cause backups and blockages.

### *Bacteria*

Table 10.E.1 of the RI Water Quality Regulations (RICR 250-RICR-150-05-1) includes enterococci criteria for primary contact/swimming of a geometric mean of 35 colonies/100 mL and a single sample maximum of 104 colonies/100mL. The “single sample maximum” value is only used to evaluate swimming advisories at designated public beaches and does not apply to the receiving water in the area of the outfall. EPA’s November 12, 2008 memorandum regarding “Initial Zones of Dilution for Bacteria in Rivers and Streams Designated for Primary Contact Recreation” clarifies that it is not appropriate to use dilution for bacteria criteria in receiving waters that are designated for primary contact recreation. Therefore, because the receiving water is designated for primary contact recreation, the DEM has assigned a monthly average enterococci limit of 35 colonies/100mL. The daily maximum enterococci limit has been set at the 90% upper confidence level value for “lightly used full body contact recreation” of 276 colonies/100mL.

The DEM continues to maintain fecal coliform monitoring to ensure that the WWTF is providing treatment that is comparable to historic treatment levels. Additionally, fecal coliform monitoring will ensure that the discharge from the WWTF will not have an impact on any areas designated for shellfish harvesting outside of the immediate vicinity of the outfall.

### WWTF Toxic Pollutant Limits

#### *Water Quality-Based Limit (WQBEL) Calculations*

The allowable effluent limitations were established on the basis of acute and chronic aquatic life criteria and human health criteria using the following: available instream dilution; an allocation factor; and background concentrations when available and/or appropriate. The aquatic life and human health criteria are specified in the Rhode Island Water Quality Regulations (250-RICR-150-05-1). Aquatic life criteria have been established to ensure the protection and propagation of aquatic life while human health criteria represent the pollutant levels that would not result in a significant risk to public health from ingestion of aquatic organisms. The more stringent of the two criteria was then used in establishing allowable effluent limitations. Details concerning the calculation of potential permit limitations, selection of factors, which influence their calculation, and the selection of final permit limitations are included below or in the attached documents. The facility’s 2005, 2011, and 2016 permits did not contain WQBELs.

#### *Mixing Zones and Dilution Factors*

In order to evaluate the need for water quality-based limits, it is necessary to determine the mixing which occurs in the immediate vicinity of the discharge (initial dilution); an allocation factor; and background concentrations when available and/or appropriate. The Jamestown WWTF effluent is discharged through a pipe which is approximately 350 feet offshore and is fitted with a diffuser. The diffuser consists of seven (7) ports that are four (4) inches in diameter and have approximately twelve (12) feet of spacing between each port. RIPDES Regulations at 250-RICR-150-10-1.18(B)(1) requires the use of design flow when establishing limits for POTWs. During development of the August 3, 1994 permit, the DEM determined the initial dilution using the EPA computer model UMERGE. Based upon the design flow of 0.73 MGD (as noted in the Order of Approval No. 430), the mean low water depth at the outfall of fifty (50) feet, and stagnant receiving water conditions, an initial dilution of 273:1 was determined. The UMERGE model output files are presented in Attachment C.

The Regulations for the Rhode Island Pollutant Discharge Elimination System at 250-RICR-150-10-1.18(N)(1) require instream concentrations of discharged pollutants to be determined by specific formulas, or other methods which may be found to be acceptable.

Using the above dilution factors, the allowable discharge limits were calculated as follows:

- a) Background concentration unknown or available data is impacted by sources that have not yet achieved water quality-based limits.

$$Limit_1 = (DF) * (Criteria) * (80\%)$$

Where: DF = acute or chronic dilution factor, as appropriate

- b) Using available background concentration data  
 $Limit_1 = (DF) * (Criteria) * 90\% - (Background) * (DF - 1)$   
Where: DF = acute or chronic dilution factor, as appropriate

Based on the above dilution factors and the saltwater aquatic life and non-Class A human health criteria from the Rhode Island Water Quality regulations, allowable discharge concentrations were established using 80% allocation when no background data was available. 90% allocation was used when background data was available. Background data for Cadmium, Chromium, Copper, Lead, Nickel, and Silver was obtained from the four (4) SINBADD cruises in "Cruise and Data Report", SINBADD 1, 2, 3 and 4<sup>1</sup>. Attachment D includes the calculations of allowable limits based on Aquatic Life and Human Health Criteria. A Summary of Priority Pollutant Scan Data for the Years 2017 through 2022 can be found in Attachment E. And a Comparison of Allowable Limits with Discharge Monitoring Report data, RIPDES Permit Application Data, and Priority Pollutant Scan Data can be found in Attachment F.

The formulas and data noted above were applied with the following exceptions:

- a) Pollutants that, based on the acute and chronic dilution factors, have a higher allowable chronic limit than allowable acute limit. For this situation, both the "Monthly Average" and "Daily Maximum" limits were set at the allowable acute limit.
- b) Total residual chlorine. The limits for total residual chlorine (TRC) were established in accordance with the DEM Effluent Disinfection Policy. The "Monthly Average" and "Daily Maximum" were based on a 100% allocation, a zero-background concentration, and the appropriate dilution factor(s). The 100% allocation factor for TRC was used due to the non-conservative nature of chlorine and the improbability of the receiving water having a detectable background TRC concentration. When these procedures are used to calculate water quality-based TRC limits, it results in allowable discharge levels greater than DEM's technology-based limit of 2.0 mg/L. Therefore, the DEM has maintained the WWTF's TRC limits at 2.0 mg/L.
- c) Pollutants with water quality based monthly average limits in the previous RIPDES permit. The relaxation of monthly average limits from the previous permit was restricted in accordance with the antibacksliding provisions of the Clean Water Act and the Policy on the Implementation of the Antidegradation Provisions of the Rhode Island Water Quality Regulations.

#### *Wasteload Allocation*

In accordance with 40 CFR Part 122.4(d)(1)(iii), it is only necessary to establish water-quality-based limits for those pollutants in the discharge which have the reasonable potential to cause or contribute to the exceedance of the in-stream criteria. Reasonable potential to cause an exceedance is determined using the dilution factors presented in the previous section as well as the saltwater aquatic life and non-Class AA human health criteria, from the Rhode Island Water Quality Regulations (250-RICR-150-05-1) to determine allowable discharge concentrations. Allowable discharge concentrations for all parameters in Attachment D were calculated using 80% allocation for pollutants without background data, 90% allocation for pollutants with background data, and 100% allocation of total residual chlorine (TRC) due to the fact that chlorine is not expected to be found in ambient water and it is a non-conservative pollutant. In the case of ammonia, since removal is strongly dependent on temperature (nitrification rate decreases as temperature decreases) and ammonia does not bioaccumulate or accumulate in sediment, seasonal dilution factors and historical pH and temperature background data were used to determine the appropriate potential ammonia limitations.

When evaluating reasonable potential, the allowable discharge concentrations (i.e., potential permit limits) were compared to Discharge Monitoring Report (DMR) data, Priority Pollutant Scan data,

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<sup>1</sup>Source of background data is *Water Quality Survey of Narragansett Bay - A Summary of Results from the SINBADD 1985-1986*; Pilson, Michael E.Q. and Hunt, Carlton, D.; March 1989; Report #NBP-89-22.

and data provided in the May 20, 2021 permit application. Specifically, the mean of the monthly average DMR data, the average of the Priority Pollutant Scan data reported as greater than the detection limit, and the average concentration reported on the permit application, were compared to the “monthly average” allowable discharge concentrations, calculated using the chronic water quality criteria. Similarly, the mean of the daily maximum DMR data, the maximum of the Priority Pollutant data, and the maximum reported in the permit application were compared to the “daily maximum” allowable discharge concentrations, calculated using the acute water quality criteria. When doing this, DEM used DMR data collected during the previous six and a half years (since the 2016 permit became effective). When the monitoring data exceeds fifty percent of the allowable discharge concentration, there is “reasonable potential”, and DEM assigns a water-quality-based permit limit. When the monitoring data is less than twenty-five percent of the allowable discharge concentration, there is not “reasonable potential”, and DEM does not assign a water-quality-based permit limit. While DEM does not typically assign a permit limit when data is between twenty-five and fifty percent of the allowable discharge concentration, a water-quality-based permit limit may be assigned if it is determined that one is needed to be protective of human health and/or aquatic life (e.g., there is a significant variability in effluent data).

Based on these comparisons, water quality-based limitations have not been found to be necessary for the Jamestown WWTF as there is a lack of reasonable potential. Note that Total Residual Chlorine Limitations are being maintained at a Technology-based limit of 2.0 mg/L, as noted above in this Fact Sheet. In addition, quarterly monitoring associated with toxicity testing for Aluminum, Ammonia, Copper, Cadmium, Lead, Nickel, Zinc, has been maintained. Quarterly monitoring for Cyanide has been discontinued, and quarterly monitoring for Free Cyanide has been added. Total cyanide sampling is still required as part of the annual priority pollutant scan.

#### *Priority Pollutants*

The required priority pollutant scans are to continue to be performed annually for the EPA Priority Pollutants as listed in 40 CFR 122, Appendix D, Tables II and III. These priority pollutant scans shall be coordinated with the 3<sup>rd</sup> quarter bioassay sample and the results of these analyses.

#### *WET (Whole Effluent Toxicity) Testing*

The biomonitoring requirements are set forth in 40 CFR 131.11 and in the State’s Water Quality Regulations <https://rules.sos.ri.gov/regulations/part/250-150-05-1>, containing narrative conditions at 250-RICR-150-05-1.10(B) that state, at a minimum, all waters shall be free of pollutants in concentrations or combinations or from anthropogenic activities subject to these regulations that: adversely affect the composition of fish and wildlife; adversely affect the physical, chemical, or biological integrity of the habitat; interfere with the propagation of fish and wildlife; adversely alter the life cycle functions, uses, processes, and activities of fish and wildlife; or adversely affect human health. In order to determine compliance with many of these conditions, WET testing is required.

DEM’s toxicity permitting policy is based on past toxicity data and the level of available dilution. Jamestown’s bioassay limit of  $\geq 50\%$  effluent for an  $LC_{50}$  value found in the facility’s 2016 final RIPDES Permit has been changed to  $\geq 100\%$  effluent for an  $LC_{50}$  value is based on DEM’s Best Professional Judgement due to the facility having consistently achieved an  $LC_{50}$  of 100% effluent or greater than 100% effluent for the calendar quarter spanning the first calendar quarter of 2017 through the second calendar quarter of 2023, as shown in Attachment B of this Fact Sheet. If recurrent toxicity is demonstrated, then toxicity identification and reduction will be required. WET testing requirement can be found in Section I.B. of the permit. Section I.B.11 has been added to the permit, containing a requirement for a Species Sensitivity Screening Report to be submitted XXXX. Section I.B.11 of the permit has been added to ensure the WET limits in the permit are evaluated using the most sensitive applicable marine species.

Evaluation of the data collected for biotoxicity has revealed that the prechlorinated effluent samples<sup>2</sup> from the treatment plant have consistently demonstrated acceptable acute toxicity for Mysids. Toxicity results for effluent collected prior to chlorination for the period 1<sup>st</sup> Quarter 2017 through 2<sup>nd</sup> Quarter 2023 had  $LC_{50}$  values of 100% effluent or greater than 100% effluent. The data can be found in Attachment B.

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<sup>2</sup> Jamestown collects effluent water for WET sampling prior to chlorination.

### *Nutrients*

The effluent monitoring requirements have been specified in accordance with the RIPDES regulations as well as 40 CFR 122.41 (j), 122.44 (i), and 122.48 to yield data representative of the discharge. Monthly testing for Total Nitrate, Total Nitrite, Total Kjeldahl Nitrogen (TKN), and Total Nitrogen has been implemented year-round, in contrast with the facility's 2016 permit which required monitoring for the above-referenced Nitrogen parameters for the months of May-October only. Quarterly monitoring for Ammonia found in the 2016 permit has been maintained.

### *Ammonia*

The potential ammonia limitations were derived from acute and chronic water quality criteria for saltwater from the Rhode Island Water Quality Regulations, which are based upon salinity, pH, and temperature. A salinity equal to 30 ppt., pH equal to 8.0 standard units, and average temperatures equal to 20°C and 5°C during Summer and Winter seasons, respectively, were used to calculate the allowable water quality-based discharge levels for ammonia. Salinity and temperature values were based upon data contained in the Narragansett Bay Project Reports, #NBP-89-22 and #NBP-89-24, titled "Water Quality Survey of Narragansett Bay-A Summary of the SINBADD 1985-1986" and "SPRAY Cruise-Dissolved Oxygen and Chlorophyll", respectively. The pH value was determined from data contained in a report titled "Monitoring of the Providence and Seekonk Rivers for Trace Metals and Associated Parameters-SPRAY Cruises I, II, III" [Deoring et al., 1988], and from a University of Rhode Island Graduate School of Oceanography research paper titled "Co-occurrence of Dinoflagellate Blooms and High pH in Marine Enclosures", [Hinga, 1992]. As mentioned previously, water quality-based limits were not found to be necessary, based on a lack of reasonable potential.

### *Emerging Contaminants*

Per- and polyfluoroalkyl substances (PFAS) are a group of synthetic chemicals that have been in use since the 1940s. They are found in a wide array of consumer and industrial products. PFAS manufacturing and processing facilities, facilities using PFAS in production of other products, airports, and military installations can be contributors of PFAS releases into the air, soil, and water. Due to their widespread use and persistence in the environment, most people in the United States have been exposed to PFAS. Exposure to some PFAS above certain levels may increase risk of adverse health effects.<sup>3</sup> DEM is collecting information to evaluate the potential impacts that discharges of PFAS from wastewater treatment plants may have on downstream uses, which can include drinking water, recreational and aquatic life uses depending on the receiving water.

The Environmental Protection Agency (EPA) established a Drinking Water Health Advisory in 2016 for Perfluorooctanoic Acid (PFOA), Perfluorooctanesulfonic Acid (PFOS), or a combination of these chemicals at 70 parts per trillion (ppt) or 70 nanogram per liter (ng/l). This Drinking Water Health Advisory was established to protect against adverse health effects that studies have indicated can be caused by exposure to these chemicals. In 2017, the Rhode Island Department of Health (DOH) began the process of sampling public wells for these pollutants due to increasing public health concerns about their possible presence in drinking water. Also in 2017, DEM adopted the EPA health advisory as a groundwater quality standard.

In 2022, Rhode Island passed a law concerning PFAS in drinking water, groundwater and surface waters. The Rhode Island law establishes monitoring requirements for public water supplies as well as drinking water treatment requirements if the sum of the concentrations of the following six species of PFAS exceed 20 ppt.

- Perfluorohexanesulfonic acid (PFHxS)
- Perfluoroheptanoic acid (PFHpA)
- Perfluorononanoic acid (PFNA)
- Perfluorooctanesulfonic acid (PFOS)
- Perfluorooctanoic acid (PFOA)

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<sup>3</sup> EPA, *EPA's Per- and Polyfluoroalkyl Substances (PFAS) Action Plan*, EPA 823R18004, February 2019. [http://www.epa.gov/sites/production/files/201902/documents/pfas\\_action\\_plan\\_021319\\_508compliant\\_1.pdf](http://www.epa.gov/sites/production/files/201902/documents/pfas_action_plan_021319_508compliant_1.pdf)

## Perfluorodecanoic acid (PFDA)

The 2022 Rhode Island law is consistent with the Massachusetts Department of Environmental Protection (Mass DEP) public drinking water standard regarding allowable concentrations and PFAS species. In addition to drinking water requirements, the 2022 Rhode Island law also compels DEM to adopt a groundwater quality standard and a surface water action level by December 31, 2023.

Although the Rhode Island Water Quality Regulations (250-RICR-150-05-1) do not include numeric criteria for PFAS, the RI Water Quality Regulations § 1.10(E)(1)(saltwater) under Chemical Constituents have narrative requirements that prohibits the discharge of pollutants in concentration or combinations that could be harmful to humans or fish and wildlife for the most sensitive and governing water class use.

Since PFAS chemicals are persistent in the environment and may lead to adverse human health and environmental effects, the Permit requires that the facility conduct quarterly influent and effluent sampling for PFAS chemicals and annual sampling of certain industrial users using draft EPA Method 1633 until a 40 CFR Part 136 approved method is made available to the public.

The purpose of this monitoring and reporting requirement is to better understand potential discharges of PFAS from this facility and to inform future permitting decisions, including the potential development of water quality-based effluent limits on the facility-specific basis. DEM is authorized to require this monitoring and reporting by CWA § 308(a), which states:

“SEC. 308. (a) Whenever required to carry out the objective of this Act, including but not limited to (1) developing or assisting in the development of any effluent limitation, or other limitation, prohibition, or effluent standard, pretreatment standard, or standard of performance under this Act; (2) determining whether any person is in violation of any such effluent limitation, or other limitation, prohibition or effluent standard, pretreatment standard, or standard of performance; (3) any requirement established under this section; or (4) carrying out sections 305, 311, 402, 404 (relating to State permit programs), 405, and 504 of this Act –

- a. The Administrator shall require the owner or operator of any point source to (i) establish and maintain such records, (ii) make such reports, (iii) install, use, and maintain such monitoring equipment or methods (including where appropriate, biological monitoring methods), (iv) sample such effluents (in accordance with such methods, at such locations, at such intervals, and in such manner as the Administrator shall prescribe), and (v) provide such other information as he may reasonably require...”

Since an EPA method for sampling and analyzing PFAS in wastewater is not currently available, the permit requires that PFAS be analyzed using draft EPA method 1633 until a 40 CFR Part 136 approved test method for wastewater is made available to the public. This approach is consistent with 40 CFR § 122.44(i)(1)(iv)(b) which states that in the case of pollutants or pollutant parameters for which there are no approved methods under 40 CFR Part 136 or methods are not otherwise required under 40 CFR chapter I, subchapter N or O, monitoring shall be conducted according to a test procedure specified in the permit for such pollutants or pollutant parameters.

The reporting requirement for the listed PFAS parameters take effect when the permit becomes effective, or during the calendar quarter beginning on July 1, 2024, whichever is later. The PFAS Analytes that are required to be reported are listed in Attachment A of the permit. Sampling requirements include quarterly influent, effluent sampling as well as annual sampling of any relevant industrial users.

### *Antibacksliding and Antidegradation*

Provided below is a brief introduction to Antibacksliding and Antidegradation; as well as a discussion on how the two policies were used to calculate water quality-based limits.

#### *Antibacksliding*

Antibacksliding restricts the level of relaxation of water quality-based limits from the previous permit.

Section 303(d)(4) of the Clean Water Act addresses antibacksliding as the following:

1. Standards not attained – For receiving waters that have not attained the applicable water quality standards, limits based on a TMDL or WLA can only be revised if the water quality standards will be met. This may be done by (i) determining that the cumulative effect of all such revised limits would assure the attainment of such water quality standards; or (ii) removing the designated use which is not being attained in accordance with regulations under Section 303.
2. Standards attained – For receiving waters achieving or exceeding applicable water quality standards, limits can be relaxed if the revision is consistent with the State's Antidegradation Policy.

Therefore, in order to determine whether backsliding is permissible, the first question that must be asked is whether or not the receiving water is attaining the water quality standard. The Office has determined the most appropriate evaluation of existing water quality is by calculating pollutant levels, which would result after the consideration of all currently valid RIPDES permit limits or historic discharge data (whichever is greater), background data (when available), and any new information (i.e., dilution factors).

#### *Antidegradation*

The DEM's Water Quality Regulations (250-RICR-150-05-1.20) establishes four tiers of water quality protection:

**Tier 1.** In all surface waters, existing uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

**Tier 2.** In waters where the existing water quality criteria exceeds the levels necessary to support the propagation of fish and wildlife and recreation in and on the water, that quality shall be maintained and protected except for insignificant changes in water quality as determined by the Director and in accordance with the Antidegradation Implementation Policy, as amended. In addition, the Director may allow significant degradation, which is determined to be necessary to achieve important economic or social benefits to the State in accordance with the Antidegradation Policy.

**Tier 2½.** Where high quality waters constitute Special Resource Protection Waters SRPWs<sup>4</sup>, there shall be no measurable degradation of the existing water quality necessary to protect the characteristics which cause the waterbody to be designated a SRPW. Notwithstanding that all public drinking water supplies are SRPWs, public drinking water suppliers may undertake temporary and short-term activities within the boundary perimeter of a public drinking water supply impoundment for essential maintenance or to address emergency conditions in order to prevent adverse effect on public health or safety. These activities must comply with the requirements set forth in Tier 1 and Tier 2.

**Tier 3.** Where high quality waters constitute an Outstanding Natural Resource ONRWs<sup>5</sup>, that water quality shall be maintained and protected. The State may allow some limited activities that result in temporary or short-term changes in the water quality of an ONRW. Such activities must not permanently degrade water quality or result in water quality lower than necessary to protect the existing uses in the ONRW.

The formulas previously presented ensure that permit limitations are based upon water quality criteria and methodologies established to ensure that all designated uses will be met.

In terms of the applicability of Tier 2 of the Policy, a water body is assessed as being high quality on a parameter-by-parameter basis. In accordance with Part II of the Policy, "Antidegradation applies to all new or increased projects or activities which may lower water quality or affect existing water uses, including but not limited to all 401 Water Quality Certification reviews and any new, reissued, or

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<sup>4</sup> SRPWs are surface waters identified by the Director as having significant recreational or ecological uses.

<sup>5</sup> ONRWs are a special subset of high-quality water bodies, identified by the State as having significant recreational or ecological water uses.

modified RIPDES permits.” Part VI.A of the Policy indicates that it is not applicable to activities which result in insignificant (i.e., short-term minor) changes in water quality and that significant changes in water quality will only be allowed if it is necessary to accommodate important economic and social development in the area in which the receiving waters are located (important benefits demonstration). Part VI.B.4 of the Policy states that: “Theoretically, any new or increased discharge or activity could lower existing water quality and thus require the important benefits demonstration. However, DEM will: 1) evaluate applications on a case-by-case basis, using BPJ and all pertinent and available facts, including scientific and technical data and calculations as provided by the applicant; and 2) determine whether the incremental loss is significant enough to require the important benefits demonstration described below. [If not then as a general rule DEM will allocate no more than 20%.] Some of the considerations which will be made to determine if an impact is significant in each site specific decision are: 1) percent change in water quality parameter value and their temporal distribution; 2) quality and value of the resource; 3) cumulative impact of discharges and activities on water quality to date; 4) measurability of the change; 5) visibility of the change; 6) impact on fish and wildlife habitat; and 7) impact on potential and existing uses. As a general guide, any discharge or activity which consumes greater than 20% of the remaining assimilative capacity may be deemed significant and invoke full requirements to demonstrate important economic or social benefits.”

In terms of a RIPDES permit, an increased discharge is defined as an increase in any limitation, which would result in an increased mass loading to a receiving water. The baseline for this comparison would be the monthly average mass loading established in the previous permit. It would be inappropriate to use the daily maximum mass loading since the Policy is not applicable to short-term changes in water quality.

For the purposes of ensuring that the revised limit is consistent with the requirements of antidegradation, existing water quality must be defined. As explained earlier, DEM evaluates existing water quality by determining the pollutant levels which would result under the design conditions appropriate for the particular criteria (i.e., background water quality, when available and/or appropriate, non-point source inputs; and existing RIPDES permit limitations or recent historical discharge data, whichever is higher). In general, available data would be used to make this determination.

Use the above-mentioned criteria, the present instream water quality  $C_p$  is defined as:

$$C_p = \frac{(DF - 1) \cdot C_b + (1 \cdot C_d)}{DF}$$

where:  $C_b$  = background concentration<sup>6</sup>

$C_d$  = discharge data<sup>7</sup>

DF = dilution factor

In this permit, all monthly average limitations are either the same as or more stringent than the limits in the 2016 permit. Therefore, the limits contained in this permit are consistent with the Department’s anti-degradation policy.

## Operations and Maintenance

### *Resiliency Planning Requirements*

The permit (Part I.D.3) requires that, within one year of the effective date of this permit, the Town shall submit a Resiliency Plan and schedule of short- and long-term actions that will be taken to maintain, operate, and protect key collection and treatment system assets. The plan shall be consistent with the most current version of DEM’s *Guidance for the Consideration of Climate Change Impacts in the Planning and Design of Municipal Wastewater Collection and Treatment Infrastructure* and include consideration of the findings of the 2017 DEM report *Implications of Climate Change for Rhode Island Wastewater Collection and Treatment Infrastructure*. The Resiliency Plan shall include, but not be limited to: (i) an assessment of current and projected impacts from natural hazards on

<sup>6</sup> Data collected at a location that is unimpacted by significant point source discharges.

<sup>7</sup> Discharge data refers to the maximum of the permit limit or the historic discharge level. The historic discharge level is determined by calculating the upper 95<sup>th</sup> confidence interval for the monthly average reported data for the past five (5) years. For specific cases, changes in treatment efficiency or pretreatment limitations may support the use of an alternative period of time.



critical components within the Town's collection and treatment systems, as well as on the system themselves; (ii) a plan to adapt and protect vulnerable components and systems; (iii) an analysis that provides justification for selected adaptation methods, including relevant cost-benefit analyses. The overall analysis must consider component and system design life and sea-level rise projections. For the purpose of this Resiliency Plan, critical components are considered those necessary to ensure the forward flow and treatment of wastewater in accordance with the limits set forth in this permit. The Resiliency Plan shall also consider impacts – such as debris carried in high winds – on the Town's treatment facility and wastewater collection system from neighboring facilities during high hazard events.

**Sludge Requirements**

The permit contains requirements for the permittee to comply with the State's Sludge Regulations (250-RICR-150-10-3) and DEM's Order of Approval for sludge disposal in accordance with Section 405(d) of the Clean Water Act (CWA). Permits must contain sludge conditions requiring compliance with limits, state laws, and applicable regulations as per Section 405(d) of the CWA and 40 CFR 503. The DEM Sludge Order of Approval sets forth the conditions to ensure this compliance.

**Outfall Inspection Requirement**

The permit requires that the outfall pipe and associated effluent diffuser shall be maintained to ensure proper operation. Within one (1) year of the effective date of the permit, the Permittee shall inspect and videotape the operation of the outfall pipe/diffuser and submit to the DEM a video of the diffuser/outfall pipe inspection along with copies of reports summarizing the results of the diffuser/outfall pipe inspection. If maintenance is needed, the permittee shall submit a schedule to complete the required maintenance

**Other Conditions**

The remaining general and specific conditions of the permit are based on the RIPDES regulations as well as 40 CFR Parts 122 through 125 and consist primarily of management requirements common to all permits.

**Permit Limit Summary**

**Table I. Permit Limits – Outfall 001A (final discharge after chlorination)**

Effluent Characteristic	Monthly Average Permit Limit	Weekly Average Permit Limit	Daily Max Permit Limit	Sampling Frequency
Flow	0.73 MGD		--- MGD	Continuous
BOD <sub>5</sub> Load <sup>1</sup>	183 lb/d		304 lb/d	3/Week
BOD <sub>5</sub> Concentration <sup>1</sup>	30 mg/L	45 mg/L	50 mg/L	3/Week
BOD <sub>5</sub> - % Removal	≥85%			1/Month
TSS Load <sup>1</sup>	183 lb/d		304 lb/d	3/Week
TSS Concentration <sup>1</sup>	30 mg/L	45 mg/L	50 mg/L	3/Week
TSS - % Removal	≥85%			1/Month
Settleable Solids		--- ml/l	--- ml/l	1/Day
Fecal Coliform	--- MPN 100 ml	--- MPN 100 ml	--- MPN 100 ml	3/Week
Enterococci	35 cfu 100 ml		276 cfu 100 ml	3/Week
Total Residual Chlorine	2.0 mg/l		2.0 mg/L	3/Day
pH	(6.0)		(9.0)	1/Day
Oil and Grease			--- mg/L	1/Month
TKN	--- mg/L		--- mg/L	1/Month
Nitrate, Total (as N)	--- mg/L		--- mg/L	1/Month
Nitrite, Total (as N)	--- mg/L		--- mg/L	1/Month
Nitrogen, Total	---mg/L		---mg/L	1/Month

Effluent Characteristic	Monthly Average Permit Limit	Weekly Average Permit Limit	Daily Max Permit Limit	Sampling Frequency
(TKN + Nitrate + Nitrite, as N)				
Mysidopsis Bahia - LC <sub>50</sub> <sup>2</sup>			≥100%	1/Quarter
Total Copper <sup>3</sup>	--- µg/L		--- µg/L	1/Quarter
Cyanide, Free <sup>3</sup>	--- µg/L		--- µg/L	Composite
Phenols, Total <sup>3</sup>	--- µg/L		--- µg/L	1/Quarter
Total Cadmium <sup>3</sup>	--- µg/L		--- µg/L	1/Quarter
Total Lead <sup>3</sup>	--- µg/L		--- µg/L	1/Quarter
Hexavalent Chromium <sup>3</sup>	--- µg/L		--- µg/L	1/Quarter
Total Zinc <sup>3</sup>	--- µg/L		--- µg/L	1/Quarter
Total Nickel <sup>3</sup>	--- µg/L		--- µg/L	1/Quarter
Total Nickel <sup>3</sup>	--- µg/L		--- µg/L	1/Quarter
Total Aluminum <sup>3</sup>	--- µg/L		--- µg/L	1/Quarter
Total Ammonia (as N) <sup>3</sup> Total Nickel <sup>3</sup>	--- mg/L--- µg/L		--- mg/L--- µg/L	1/Quarter1/Quarter
Organic Carbon, Total <sup>3</sup> Total Aluminum <sup>3</sup>	--- mg/L--- µg/L		--- mg/L--- µg/L	1/Quarter1/Quarter
PFAS Analytes <sup>1,4</sup> Total Ammonia (as N) <sup>3</sup>	--- mg/L		--- ng/L--- mg/L	1/Quarter1/Quarter
Organic Carbon, Total <sup>3</sup>	--- mg/L		--- mg/L	1/Quarter
PFAS Analytes <sup>1,4</sup>			--- ng/L	1/Quarter

( ) Values in parentheses represent the minimum and maximum values.

--- Signifies a parameter which must be monitored and data must be reported; no limit has been established at this time.

<sup>1</sup> Samples shall be taken on the influent and effluent with the appropriate allowances for hydraulic detention (flow-through) time.

<sup>2</sup> LC<sub>50</sub> is defined as the concentration of wastewater that causes mortality to 50% of the test organisms. Therefore, a ≥100% limit means that a sample of 100% effluent (no dilution) shall cause not more than a 50% mortality rate.

<sup>3</sup> Monitoring data may be obtained in conjunction with the bioassay testing required in Part I.B of the permit.

<sup>4</sup> Influent and effluent sampling requirements for the listed PFAS parameters takes effect [REDACTED]. PFAS shall be analyzed using Clean Water Act wastewater draft analytical method 1633 until a 40 CFR Part 136 approved test method for wastewater is approved. Additionally, report in NetDMR the results of all other PFAS analytes required to be tested as part of the method as shown in Attachment A of the permit.

## V. Comment Period, Hearing Requests, and Procedures for Final Decisions

All persons, including applicants, who believe any condition of the draft permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to the Rhode Island Department of Environmental Management, Office of Water Resources, 235 Promenade Street, Providence, Rhode Island, 02908-5767. In accordance with Chapter 46-17.4 of Rhode Island General Laws, a public hearing will be held prior to the close of the public comment period. In reaching a final decision on the draft permit the Director will respond to all significant comments and make these responses available to the public at DEM's Providence office.

Following the close of the comment period, and after a public hearing, the Director will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments, provided oral testimony, or requested notice. Within thirty (30) days following the notice of the final permit decision any interested person may submit a request for a formal hearing to reconsider or contest the final decision. Requests for formal hearings must satisfy

the requirements of 250-RICR-150-10-1.50 of the Regulations for the Rhode Island Pollutant Discharge Elimination System.

**VI. DEM Contact**

Additional information concerning the permit may be obtained between the hours of 8:30 a.m. and 4:00 p.m., Monday through Friday, excluding holidays from:

Samuel Kaplan, P.E., Environmental Engineer II  
Department of Environmental Management/ Office of Water Resources  
235 Promenade Street  
Providence, Rhode Island 02908  
Telephone: (401) 222-4700, ext: 2777046  
Email: samuel.kaplan@dem.ri.gov

06 Feb. 2024

Date

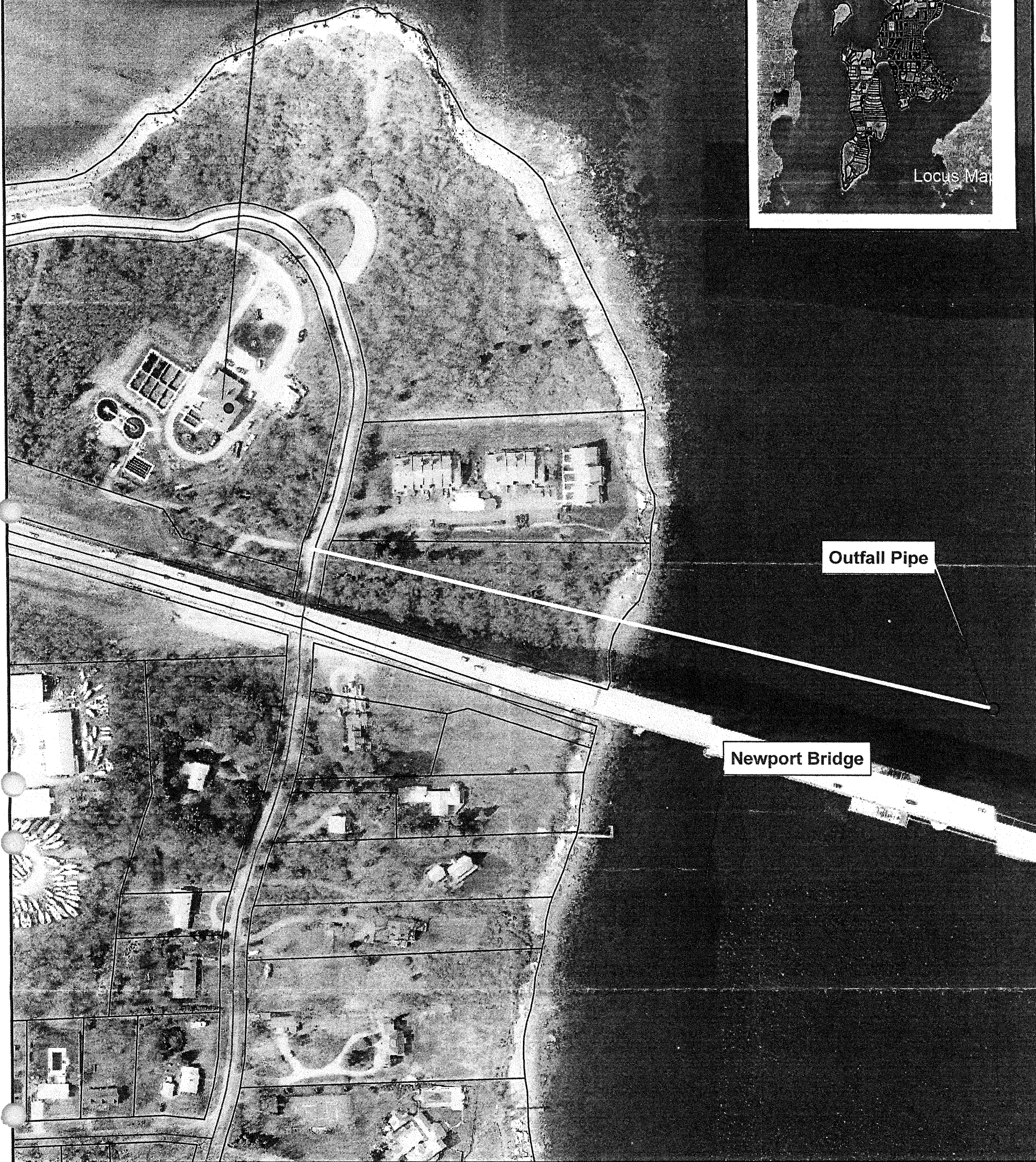
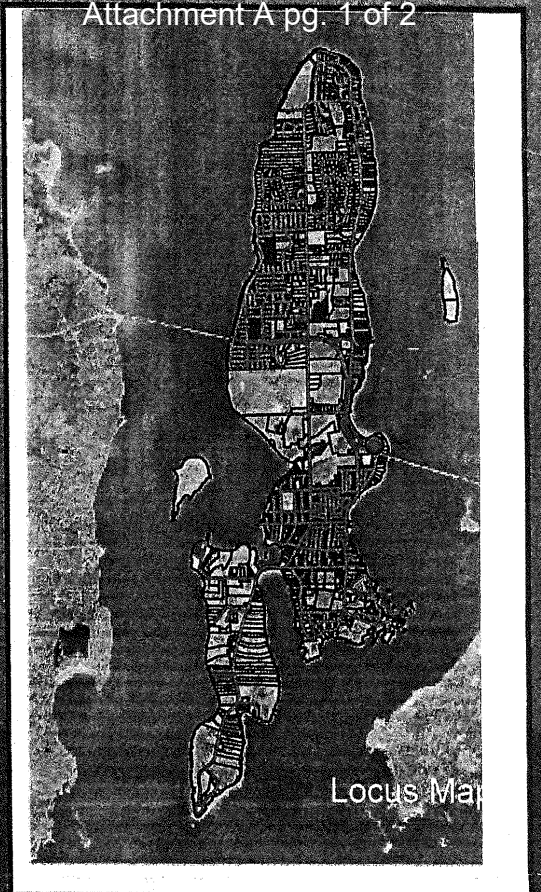
Heidi Travers

Heidi Travers, P.E.  
Environmental Engineer IV  
RIPDES Program  
Office of Water Resources  
Department of Environmental Management

**Attachment A – Site Layout (Area Map and Outfall Pipe) and Process Flow Diagram**



Wastewater Treatment Facility  
-71.3607 41.5087 decimal degrees

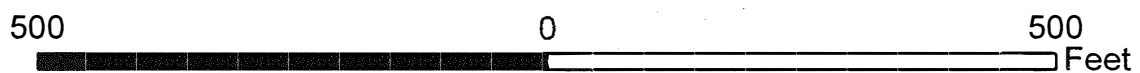


Outfall Pipe

Newport Bridge

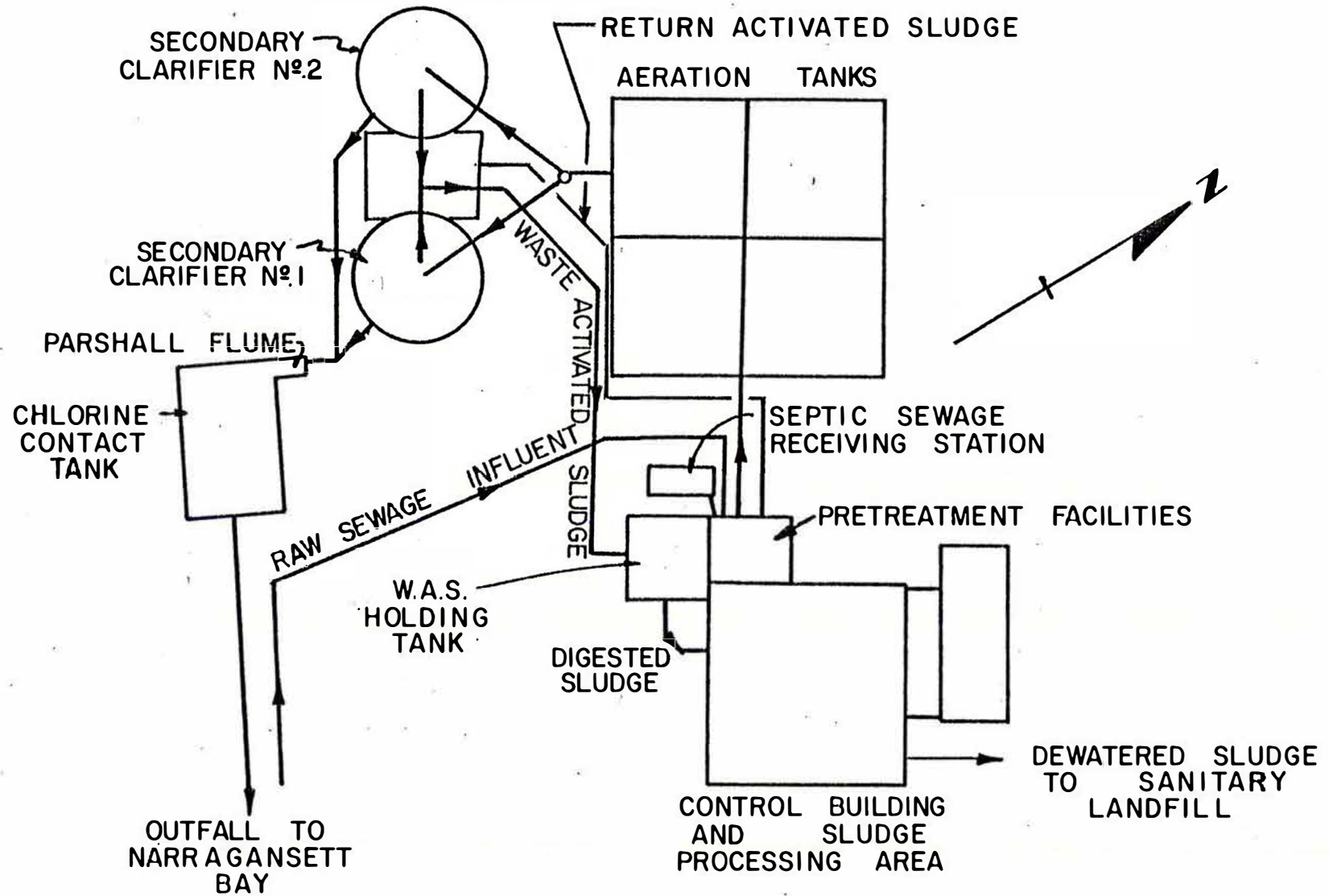


### AREA MAP OF JAMESTOWN WASTEWATER TREATMENT FACILITY AND OUTFALL PIPE

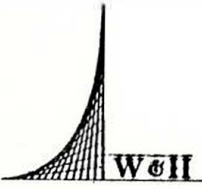


1 inch = 188 feet





DATE No 1



**WHITMAN & HOWARD INC.**  
ENGINEERS AND ARCHITECTS  
45 WILLIAM ST. WELLESLEY, MASS.

**FLOW DIAGRAM**  
**WATER POLLUTION CONTROL FACILITY**  
**JAMESTOWN, RHODE ISLAND**

## Attachment B – Discharge Monitoring Report Data.

**DESCRIPTION OF DISCHARGE:** Secondary treated domestic and industrial wastewater.

**DISCHARGE:** 001A – Secondary Treatment Discharge

### AVERAGE EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE

Parameter	Monthly Average <sup>1</sup>	Weekly Average <sup>2</sup>	Daily Maximum <sup>3</sup>
Flow	0.3767 MGD		0.7195 MGD
BOD <sub>5</sub>	0.9842 mg/l	2.1582 mg/l	3.7029 mg/l
BOD <sub>5</sub> load	7.9837 lb/d		22.2556 lb/d
TSS	3.6909 mg/l	5.6204 mg/l	7.7351 mg/l
TSS load	14.7691 lb/d		42.9587 lb/d
Fecal Coliform	1.5059 MPN/100 ml	4.0055 MPN/100 ml	84.5023 MPN/100
Enterococci	1.4299 MPN/100 ml		35.9109 MPN/100
pH	6.2408 S.U. (Min.)		6.9610 S.U. (Max.)
Total Residual Chlorine	1.2396 mg/l		1.9404 mg/l
Oil & Grease			3.154 mg/l
Nitrite, Total (as N) <sup>4</sup>	0.1293 mg/L		0.1556 mg/l
Nitrate, Total (as N) <sup>4</sup>	3.1423 mg/L		3.1423 mg/l
Nitrogen, Total Kjeldhal <sup>4</sup>	5.3161 mg/L		5.4087 mg/l
Nitrogen, Total <sup>4</sup>	8.6603 mg/l		8.6603 mg/l
Nitrogen, Total lbs/day <sup>4</sup>	15.6958 mg/l		
Settleable Solids		0 ml/l	0 ml/l
BOD % Removal	99.3949%		
TSS % Removal	97.2192%		
Aluminum, Total <sup>5,6</sup>	26.03 µg/L		26.03 µg/L
Cadmium, Total <sup>5,6</sup>	0.2369 µg/L		0.2369 µg/L
Chromium, Hexavalent	21.1538 µg/L		21.1538 µg/L
Copper, Total <sup>5,6</sup>	6.06 µg/L		6.06 µg/L
Cyanide, Free Available <sup>7,8</sup>	10 µg/L		10 µg/L
Cyanide, Total <sup>9,10</sup>	10.20 µg/L		10.20 µg/L
Lead, Total <sup>5,6</sup>	1.68 µg/L		1.68 µg/L
Nickel, Total <sup>5,6</sup>	3.16 µg/L		3.16 µg/L
Nitrogen, Ammonia Total <sup>5,6</sup>	2311 µg/L		2311 µg/L
Zinc, Total <sup>5,6</sup>	112.99 µg/L		112.99 µg/L

<sup>1</sup>Data represents the mean of the monthly average data from January 2017-June 2023

<sup>2</sup>Data represents the mean of the weekly average data from January 2017-June 2023

<sup>3</sup>Data represents the mean of the daily maximum data from January 2017-June 2023

<sup>4</sup>Data represents the mean of daily maximum data from May-October of 2017-2022 and May-June of 2023

<sup>5</sup>Data represents the mean of the monthly average of quarterly data from January 2017-June 2023

<sup>6</sup>Data represents the mean of the daily maximum of quarterly data from January 2017-June 2023

<sup>7</sup>Data represents the mean of the monthly average of quarterly data from January 2020-June 2023

<sup>8</sup>Data represents the mean of the daily maximum of quarterly data from January 2020-June 2023

<sup>9</sup>Data represents the mean of the monthly average of quarterly data from January 2017-December 2019

<sup>10</sup>Data represents the mean of the daily maximum of quarterly data from January 2017-December 2019

**Attachment B – Discharge Monitoring Report Data., cont.**

Biotoxicity Data LC<sub>50</sub> Static 48hr Values (in percent effluent) Pre-Cl<sub>2</sub> Mysid Minnow

<b>Year</b>	<b>Quarter 1</b>	<b>Quarter 2</b>	<b>Quarter 3</b>	<b>Quarter 4</b>
2017	=100	>100	=100	=100
2018	=100	>100	=100	=100
2019	=100	>100	>100	=100
2020	=100	=100	>100	=100
2021	=100	=100	=100	=100
2022	=100	=100	=100	>=100
2023	=100	=100		



**Attachment C - UMERGE Model Output files**

UMERGE OUTPUT - JAMESTOWN WWTF - OUTFALL 001A

THIS OUTPUT FILE IS PART TWO OF TWO MODEL RUNS WHICH CHARACTERIZES THE SIDE OF JAMESTOWN'S OUTFALL WHICH HAS FOUR DIFFUSERS.

UMERGE VERSION 1.0 AUGUST 1985.

UNIVERSAL DATA FILE: JAMES\_4.DAT;2

CASE I.D. #1 EFFLUENT & AMBIENT DENSITY AS G/CM3, NO CURRENT, IXI-IX0=ZERO

ASPIRATION ENTRAINMENT COEFFICIENT = 0.10 (DEFAULT)  
 NUMBER OF STEPS ALLOWED = 5000 (DEFAULT)  
 ITERATION PRINTOUT FREQUENCY = 150 (DEFAULT)  
 PRINT ARRAY AA (0=NO, 1=YES) = 0 (DEFAULT)  
 PRINT ARRAY AB (0=NO, 1=YES) = 0 (DEFAULT)  
 PRINT ARRAY AC (0=NO, 1=YES) = 0 (DEFAULT)

INITIAL DENSITY OF THE PLUME = -1.0000 SIGMAT UNITS  
 FROUDE NUMBER = 3.5

DEPTH (M)	SIGMAT	U (M/S)
0.00	25.00	0.000
15.20	25.00	0.000

TOTAL EFFLUENT FLOW = 0.0183 CMS  
 NUMBER OF PORTS = 4  
 PORT DIAMETER = 0.1020 M  
 PORT SPACING = 4.00 M  
 VERTICAL PORT ANGLE FROM HORIZONTAL = 0.0 DEGREES  
 PORT DEPTH = 15.20 M

FIRST LINE OF OUTPUT ARE INITIAL CONDITIONS

X (M)	Z (M)	PLUME DIAMETER (M)	DILU- TION	DENDIFF (SIGMAT)	HORIZ VEL (M/S)	VERT VEL (M/S)	TOTAL VEL (M/S)	AMBIENT CURRENT (M/S)
0.00	15.20	0.102	1.00	26.00	0.56	0.00	0.56	0.000
0.00	15.20	0.102	1.01	25.82	0.56	0.00	0.56	0.000
0.42	15.09	0.262	2.78	9.19	0.20	0.13	0.24	0.000
0.94	14.32	0.479	7.82	3.25	0.07	0.19	0.20	0.000
1.32	12.66	0.870	22.08	1.15	0.02	0.17	0.17	0.000
1.61	9.55	1.613	62.40	0.41	0.01	0.14	0.14	0.000
1.85	3.74	3.005	176.45	0.14	0.00	0.11	0.11	0.000

COMPUTATIONS CEASE: PLUMES SURFACE

DILUTION = 272.52

UMERGE OUTPUT - JAMESTOWN WWTF - OUTFALL 001A

THIS OUTPUT FILE IS PART ONE OF THE TWO MODEL RUNS WHICH CHARACTERIZES THE SIZE OF JAMESTOWN'S OUTFALL WHICH HAS THREE DIFFUSERS.

UMERGE VERSION 1.0 AUGUST 1985.

UNIVERSAL DATA FILE: JAM\_3\_UM.DAT;1

CASE I.D. #1 EFFLUENT & AMBIENT DENSITY AS G/CM3, NO CURRENT, IXI=IX0=ZERO

ASPIRATION ENTRAINMENT COEFFICIENT = 0.10 (DEFAULT)  
 NUMBER OF STEPS ALLOWED = 5000 (DEFAULT)  
 ITERATION PRINTOUT FREQUENCY = 150 (DEFAULT)  
 PRINT ARRAY AA (0=NO, 1=YES) = 0 (DEFAULT)  
 PRINT ARRAY AB (0=NO, 1=YES) = 0 (DEFAULT)  
 PRINT ARRAY AC (0=NO, 1=YES) = 0 (DEFAULT)

INITIAL DENSITY OF THE PLUME = -1.0000 SIGMAT UNITS  
 FROUDE NUMBER = 3.5

DEPTH (M)	SIGMAT	U (M/S)
0.00	25.00	0.000
15.20	25.00	0.000

TOTAL EFFLUENT FLOW = 0.0137 CMS  
 NUMBER OF PORTS = 3  
 PORT DIAMETER = 0.1020 M  
 PORT SPACING = 4.00 M  
 VERTICAL PORT ANGLE FROM HORIZONTAL = 0.0 DEGREES  
 PORT DEPTH = 15.20 M

FIRST LINE OF OUTPUT ARE INITIAL CONDITIONS

X (M)	Z (M)	PLUME DIAMETER (M)	DILU- TION	DENDIFF (SIGMAT)	HORIZ VEL (M/S)	VERT VEL (M/S)	TOTAL VEL (M/S)	AMBIENT CURRENT (M/S)
0.00	15.20	0.102	1.00	26.00	0.56	0.00	0.56	0.000
0.00	15.20	0.102	1.01	25.82	0.56	0.00	0.56	0.000
0.42	15.08	0.262	2.78	9.19	0.20	0.13	0.23	0.000
0.94	14.32	0.479	7.82	3.25	0.07	0.19	0.20	0.000
1.32	12.67	0.869	22.08	1.15	0.02	0.17	0.17	0.000
1.61	9.55	1.612	62.40	0.41	0.01	0.14	0.14	0.000
1.84	3.74	3.003	176.45	0.14	0.00	0.11	0.11	0.000

COMPUTATIONS CEASE: PLUMES SURFACE

DILUTION = 272.80

**Attachment D – Calculations of Allowable Limits Based on Aquatic Life and Human Health Criteria**

## CALCULATION OF WATER QUALITY BASED SALTWATER DISCHARGE LIMITS FACILITY SPECIFIC DATA INPUT SHEET

NOTE: LIMITS BASED ON RI WATER QUALITY CRITERIA DATED JULY 2006

FACILITY NAME: **Jamestown WWTF**

RIPDES PERMIT #: **RI0100366**

	DISSOLVED BACKGROUND DATA (ug/L)	ACUTE METAL TRANSLATOR	CHRONIC METAL TRANSLATOR
ALUMINUM	NA	NA	NA
ARSENIC	NA	1	1
CADMIUM	0.033823777	0.994	0.994
CHROMIUM III	NA	NA	NA
CHROMIUM VI	0.165139975	0.993	0.993
COPPER	0.664061543	0.83	0.83
LEAD	0.048476988	0.951	0.951
MERCURY	NA	0.85	NA
NICKEL	1.139875065	0.99	0.99
SELENIUM	NA	0.998	0.998
SILVER	0.005729996	0.85	0.85
ZINC	NA	0.946	0.946

**USE NA WHEN NO DATA IS AVAILABLE**

NOTE 1: BACKGROUND DATA BASED ON AVERAGE CONCENTRATIONS OBTAINED FROM THE FOUR SINBADD CRUISES IN CURRENT REPORT #: NBP-89-22 (LOCATIONS B13, B14, & B16).

NOTE 2: METAL TRANSLATORS FROM RI WATER QUALITY REGS.

DILUTION FACTORS	
ACUTE =	<b>273</b> x
CHRONIC =	<b>273</b> x
HUMAN HEALTH =	<b>273</b> x

NOTE: TEST WWTF'S DILUTION FACTORS OBTAINED FROM A DYE STUDY.

TOTAL AMMONIA CRITERIA (ug/L)	
WINTER ACUTE =	<b>2100</b>
CHRONIC =	<b>3100</b>
SUMMER ACUTE =	<b>7300</b>
CHRONIC =	<b>1100</b>

NOTE 1: LIMITS ARE FROM TABLE 3 IN THE RI WATER QUALITY REGS. USING:  
SALINITY = 30 g/Kg;  
pH = 8.0 S.U.  
WINTER (NOV-APRIL) TEMP=5.0 C;  
SUMMER (MAY-OCT) TEMP=20.0 C.

### CALCULATION OF WATER QUALITY BASED SALTWATER DISCHARGE LIMITS

FACILITY NAME: Jamestown WWTF

RIPDES PERMIT #: RI0100366

NOTE: METALS CRITERIA ARE DISSOLVED, METALS LIMITS ARE TOTAL; AMMONIA CRITERIA AND LIMITS HAVE BEEN CONVERTED TO ug/l N.

CHEMICAL NAME	CAS #	BACKGROUND CONCENTRATION (ug/L)	SALTWATER CRITERIA ACUTE (ug/L)	DAILY MAX LIMIT (ug/L)	SALTWATER CRITERIA CHRONIC (ug/L)	HUMAN HEALTH NON-CLASS A CRITERIA (ug/L)	MONTHLY AVE LIMIT (ug/L)
<b>PRIORITY POLLUTANTS:</b>							
<b>TOXIC METALS AND CYANIDE</b>							
ANTIMONY	7440360			No Criteria		640	139776
ARSENIC (limits are total recoverable)	7440382	NA	69	15069.6	36	1.4	305.76
ASBESTOS	1332214			No Criteria			No Criteria
BERYLLIUM	7440417			No Criteria			No Criteria
CADMIUM (limits are total recoverable)	7440439	0.033823777	40	9878.068343	8.8		2165.955667
CHROMIUM III (limits are total recoverable)	16065831	NA		No Criteria			No Criteria
CHROMIUM VI (limits are total recoverable)	18540299	0.165139975	1100	272129.9919	50		12326.36649
COPPER (limits are total recoverable)	7440508	0.664061543	4.8	1203.295494	3.1		700.0545306
CYANIDE	57125		1	218.40	1	140	218.4
LEAD (limits are total recoverable)	7439921	0.048476988	210	54241.65537	8.1		2078.847802
MERCURY (limits are total recoverable)	7439976	NA	1.8	462.4941176	0.94	0.15	32.76
NICKEL (limits are total recoverable)	7440020	1.139875065	74	18052.27675	8.2	4600	1721.913113
SELENIUM (limits are total recoverable)	7782492	NA	290	63462.92585	71	4200	15537.47495
SILVER (limits are total recoverable)	7440224	0.005729996	1.9	547.3781661			No Criteria
THALLIUM	7440280			No Criteria		0.47	102.648
ZINC (limits are total recoverable)	7440666	NA	90	20778.01268	81	26000	18700.21142
<b>VOLATILE ORGANIC COMPOUNDS</b>							
ACROLEIN	107028			No Criteria		290	63336
ACRYLONITRILE	107131			No Criteria		2.5	546
BENZENE	71432			No Criteria		510	111384
BROMOFORM	75252			No Criteria		1400	305760
CARBON TETRACHLORIDE	56235			No Criteria		16	3494.4
CHLOROBENZENE	108907			No Criteria		1600	349440
CHLORODIBROMOMETHANE	124481			No Criteria		130	28392
CHLOROFORM	67663			No Criteria		4700	1026480
DICHLOROBROMOMETHANE	75274			No Criteria		170	37128
1,2DICHLOROETHANE	107062			No Criteria		370	80808
1,1DICHLOROETHYLENE	75354			No Criteria		7100	1550640
1,2DICHLOROPROPANE	78875			No Criteria		150	32760

1,3DICHLOROPROPYLENE	542756			No Criteria		21	4586.4
ETHYLBENZENE	100414			No Criteria		2100	458640
BROMOMETHANE (methyl bromide)	74839			No Criteria		1500	327600
CHLOROMETHANE (methyl chloride)	74873			No Criteria			No Criteria
METHYLENE CHLORIDE	75092			No Criteria		5900	1288560
1,1,2,2TETRACHLOROETHANE	79345			No Criteria		40	8736
TETRACHLOROETHYLENE	127184			No Criteria		33	7207.2
TOLUENE	108883			No Criteria		15000	3276000
1,2TRANSDICHLOROETHYLENE	156605			No Criteria		10000	2184000
1,1,1TRICHLOROETHANE	71556			No Criteria			No Criteria
1,1,2TRICHLOROETHANE	79005			No Criteria		160	34944
TRICHLOROETHYLENE	79016			No Criteria		300	65520
VINYL CHLORIDE	75014			No Criteria		2.4	524.16
ACID ORGANIC COMPOUNDS							
2CHLOROPHENOL	95578			No Criteria		150	32760
2,4DICHLOROPHENOL	120832			No Criteria		290	63336
2,4DIMETHYLPHENOL	105679			No Criteria		850	185640
4,6DINITRO2METHYL PHENOL	534521			No Criteria		280	61152
2,4DINITROPHENOL	51285			No Criteria		5300	1157520
4NITROPHENOL	88755			No Criteria			No Criteria
PENTACHLOROPHENOL	87865	13		2839.2	7.9	30	1725.36
PHENOL	108952			No Criteria		1700000	371280000
2,4,6TRICHLOROPHENOL	88062			No Criteria		24	5241.6
BASE NEUTRAL COMPUNDS							
ACENAPHTHENE	83329			No Criteria		990	216216
ANTHRACENE	120127			No Criteria		40000	8736000
BENZIDINE	92875			No Criteria		0.002	0.4368
POLYCYCLIC AROMATIC HYDROCARBONS				No Criteria		0.18	39.312
BIS(2CHLOROETHYL)ETHER	111444			No Criteria		5.3	1157.52
BIS(2CHLOROISOPROPYL)ETHER	108601			No Criteria		65000	14196000
BIS(2ETHYLHEXYL)PHTHALATE	117817			No Criteria		22	4804.8
BUTYL BENZYL PHTHALATE	85687			No Criteria		1900	414960
2CHLORONAPHTHALENE	91587			No Criteria		1600	349440
1,2DICHLOROENZENE	95501			No Criteria		1300	283920
1,3DICHLOROENZENE	541731			No Criteria		960	209664
1,4DICHLOROENZENE	106467			No Criteria		190	41496
3,3DICHLOROENZIDENE	91941			No Criteria		0.28	61.152
DIETHYL PHTHALATE	84662			No Criteria		44000	9609600
DIMETHYL PHTHALATE	131113			No Criteria		1100000	240240000

DInBUTYL PHTHALATE	84742			No Criteria		4500	982800
2,4DINITROTOLUENE	121142			No Criteria		34	7425.6
1,2DIPHENYLHYDRAZINE	122667			No Criteria		2	436.8
FLUORANTHENE	206440			No Criteria		140	30576
FLUORENE	86737			No Criteria		5300	1157520
HEXACHLOROBENZENE	118741			No Criteria		0.0029	0.63336
HEXACHLOROBUTADIENE	87683			No Criteria		180	39312
HEXACHLOROCYCLOPENTADIENE	77474			No Criteria		1100	240240
HEXACHLOROETHANE	67721			No Criteria		33	7207.2
ISOPHORONE	78591			No Criteria		9600	2096640
NAPHTHALENE	91203			No Criteria			No Criteria
NITROBENZENE	98953			No Criteria		690	150696
NNITROSODIMETHYLAMINE	62759			No Criteria		30	6552
NNITROSODINPROPYLAMINE	621647			No Criteria		5.1	1113.84
NNITROSODIPHENYLAMINE	86306			No Criteria		60	13104
PYRENE	129000			No Criteria		4000	873600
1,2,4trichlorobenzene	120821			No Criteria		70	15288
PESTICIDES/PCBs							
ALDRIN	309002		1.3	283.92		0.0005	0.1092
Alpha BHC	319846			No Criteria		0.049	10.7016
Beta BHC	319857			No Criteria		0.17	37.128
Gamma BHC (Lindane)	58899		0.16	34.944		1.8	393.12
CHLORDANE	57749		0.09	19.656	0.004	0.0081	0.8736
4,4DDT	50293		0.13	28.392	0.001	0.0022	0.2184
4,4DDE	72559			No Criteria		0.0022	0.48048
4,4DDD	72548			No Criteria		0.0031	0.67704
DIELDRIN	60571		0.71	155.064	0.0019	0.00054	0.117936
ENDOSULFAN (alpha)	959988		0.034	7.4256	0.0087	89	1.90008
ENDOSULFAN (beta)	33213659		0.034	7.4256	0.0087	89	1.90008
ENDOSULFAN (sulfate)	1031078			No Criteria		89	19437.6
ENDRIN	72208		0.037	8.0808	0.0023	0.06	0.50232
ENDRIN ALDEHYDE	7421934			No Criteria		0.3	65.52
HEPTACHLOR	76448		0.053	11.5752	0.0036	0.00079	0.172536
HEPTACHLOR EPOXIDE	1024573		0.053	11.5752	0.0036	0.00039	0.085176
POLYCHLORINATED BIPHENYLS3	1336363			No Criteria	0.03	0.00064	0.139776
2,3,7,8TCDD (Dioxin)	1746016			No Criteria		0.000000051	1.11384E-05
TOXAPHENE	8001352		0.21	45.864	0.0002	0.0028	0.04368
TRIBUTYLTIN			0.42	91.728	0.0074		1.61616
NON PRIORITY POLLUTANTS:							



OTHER SUBSTANCES							
ALUMINUM (limits are total recoverable)	7429905	NA			No Criteria		No Criteria
AMMONIA as N (winter/summer)	7664417		17262	6000.6	3770021 1310531	2548	904.2
4BROMOPHENYL PHENYL ETHER					No Criteria		No Criteria
CHLORIDE	16887006				No Criteria		No Criteria
CHLORINE	7782505		13		3549	7.5	2047.5
4CHLORO2METHYLPHENOL					No Criteria		No Criteria
1CHLORONAPHTHALENE					No Criteria		No Criteria
4CHLOROPHENOL	106489				No Criteria		No Criteria
2,4DICHLORO6METHYLPHENOL					No Criteria		No Criteria
1,1DICHLOROPROPANE					No Criteria		No Criteria
1,3DICHLOROPROPANE	142289				No Criteria		No Criteria
2,3DINITROTOLUENE					No Criteria		No Criteria
2,4DINITRO6METHYL PHENOL					No Criteria		No Criteria
IRON	7439896				No Criteria		No Criteria
pentachlorobenzene	608935				No Criteria		No Criteria
PENTACHLOROETHANE					No Criteria		No Criteria
1,2,3,5tetrachlorobenzene					No Criteria		No Criteria
1,1,1,2TETRACHLOROETHANE	630206				No Criteria		No Criteria
2,3,4,6TETRACHLOROPHENOL	58902				No Criteria		No Criteria
2,3,5,6TETRACHLOROPHENOL					No Criteria		No Criteria
2,4,5TRICHLOROPHENOL	95954				No Criteria		No Criteria
2,4,6TRINITROPHENOL	88062				No Criteria		No Criteria
XYLENE	1330207				No Criteria		No Criteria

**CALCULATION OF WATER QUALITY BASED SALTWATER DISCHARGE LIMITS**

FACILITY NAME: Jamestown

RIPDES PERMIT #: RI0100366

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
<b>PRIORITY POLLUTANTS:</b>			
<b>TOXIC METALS AND CYANIDE</b>			
ANTIMONY	7440360	No Criteria	139776.00
ARSENIC, TOTAL	7440382	15069.60	305.76
ASBESTOS	1332214	No Criteria	No Criteria
BERYLLIUM	7440417	No Criteria	No Criteria
CADMIUM, TOTAL	7440439	9878.07	2165.96
CHROMIUM III, TOTAL	16065831	No Criteria	No Criteria
CHROMIUM VI, TOTAL	18540299	272129.99	12326.37
COPPER, TOTAL	7440508	1203.30	700.05
CYANIDE	57125	218.40	218.40
LEAD, TOTAL	7439921	54241.66	2078.85
MERCURY, TOTAL	7439976	462.49	32.76
NICKEL, TOTAL	7440020	18052.28	1721.91
SELENIUM, TOTAL	7782492	63462.93	15537.47
SILVER, TOTAL	7440224	547.38	No Criteria
THALLIUM	7440280	No Criteria	102.65
ZINC, TOTAL	7440666	20778.01	18700.21
<b>VOLATILE ORGANIC COMPOUNDS</b>			
ACROLEIN	107028	No Criteria	63336.00
ACRYLONITRILE	107131	No Criteria	546.00
BENZENE	71432	No Criteria	111384.00
BROMOFORM	75252	No Criteria	305760.00
CARBON TETRACHLORIDE	56235	No Criteria	3494.40
CHLOROBENZENE	108907	No Criteria	349440.00
CHLORODIBROMOMETHANE	124481	No Criteria	28392.00
CHLOROFORM	67663	No Criteria	1026480.00
DICHLOROBROMOMETHANE	75274	No Criteria	37128.00
1,2DICHLOROETHANE	107062	No Criteria	80808.00
1,1DICHLOROETHYLENE	75354	No Criteria	1550640.00
1,2DICHLOROPROPANE	78875	No Criteria	32760.00
1,3DICHLOROPROPYLENE	542756	No Criteria	4586.40
ETHYLBENZENE	100414	No Criteria	458640.00
BROMOMETHANE (methyl bromide)	74839	No Criteria	327600.00
CHLOROMETHANE (methyl chloride)	74873	No Criteria	No Criteria
METHYLENE CHLORIDE	75092	No Criteria	1288560.00
1,1,2,2TETRACHLOROETHANE	79345	No Criteria	8736.00

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
TETRACHLOROETHYLENE	127184	No Criteria	7207.20
TOLUENE	108883	No Criteria	3276000.00
1,2TRANS-DICHLOROETHYLENE	156605	No Criteria	2184000.00
1,1,1TRICHLOROETHANE	71556	No Criteria	No Criteria
1,1,2TRICHLOROETHANE	79005	No Criteria	34944.00
TRICHLOROETHYLENE	79016	No Criteria	65520.00
VINYL CHLORIDE	75014	No Criteria	524.16
<b>ACID ORGANIC COMPOUNDS</b>			
2CHLOROPHENOL	95578	No Criteria	32760.00
2,4DICHLOROPHENOL	120832	No Criteria	63336.00
2,4DIMETHYLPHENOL	105679	No Criteria	185640.00
4,6DINITRO-2METHYL PHENOL	534521	No Criteria	61152.00
2,4DINITROPHENOL	51285	No Criteria	1157520.00
4NITROPHENOL	88755	No Criteria	No Criteria
PENTACHLOROPHENOL	87865	2839.20	1725.36
PHENOL	108952	No Criteria	371280000.00
2,4,6TRICHLOROPHENOL	88062	No Criteria	5241.60
<b>BASE NEUTRAL COMPOUNDS</b>			
ACENAPHTHENE	83329	No Criteria	216216.00
ANTHRACENE	120127	No Criteria	8736000.00
BENZIDINE	92875	No Criteria	0.44
PAHs		No Criteria	39.31
BIS(2CHLOROETHYL)ETHER	111444	No Criteria	1157.52
BIS(2CHLOROISOPROPYL)ETHER	108601	No Criteria	14196000.00
BIS(2ETHYLHEXYL)PHTHALATE	117817	No Criteria	4804.80
BUTYL BENZYL PHTHALATE	85687	No Criteria	414960.00
2CHLORONAPHTHALENE	91587	No Criteria	349440.00
1,2DICHLOROBENZENE	95501	No Criteria	283920.00
1,3DICHLOROBENZENE	541731	No Criteria	209664.00
1,4DICHLOROBENZENE	106467	No Criteria	41496.00
3,3DICHLOROBENZIDENE	91941	No Criteria	61.15
DIETHYL PHTHALATE	84662	No Criteria	9609600.00
DIMETHYL PHTHALATE	131113	No Criteria	240240000.00
DI-n-BUTYL PHTHALATE	84742	No Criteria	982800.00
2,4DINITROTOLUENE	121142	No Criteria	7425.60
1,2DIPHENYLHYDRAZINE	122667	No Criteria	436.80
FLUORANTHENE	206440	No Criteria	30576.00

FLUORENE	86737	No Criteria	1157520.00
HEXACHLORO BENZENE	118741	No Criteria	0.63
HEXACHLOROBUTADIENE	87683	No Criteria	39312.00
HEXACHLOROCYCLOPENTADIENE	77474	No Criteria	240240.00
HEXACHLOROETHANE	67721	No Criteria	7207.20
ISOPHORONE	78591	No Criteria	2096640.00
NAPHTHALENE	91203	No Criteria	No Criteria
NITROBENZENE	98953	No Criteria	150696.00
N-NITROSODIMETHYLAMINE	62759	No Criteria	6552.00
N-NITROSODI-N-PROPYLAMINE	621647	No Criteria	1113.84
N-NITROSODIPHENYLAMINE	86306	No Criteria	13104.00
PYRENE	129000	No Criteria	873600.00
1,2,4trichlorobenzene	120821	No Criteria	15288.00
<b>PESTICIDES/PCBs</b>			
ALDRIN	309002	283.92	0.11
Alpha BHC	319846	No Criteria	10.70
Beta BHC	319857	No Criteria	37.13
Gamma BHC (Lindane)	58899	34.94	34.94
CHLORDANE	57749	19.66	0.87
4,4DDT	50293	28.39	0.22
4,4DDE	72559	No Criteria	0.48
4,4DDD	72548	No Criteria	0.68
DIELDRIN	60571	155.06	0.12
ENDOSULFAN (alpha)	959988	7.43	1.90
ENDOSULFAN (beta)	33213659	7.43	1.90
ENDOSULFAN (sulfate)	1031078	No Criteria	19437.60
ENDRIN	72208	8.08	0.50
ENDRIN ALDEHYDE	7421934	No Criteria	65.52
HEPTACHLOR	76448	11.58	0.17
HEPTACHLOR EPOXIDE	1024573	11.58	0.09
POLYCHLORINATED BIPHENYLS3	1336363	No Criteria	0.14
2,3,7,8TCDD (Dioxin)	1746016	No Criteria	0.00
TOXAPHENE	8001352	45.86	0.04
TRIBUTYLTIN		91.73	1.62

NON PRIORITY POLLUTANTS:			
OTHER SUBSTANCES			
ALUMINUM, TOTAL	7429905	No Criteria	No Criteria
AMMONIA (as N), WINTER (NOV-APR)	7664417	3770020.80	556526.88
AMMONIA (as N), SUMMER (MAY-OC)	7664417	1310531.04	197477.28
4BROMOPHENYL PHENYL ETHER		No Criteria	No Criteria
CHLORIDE	16887006	No Criteria	No Criteria
CHLORINE	7782505	3549.00	2047.50
4CHLORO2METHYLPHENOL		No Criteria	No Criteria
1CHLORONAPHTHALENE		No Criteria	No Criteria
4CHLOROPHENOL	106489	No Criteria	No Criteria
2,4DICHLORO6METHYLPHENOL		No Criteria	No Criteria
1,1DICHLOROPROPANE		No Criteria	No Criteria
1,3DICHLOROPROPANE	142289	No Criteria	No Criteria
2,3DINITROTOLUENE		No Criteria	No Criteria
2,4DINITRO6METHYL PHENOL		No Criteria	No Criteria
IRON	7439896	No Criteria	No Criteria
pentachlorobenzene	608935	No Criteria	No Criteria
PENTACHLOROETHANE		No Criteria	No Criteria
1,2,3,5tetrachlorobenzene		No Criteria	No Criteria
1,1,1,2TETRACHLOROETHANE	630206	No Criteria	No Criteria
2,3,4,6TETRACHLOROPHENOL	58902	No Criteria	No Criteria
2,3,5,6TETRACHLOROPHENOL		No Criteria	No Criteria
2,4,5TRICHLOROPHENOL	95954	No Criteria	No Criteria
2,4,6TRINITROPHENOL	88062	No Criteria	No Criteria
XYLENE	1330207	No Criteria	No Criteria

**Attachment E – Priority Pollutant Scan Data**

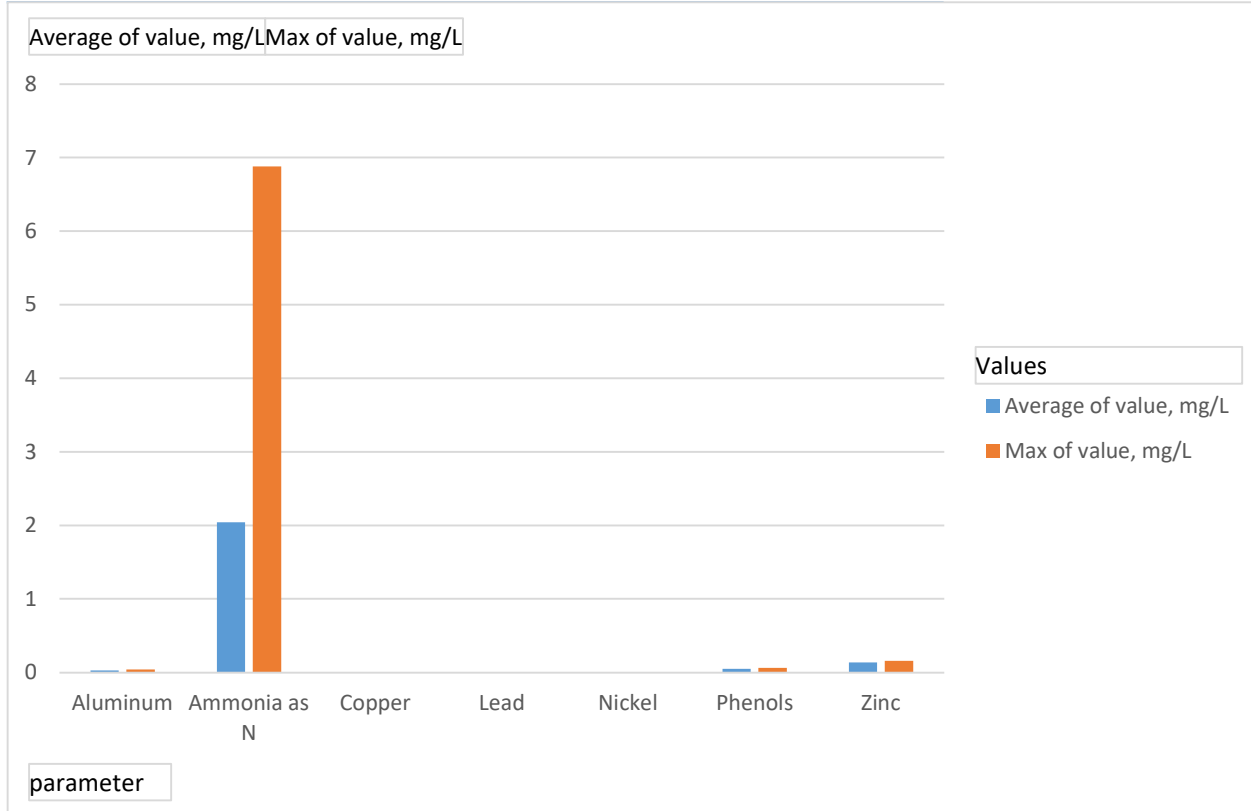
Attachment E - PPS and application data - Jamestown 2023 RIPDES permit reissuance  
Jamestown PPS data table

source	PPS year	parameter	value, mg/L
PPS	2017	Ammonia as N	1.37
PPS	2017	Aluminum	0.0337
PPS	2017	Copper	0.0042
PPS	2017	Zinc	0.159
PPS	2017	Lead	0.0006
PPS	2017	Nickel	0.0024
PPS	2018	Ammonia as N	1.52
PPS	2018	Aluminum	0.0358
PPS	2018	Copper	0.0036
PPS	2018	Zinc	0.149
PPS	2018	Nickel	0.0026
PPS	2018	Phenols	0.0500
PPS	2019	Aluminum	0.0339
PPS	2019	Copper	0.0023
PPS	2019	Zinc	0.128
PPS	2019	Nickel	0.0040
PPS	2019	Ammonia as N	0.225
PPS	2019	Phenols	0.0630
PPS	2020	Aluminum	0.0141
PPS	2020	Copper	0.0044
PPS	2020	Zinc	0.102
PPS	2020	Nickel	0.0024
PPS	2020	Ammonia as N	6.88
PPS	2021	Aluminum	0.0402
PPS	2021	Copper	0.00604
PPS	2021	Zinc	0.159
PPS	2021	Nickel	0.0038
PPS	2021	Ammonia as N	0.260
PPS	2022	Ammonia as N	2.00
PPS	2022	Phenols	0.0380
PPS	2022	Aluminum	0.0186
PPS	2022	Copper	0.00507
PPS	2022	Zinc	0.131
PPS	2022	Nickel	0.0019

data was gathered in July, August, or September of 2017-2022;  
therefore, Ammonia data is from the summer months only

Attachment E - PPS and application data - Jamestown 2023 RIPDES permit reissuance  
Jamestown PPS data pivot table

Row Labels	Average of value, mg/L	Max of value, mg/L
Aluminum	0.0294	0.0402
Ammonia as N	2.04	6.88
Copper	0.00427	0.00604
Lead	0.000600	0.000600
Nickel	0.00285	0.00400
Phenols	0.0503	0.0630
Zinc	0.138	0.159



**Attachment F – Evaluation of Potential Permit Limits**

**Facility Name: Jamestown**  
**RIPDES Permit #: RI0100366**  
**Outfall #: 001A**

NOTE: METALS LIMITS ARE TOTAL METALS

Parameter	CAS #	Concentration Limits (ug/L)		Antideg. Limits (ug/L)	PPS Data (ug/L)		Ave. DMR Data (ug/L)		Potential Permit Limits (ug/L)		Reasonable Potential?
		Based on WQ Criteria			17-'22 [NH3/aveCl2: '21 ap]	1/2017-6/2023	Permit Limits (ug/L)				
		Daily Max	Monthly Ave	Monthly Ave			Max	Ave	Daily Max	Monthly Ave	
<b>PRIORITY POLLUTANTS</b>											
<b>TOXIC METALS AND CYANIDE</b>											
ANTIMONY	7440360	No Criteria	139776.00	---	---	---	---	---	---	139776	
ARSENIC (limits are total recoverable)	7440382	15069.60	305.76	---	---	---	---	---	15069.6	305.76	
ASBESTOS	1332214	No Criteria	No Criteria	---	---	---	---	---	---	---	
BERYLLIUM	7440417	No Criteria	No Criteria	---	---	---	---	---	---	---	
CADMIUM (limits are total recoverable)	7440439	9878.07	2165.96	---	---	---	0.297	0.297	9878.068343	2165.955667	n n
CHROMIUM III (limits are total recoverable)	16065831	No Criteria	No Criteria	---	---	---	---	---	---	---	
CHROMIUM VI (limits are total recoverable)	18540299	272129.99	12326.37	---	---	---	21.15	21.15	272129.9919	12326.36649	n n
COPPER (limits are total recoverable)	7440508	1203.30	700.05	---	6.04	4.27	6.06	6.06	1203.295494	700.0545306	n n
CYANIDE	57125	218.40	218.40	---	---	---	10.2	10.2	218.4	218.4	n n
LEAD (limits are total recoverable)	7439921	54241.66	2078.85	---	0.600	0.600	1.68	1.68	54241.65537	2078.847802	n n
MERCURY (limits are total recoverable)	7439976	462.49	32.76	---	---	---	---	---	462.4941176	32.76	
NICKEL (limits are total recoverable)	7440020	18052.28	1721.91	---	4.00	2.85	3.16	3.16	18052.27675	1721.913113	n n
SELENIUM (limits are total recoverable)	7782492	63462.93	15537.47	---	---	---	---	---	63462.92585	15537.47495	
SILVER (limits are total recoverable)	7440224	547.38	No Criteria	---	---	---	---	---	547.3781661	547.3781661	
THALLIUM	7440280	No Criteria	102.65	---	---	---	---	---	---	102.648	
ZINC (limits are total recoverable)	7440666	20778.01	18700.21	---	159	138	112.99	112.99	20778.01268	18700.21142	n n
<b>VOLATILE ORGANIC COMPOUNDS</b>											
ACROLEIN	107028	No Criteria	63336.00	---	---	---	---	---	---	63336	
ACRYLONITRILE	107131	No Criteria	546.00	---	---	---	---	---	---	546	
BENZENE	71432	No Criteria	111384.00	---	---	---	---	---	---	111384	
BROMOFORM	75252	No Criteria	305760.00	---	---	---	---	---	---	305760	
CARBON TETRACHLORIDE	56235	No Criteria	3494.40	---	---	---	---	---	---	3494.4	
CHLOROBENZENE	108907	No Criteria	349440.00	---	---	---	---	---	---	349440	
CHLORODIBROMOMETHANE	124481	No Criteria	28392.00	---	---	---	---	---	---	28392	
CHLOROFORM	67663	No Criteria	1026480.00	---	---	---	---	---	---	1026480	
DICHLOROBROMOMETHANE	75274	No Criteria	37128.00	---	---	---	---	---	---	37128	
1,2DICHLOROETHANE	107062	No Criteria	80808.00	---	---	---	---	---	---	80808	
1,1DICHLOROETHYLENE	75354	No Criteria	1550640.00	---	---	---	---	---	---	1550640	
1,2DICHLOROPROPANE	78875	No Criteria	32760.00	---	---	---	---	---	---	32760	



1,3DICHLOROPROPYLENE	542756	No Criteria	4586.40	---	---	---	---	---	---	4586.4		
ETHYLBENZENE	100414	No Criteria	458640.00	---	---	---	---	---	---	458640		
BROMOMETHANE (methyl bromide)	74839	No Criteria	327600.00	---	---	---	---	---	---	327600		
CHLOROMETHANE (methyl chloride)	74873	No Criteria	No Criteria	---	---	---	---	---	---	---		
METHYLENE CHLORIDE	75092	No Criteria	1288560.00	---	---	---	---	---	---	1288560		
1,1,2,2TETRACHLOROETHANE	79345	No Criteria	8736.00	---	---	---	---	---	---	8736		
TETRACHLOROETHYLENE	127184	No Criteria	7207.20	---	---	---	---	---	---	7207.2		
TOLUENE	108883	No Criteria	3276000.00	---	---	---	---	---	---	3276000		
1,2TRANSDICHLOROETHYLENE	156605	No Criteria	2184000.00	---	---	---	---	---	---	2184000		
1,1,1TRICHLOROETHANE	71556	No Criteria	No Criteria	---	---	---	---	---	---	---		
1,1,2TRICHLOROETHANE	79005	No Criteria	34944.00	---	---	---	---	---	---	34944		
TRICHLOROETHYLENE	79016	No Criteria	65520.00	---	---	---	---	---	---	65520		
VINYL CHLORIDE	75014	No Criteria	524.16	---	---	---	---	---	---	524.16		
ACID ORGANIC COMPOUNDS												
2CHLOROPHENOL	95578	No Criteria	32760.00	---	---	---	---	---	---	32760		
2,4DICHLOROPHENOL	120832	No Criteria	63336.00	---	---	---	---	---	---	63336		
2,4DIMETHYLPHENOL	105679	No Criteria	185640.00	---	---	---	---	---	---	185640		
4,6DINITRO2METHYL PHENOL	534521	No Criteria	61152.00	---	---	---	---	---	---	61152		
2,4DINITROPHENOL	51285	No Criteria	1157520.00	---	---	---	---	---	---	1157520		
4NITROPHENOL	88755	No Criteria	No Criteria	---	---	---	---	---	---	---		
PENTACHLOROPHENOL	87865	2839.20	1725.36	---	---	---	---	---	2839.2	1725.36		
PHENOL	108952	No Criteria	371280000.00	---	63	50.3	---	---	---	371280000	na	n
2,4,6TRICHLOROPHENOL	88062	No Criteria	5241.60	---	---	---	---	---	---	5241.6		
BASE NEUTRAL COMPOUNDS												
ACENAPHTHENE	83329	No Criteria	216216.00	---	---	---	---	---	---	216216		
ANTHRACENE	120127	No Criteria	8736000.00	---	---	---	---	---	---	8736000		
BENZIDINE	92875	No Criteria	0.44	---	---	---	---	---	---	0.4368		
POLYCYCLIC AROMATIC HYDROCARBONS		No Criteria	39.31	---	---	---	---	---	---	39.312		
BIS(2CHLOROETHYL)ETHER	111444	No Criteria	1157.52	---	---	---	---	---	---	1157.52		
BIS(2CHLOROISOPROPYL)ETHER	108601	No Criteria	14196000.00	---	---	---	---	---	---	14196000		
BIS(2ETHYLHEXYL)PHTHALATE	117817	No Criteria	4804.80	---	---	---	---	---	---	4804.8		
BUTYL BENZYL PHTHALATE	85687	No Criteria	414960.00	---	---	---	---	---	---	414960		
2CHLORONAPHTHALENE	91587	No Criteria	349440.00	---	---	---	---	---	---	349440		
1,2DICHLOROENZENE	95501	No Criteria	283920.00	---	---	---	---	---	---	283920		
1,3DICHLOROENZENE	541731	No Criteria	209664.00	---	---	---	---	---	---	209664		
1,4DICHLOROENZENE	106467	No Criteria	41496.00	---	---	---	---	---	---	41496		
3,3DICHLOROENZIDENE	91941	No Criteria	61.15	---	---	---	---	---	---	61.152		
DIETHYL PHTHALATE	84662	No Criteria	9609600.00	---	---	---	---	---	---	9609600		
DIMETHYL PHTHALATE	131113	No Criteria	240240000.00	---	---	---	---	---	---	240240000		
DInBUTYL PHTHALATE	84742	No Criteria	982800.00	---	---	---	---	---	---	982800		

2,4DINITROTOLUENE	121142	No Criteria	7425.60	---	---	---	---	---	---	7425.6		
1,2DIPHENYLHYDRAZINE	122667	No Criteria	436.80	---	---	---	---	---	---	436.8		
FLUORANTHENE	206440	No Criteria	30576.00	---	---	---	---	---	---	30576		
FLUORENE	86737	No Criteria	1157520.00	---	---	---	---	---	---	1157520		
HEXACHLOROENZENE	118741	No Criteria	0.63	---	---	---	---	---	---	0.63336		
HEXACHLOROBUTADIENE	87683	No Criteria	39312.00	---	---	---	---	---	---	39312		
HEXACHLOROCYCLOPENTADIENE	77474	No Criteria	240240.00	---	---	---	---	---	---	240240		
HEXACHLOROETHANE	67721	No Criteria	7207.20	---	---	---	---	---	---	7207.2		
ISOPHORONE	78591	No Criteria	2096640.00	---	---	---	---	---	---	2096640		
NAPHTHALENE	91203	No Criteria	No Criteria	---	---	---	---	---	---	---		
NITROBENZENE	98953	No Criteria	150696.00	---	---	---	---	---	---	150696		
NNITROSODIMETHYLAMINE	62759	No Criteria	6552.00	---	---	---	---	---	---	6552		
NNITROSODINPROPYLAMINE	621647	No Criteria	1113.84	---	---	---	---	---	---	1113.84		
NNITROSODIPHENYLAMINE	86306	No Criteria	13104.00	---	---	---	---	---	---	13104		
PYRENE	129000	No Criteria	873600.00	---	---	---	---	---	---	873600		
1,2,4trichlorobenzene	120821	No Criteria	15288.00	---	---	---	---	---	---	15288		
PESTICIDES/PCBs												
ALDRIN	309002	283.92	0.11	---	---	---	---	---	283.92	0.1092		
Alpha BHC	319846	No Criteria	10.70	---	---	---	---	---	---	10.7016		
Beta BHC	319857	No Criteria	37.13	---	---	---	---	---	---	37.128		
Gamma BHC (Lindane)	58899	34.94	34.94	---	---	---	---	---	34.944	34.944		
CHLORDANE	57749	19.66	0.87	---	---	---	---	---	19.656	0.8736		
4,4DDT	50293	28.39	0.22	---	---	---	---	---	28.392	0.2184		
4,4DDE	72559	No Criteria	0.48	---	---	---	---	---	---	0.48048		
4,4DDD	72548	No Criteria	0.68	---	---	---	---	---	---	0.67704		
DIELDRIN	60571	155.06	0.12	---	---	---	---	---	155.064	0.117936		
ENDOSULFAN (alpha)	959988	7.43	1.90	---	---	---	---	---	7.4256	1.90008		
ENDOSULFAN (beta)	33213659	7.43	1.90	---	---	---	---	---	7.4256	1.90008		
ENDOSULFAN (sulfate)	1031078	No Criteria	19437.60	---	---	---	---	---	---	19437.6		
ENDRIN	72208	8.08	0.50	---	---	---	---	---	8.0808	0.50232		
ENDRIN ALDEHYDE	7421934	No Criteria	65.52	---	---	---	---	---	---	65.52		
HEPTACHLOR	76448	11.58	0.17	---	---	---	---	---	11.5752	0.172536		
HEPTACHLOR EPOXIDE	1024573	11.58	0.09	---	---	---	---	---	11.5752	0.085176		
POLYCHLORINATED BIPHENYLS3	1336363	No Criteria	0.14	---	---	---	---	---	---	0.139776		
2,3,7,8TCDD (Dioxin)	1746016	No Criteria	0.00	---	---	---	---	---	---	1.11384E-05		
TOXAPHENE	8001352	45.86	0.04	---	---	---	---	---	45.864	0.04368		
TRIBUTYL TIN		91.73	1.62	---	---	---	---	---	91.728	1.61616		
NON PRIORITY POLLUTANTS:												
OTHER SUBSTANCES												
ALUMINUM (limits are total recoverable)	7429905	No Criteria	No Criteria	---	40.2	29.4	26.7	26.7	---	---	na	na

AMMONIA (winter)	7664417	3770020.80	556526.88	---	---	---	10800	3108.58	3770020.8	556526.88	n	n
AMMONIA (summer)		1310531.04	197477.28	---	6880	2870	6880	1764.15	1310531.04	197477.28	n	n
4BROMOPHENYL PHENYL ETHER CHLORIDE	16887006 7782505	No Criteria	No Criteria	---	---	---	---	---	---	---		
CHLORINE		3549.00	2047.50	---	1700	1180	1940	1240	3549	2047.5	y	y
4CHLORO2METHYLPHENOL		No Criteria	No Criteria	---	---	---	---	---	---	---		
1CHLORONAPHTHALENE	106489	No Criteria	No Criteria	---	---	---	---	---	---	---		
4CHLOROPHENOL		No Criteria	No Criteria	---	---	---	---	---	---	---		
2,4DICHLORO6METHYLPHENOL		No Criteria	No Criteria	---	---	---	---	---	---	---		
1,1DICHLOROPROPANE	142289	No Criteria	No Criteria	---	---	---	---	---	---	---		
1,3DICHLOROPROPANE		No Criteria	No Criteria	---	---	---	---	---	---	---		
2,3DINITROTOLUENE		No Criteria	No Criteria	---	---	---	---	---	---	---		
2,4DINITRO6METHYL PHENOL	7439896	No Criteria	No Criteria	---	---	---	---	---	---	---		
IRON	608935	No Criteria	No Criteria	---	---	---	---	---	---	---		
pentachlorobenzene		No Criteria	No Criteria	---	---	---	---	---	---	---		
PENTACHLOROETHANE		No Criteria	No Criteria	---	---	---	---	---	---	---		
1,2,3,5tetrachlorobenzene	630206	No Criteria	No Criteria	---	---	---	---	---	---	---		
1,1,1,2TETRACHLOROETHANE	58902	No Criteria	No Criteria	---	---	---	---	---	---	---		
2,3,4,6TETRACHLOROPHENOL		No Criteria	No Criteria	---	---	---	---	---	---	---		
2,3,5,6TETRACHLOROPHENOL	95954	No Criteria	No Criteria	---	---	---	---	---	---	---		
2,4,5TRICHLOROPHENOL	88062	No Criteria	No Criteria	---	---	---	---	---	---	---		
2,4,6TRINITROPHENOL	1330207	No Criteria	No Criteria	---	---	---	---	---	---	---		
XYLENE		No Criteria	No Criteria	---	---	---	---	---	---	---		