



**RHODE ISLAND**  
**DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**  
OFFICE OF WATER RESOURCES  
235 Promenade Street, Providence, Rhode Island 02908

July 10, 2017

**CERTIFIED MAIL**

Mr. Stephen A. Alfred, Town Manger  
Town of South Kingstown  
180 High Street  
Wakefield, RI 02879

**RE: South Kingstown Regional Wastewater Treatment Plant Final Permit  
RIPDES Application No. RI0100374**

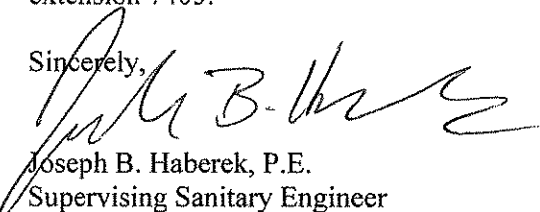
Dear Mr. Alfred:

Enclosed is your final Rhode Island Pollutant Discharge Elimination System (RIPDES) Permit issued pursuant to the referenced application. State regulations, promulgated under Chapter 46-12 of the Rhode Island General Laws of 1956, as amended, require this permit to become effective on the date specified in the permit.

Also enclosed is information relative to hearing requests and stays of RIPDES Permits.

We appreciate your cooperation throughout the development of this permit. Should you have any questions concerning this permit, feel free to contact Aaron Mello of the State Permits Staff at (401) 222-4700, extension 7405.

Sincerely,

  
Joseph B. Haberek, P.E.  
Supervising Sanitary Engineer

JBH:am

Enclosures

cc: David Turin, EPA Region 1 (Electronic Copy)  
Crystal Charbonneau, DEM/OWR (Electronic Copy)  
Kathy Perez, South Kingstown WWTF (Electronic Copy)  
Jon Shock, Town of South Kingstown (Electronic Copy)  
Matt Puglia, DEM / OWR (Electronic Copy)

#### RESPONSE TO COMMENTS

NO SIGNIFICANT COMMENTS WERE RECEIVED ON THE DRAFT PERMIT FOR THIS FACILITY; THEREFORE, NO RESPONSE WAS PREPARED.

#### HEARING REQUESTS

If you wish to contest any of the provisions of this permit, you may request a formal hearing within thirty (30) days of receipt of this letter. The request should be submitted to the Administrative Adjudication Division at the following address:

Bonnie Stewart, Clerk  
Office of Administrative Adjudication  
One Capitol Hill, Second Floor  
Providence, RI 02903

Any request for a formal hearing must conform to the requirements of Rule 49 of the State Regulations.

#### STAYS OF RIPDES PERMITS

Should the Department receive and grant a request for a formal hearing, the contested conditions of the permit will not automatically be stayed. However, the permittee, in accordance with Rule 50, may request a temporary stay for the duration of adjudicatory hearing proceedings. Requests for stays of permit conditions should be submitted to the Office of Water Resources at the following address:

Angelo S. Liberti, P.E.  
Chief of Surface Water Protection  
Office of Water Resources  
235 Promenade Street  
Providence, Rhode Island 02908

All uncontested conditions of the permit will be effective and enforceable in accordance with the provisions of Rule 49.

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 South Kingstown  
180 High Street  
Wakefield, RI 02879**

is authorized to discharge from a facility located at the

**South Kingstown Regional Wastewater Treatment Plant  
275 Westmoreland Street  
Narragansett, Rhode Island**

to receiving waters named

**Rhode Island Sound**

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

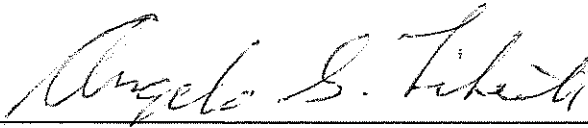
This permit shall become effective on September 1, 2017.

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

This permit supersedes the permit issued on January 13, 2012.

This permit consists of twenty-two (22) pages in Part I including effluent limitations, monitoring requirements, etc. and ten (10) pages in Part II including General Conditions.

Signed this 10<sup>th</sup> day of July, 2017.

  
Angelo S. Liberty, P.E., Chief of 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. (final discharge after dechlorination).

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Concentration - specify units</u>			<u>Monitoring Requirement</u>	
	Quantity - lbs./day						
	<u>Average Monthly</u>	<u>Maximum Daily</u>	<u>Average Monthly</u> *(Minimum)	<u>Average Weekly</u> *(Average)	<u>Maximum Daily</u> *(Maximum)	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow	5.0 MGD					Continuous	Recorder
BOD <sub>5</sub>	1,251	2,085	30 mg/l	45 mg/l	50 mg/l	3/Week	24-Hr. Comp.
BOD <sub>5</sub> - % Removal	85%					1/Month	Calculated
TSS	1,251	2,085	30 mg/l	45 mg/l	50 mg/l	3/Week	24-Hr. Comp.
TSS - % Removal	85%					1/Month	Calculated
Settleable Solids				--- 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.

Sampling for TSS and BOD<sub>5</sub> shall be performed Tuesday, Thursday and either Saturday or Sunday. All BOD<sub>5</sub> and TSS samples shall be taken on the influent and effluent with appropriate allowances for hydraulic detention (flow-through) time.

Sampling for Flow and Settleable Solids shall be performed Sunday-Saturday.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: Outfall 001A. (final discharge after dechlorination).

## 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. (final discharge after dechlorination).

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	<u>Discharge Limitations</u>			<u>Monitoring Requirement</u>		
	Quantity - lbs./day		Concentration - specify units			Sample Type
	Average Monthly	Maximum Daily	Average Monthly *(Minimum)	Average Weekly *(Average)	Maximum Daily *(Maximum)	
Enterococci			35 cfu <sup>1</sup> 100 ml		276 cfu <sup>1</sup> 100 ml	3/Week Grab
Fecal Coliform			--- MPN <sup>1</sup> 100 ml		--- MPN <sup>1</sup> 100 ml	3/Week Grab
Total Residual Chlorine (TRC)			885 ug/l <sup>2</sup>		1,040 ug/l <sup>2</sup>	Daily Grab <sup>2</sup>
pH			(6.0 SU)		(9.0 SU)	2/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> Two (2) of the three (3) Enterococci samples are to be taken on Tuesday and Thursday. The Fecal Coliform samples shall be taken at the same time as the Enterococci samples. The Geometric Mean shall be used to obtain the "weekly average" and the "monthly average." The facility shall report any fecal coliform sample result that exceeds 400 MPN/100 mL to the RI DEM in accordance with the 24-hour reporting requirements under Part II(I)(5) of the permit.

<sup>2</sup>The use of a continuous TRC recorder after chlorination and prior to dechlorination 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 of the final effluent (after dechlorination) 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 (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-Cl G; (2) DPD Titrimetric, EPA No. 330.4 or Standard Methods (18<sup>th</sup> Edition) No. 4500-Cl F; (3) Amperometric Titration, EPA No. 330.1 or Standard Methods (18<sup>th</sup> Edition) No. 4500-Cl 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-Cl B; (5) Iodometric Back Titration (either end-point), EPA No. 330.2 or Standard Methods (18<sup>th</sup> Edition) No. 4500-Cl C.

\*Values in parentheses () are to be reported as Minimum/Maximum for the reporting period rather than Average Monthly/Maximum Daily.

Sampling for pH and Chlorine Residual shall be performed Sunday-Saturday.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: Outfall 001A (final discharge after dechlorination).

PART 1

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. (final discharge after dechlorination).

Such discharges shall be monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>			<u>Concentration - specify units</u>		<u>Monitoring Requirement</u>	
	<u>Quantity - lbs./day</u>		<u>Average Monthly</u>	<u>Average</u>		<u>Measurement Frequency</u>	<u>Sample Type</u>
	<u>Average Monthly</u>	<u>Maximum Daily</u>		<u>Weekly</u>	<u>Maximum Daily</u>		
Oil and Grease					--- mg/l	1/Quarter	3 Grabs <sup>1</sup>
TKN (May 1 – October 31)					--- mg/l	1/Month	24-Hr. Comp.
Nitrate, Total (as N) (May 1 – October 31)					--- mg/l	1/Month	24-Hr. Comp.
Nitrite, Total (as N) (May 1 – October 31)					--- mg/l	1/Month	24-Hr. Comp.
Nitrogen, Total (TKN+Nitrate+Nitrite, as N) (May 1 – October 31)					--- mg/l	1/Month	Calculated

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

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

Samples taken in compliance with the monitoring requirements specified above shall be taken Monday through Friday at the following location: Outfall 001A. (final discharge after dechlorination).

## 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 001A. (final discharge after dechlorination)

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>			<u>Monitoring Requirement</u>		
	<u>Quantity - lbs./day</u>		<u>Concentration - specify units</u>			<u>Sample Type</u>
	<u>Average Monthly</u>	<u>Maximum Daily</u>	<u>Average Monthly *(Minimum)</u>	<u>Average Weekly *(Average)</u>	<u>Maximum Daily *(Maximum)</u>	<u>Measurement Frequency</u>
Cyanide <sup>1</sup>			64 ug/l		64 ug/l	1/Quarter Composite <sup>2</sup>
Copper, Total <sup>1</sup>			--- ug/l		--- ug/l	1/Quarter 24-Hr. Comp.
Cadmium, Total <sup>1</sup>			--- ug/l		--- ug/l	1/Quarter 24-Hr. Comp.
Chromium, Total <sup>1</sup>			--- ug/l		--- ug/l	1/Quarter 24-Hr. Comp.
Lead, Total <sup>1</sup>			--- ug/l		--- ug/l	1/Quarter 24-Hr. Comp.
Zinc, Total <sup>1</sup>			--- ug/l		--- ug/l	1/Quarter 24-Hr. Comp.
Nickel, Total <sup>1</sup>			--- ug/l		--- ug/l	1/Quarter 24-Hr. Comp.
Aluminum, Total <sup>1</sup>			--- ug/l		--- ug/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 bioassay testing.

<sup>2</sup>Monitoring shall be conducted by taking three (3) grab samples per day with a minimum of three (3) hours between grabs and preserved immediately upon collection. All three (3) samples shall be composited then analyzed for available Cyanide.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: Outfall 001A (final discharge after dechlorination).

PART 1

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. (final discharge after dechlorination).

Such discharges shall be monitored by the permittee as specified below:

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

<sup>1</sup>LC<sub>50</sub> is defined as the concentration of wastewater that causes mortality to 50% of the test organisms.

<sup>2</sup>The 100% or greater limit is defined as a sample which is composed of 100% effluent.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations: Outfall 001A in accordance with Part I.B. of the permit. (final discharge after dechlorination)

6. 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, Table 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 after dechlorination. 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 RIDEM) 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 species listed below, for a total of four (4) acute toxicity tests per year. This requirement entails performing one- (1) specie testing as follows:

<u>Species</u>	<u>Test Type</u> One Specie Test (Four Times Annually)	<u>Frequency</u>
Mysids ( <i>Mysidopsis bahia</i> )	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 final effluent sample (i.e., after dechlorination) shall be collected during dry weather (no rain forty-eight (48) hours prior to or during sampling unless approved by RIDEM). 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 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 on South Ferry Road, Narragansett. It is noted that the University claims no responsibility for the personal safety on 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 RIDEM.

7. Effluent Toxicity Test Conditions for Mysids  
(*Mysidopsis bahia*)

a.	Test Type	48-Hour Static Acute Definitive
b.	Salinity	25 ppt $\pm$ 10% for all dilutions
c.	Temperature (C)	25° $\pm$ 1°C
d.	Light Quality	Ambient laboratory illumination
e.	Photoperiod	8 - 16 Hour Light/24-Hour
f.	Test Chamber Size	250 ml
g.	Test Solution Volume	200 ml
h.	Age of Test Organisms	1 - 5 Days
i.	No. Mysids Per Test Chamber	10
j.	No. of Replicate Test Chamber Per Concentration	2
k.	Total No. Mysids Per Test Concentration	20
l.	Feeding Regime	Light feeding (two (2) drops concentrated brine shrimp nauplii, approx. 100 nauplii per mysid twice daily).
m.	Aeration	None, unless dissolved oxygen concentration falls below 40% of saturation at which time gentle single-bubble aeration should be started.
n.	Dilution Water	Narragansett Bay water as discussed above.
o.	Dilutions	Five (5) dilutions plus a control: 100%, 50%, 25%, 12.5%, 6.25% and 0% effluent.
p.	Effect Measured and Test	Mortality - no movement of body test duration or appendages on gentle prodding, 48-hour LC <sub>50</sub> and NOEL.
q.	Test Acceptability	90% or greater survival of test organisms in control solution.
r.	Sampling Requirements	Samples are collected and used within 24 hours after the last sample of the composite is collected.
s.	Sample Volume Required	Minimum four (4) liters

## 8. Chemical Analysis

The following chemical analysis shall be performed for every sampling event.

<u>Parameter</u>	<u>Effluent</u>	<u>Saline Diluent</u>	<u>Detection Limit (mg/l)</u>
pH	X	X	---
Specific Conductance	X	X	---
Total Solids and Suspended Solids	X	X	---
Ammonia	X		0.1
Total Organic Carbon	X		0.5
Available Cyanide	X		0.01
Total Phenols	X		0.05
Salinity	X	X	PPT(0/00)

During each calendar quarter bioassay sampling event, the following chemical analyses shall be performed:

<u>Total Metals</u>	<u>Effluent</u>	<u>Saline Diluent</u>	<u>Detection Limit (ug/L)</u>
Total Aluminum	x	x	5.0
Total Cadmium	x	x	0.1
Total Copper	x	x	1.0
Hexavalent Chromium	x	x	20.0
Total Lead	x	x	1.0
Total Nickel	x	x	1.0
Total Zinc	x	x	5.0

The above analysis may be used to fulfill, in part or in whole, monitoring requirements in the permit for those 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 other permit conditions to fulfill any other pollutant monitoring 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 on 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 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 shall be signed and submitted to the Graduate School of Oceanography. Requests to use another source of dilution water will have to be approved by the Department of Environmental Management, Office of Water Resources.

#### 11. Reporting of Bioassay Testing

Bioassay Testing shall be conducted as follows:

<u>Quarter Testing to be Performed</u>	<u>Report Due No Later Than</u>	<u>Results Submitted on DMR for</u>
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 RI DEM.

**C. INDUSTRIAL PRETREATMENT PROGRAM**

1. Definitions

For the purpose of this permit, the following definitions apply.

- a. 40 CFR 403 and sections thereof refer to the General Pretreatment regulations, 40 CFR Part 403 as revised.
- b. Categorical Pretreatment Standards mean any regulation containing pollutant discharge limits promulgated by the USEPA in accordance with section 307(b) and (c) of the Clean Water Act(33 USC 1251), as amended, which apply to a specific category of industrial users and which appears in 40 CFR Chapter 1, Subchapter N.
- c. Pretreatment Standards include all specific prohibitions and prohibitive discharge limits established pursuant to 40 CFR 403.5, including but not limited to, local limits, and the Categorical Pretreatment Standards.
- d. Regulated Pollutants shall include those pollutants contained in applicable categorical standards and any other pollutants listed in the Pretreatment Standards which have reasonable potential to be present in an industrial user's effluent.

2. Implementation

The authority and procedures of the Industrial Pretreatment Program shall at all times be fully and effectively exercised and implemented, in compliance with the requirements of this permit and in accordance with the legal authorities, policies, procedures and financial provisions described in the permittee's approved Pretreatment Program and Sewer Use Ordinance, the Rhode Island Pretreatment Regulations and the General Pretreatment Regulations 40 CFR 403. The permittee shall maintain adequate resource levels to accomplish the objectives of the Pretreatment Program.

3. Local Limits

Pollutants introduced into POTWs by a non-domestic source (user) shall not: pass through the POTW, interfere with the operation or performance of the works, contaminate sludge as to adversely effect disposal options, or adversely effect worker safety and health.

- a. The permittee has an approved Local Limits Monitoring Plan (LLMP) dated December 17, 2009. The permittee shall continue to implement its approved LLMP and any subsequent amendments approved by DEM at all times.
- b. At the time of renewal of this permit and in accordance with 40 CFR 122.44(j)(2), the permittee shall submit to the DEM with its permit renewal application a written technical evaluation of the need to revise local limits. The evaluation shall be based, at a minimum, on information obtained during the implementation of the permittee's local limits monitoring plan and procedures required by Part I.C.3.a of this permit and current RIPDES permit discharge limits, sludge disposal criteria, secondary treatment inhibition, and worker health and safety criteria.

4. Enforcement Response Plan (ERP)

The permittee has an approved ERP dated July 15, 2008 that meets the requirements of 40 CFR 403.8(f)(5). The permittee shall continue to implement its approved ERP and any subsequent amendments approved by DEM at all times.

5. General

- a. The permittee shall carry out inspection, surveillance, and monitoring procedures which will determine, independent of information supplied by the industrial user, whether the industrial user is in compliance with Pretreatment Standards. At a minimum, all significant industrial users shall be inspected and monitored for all regulated pollutants at the frequency established in the approved Industrial Pretreatment Program but in no case less than once per year (one (1) year being determined as the reporting year established in Part I.C.7 of this permit). In addition, these inspections, monitoring and surveillance activities must be conducted in accordance with EPA's Industrial User Inspection and Sampling Manual for POTW's, April 1994. All inspections, monitoring, and surveillance activities shall be performed, and have records maintained, with sufficient care to produce evidence admissible in enforcement proceedings or judicial actions. The permittee shall evaluate, at least every two years unless specific superseding 40 CFR 403 streamlining provisions have been adopted, whether each SIU requires a Slug Control Plan. If a Slug Control Plan is required, it shall include the contents specified by 40 CFR 403.8(f)(2)(vi).
- b. The permittee shall reissue all necessary Industrial User (IU) control mechanisms within thirty (30) days of their expiration date. The permittee shall issue, within sixty (60) days after the determination that an IU is a Significant Industrial User (SIU), all SIU control mechanisms. All SIU control mechanisms must contain, at a minimum, those conditions stated in 40 CFR 403.8(f)(1)(iii)(B). All control mechanisms must be mailed via Certified Mail, Return Receipt Requested. A complete bound copy of the control mechanism with the appropriate receipt must be kept as part of the Industrial User's permanent file. In addition, the permittee must develop a fact sheet describing the basis for the SIU's permit and retain this fact sheet as part of the SIU's permanent file.
- c. The permittee must identify each instance of noncompliance with any pretreatment standard and/or requirement and take a formal documented action for each instance of noncompliance. Copies of all such documentation must be maintained in the Industrial User's permanent file.
- d. The permittee shall prohibit Industrial Users from the dilution of a discharge as a substitute for adequate treatment in accordance with 40 CFR 403.6(d).
- e. The permittee shall comply with the procedures of 40 CFR 403.18 for instituting any modifications of the permittee's approved Pretreatment Program. Significant changes in the operation of a POTW's approved Pretreatment Program must be submitted and approved following the procedures outlined in 40 CFR 403.18(b) and 403.9(b). However, the endorsement of local officials responsible for supervising and/or funding the pretreatment program required by 403.9(b)(2) will not be required until DEM completes a preliminary review of the submission. The DEM will evaluate and review the permittee's initial proposal for a modification and provide written notification either granting preliminary approval of the proposed modifications or stating the deficiencies contained therein. DEM's written notification will also include a determination whether the submission constitutes a substantial or non-substantial program modification as defined by 40 CFR 403.18. Should DEM determine that a deficiency exists in the proposed modification, the permittee shall submit to DEM, within thirty (30) days of the receipt of said notice, a revised submission consistent with DEM's notice of deficiency.

Pretreatment program modifications which the permittee considers Non-substantial, shall be deemed to be approved within forty-five (45) days after submission of the request for modification, unless DEM determines that the modification is in fact a substantial modification or notifies the permittee of

deficiencies. Upon receipt of notification that DEM has determined the modification is substantial, the permittee shall initiate the procedures and comply with the deadlines for substantial modifications, which are outlined below.

For substantial modifications, the permittee shall, within sixty (60) days (unless a longer time frame is granted) of the receipt of DEM's preliminary approval of the proposed modification, submit documentation (as required by 403.9(b)(2)) that any local public notification/participation procedures required by law have been completed, including any responses to public comments, and a statement that the local officials will endorse and/or approve the modification upon approval by DEM.

Within thirty (30) days of DEM's final approval of the proposed modification(s), the permittee shall implement the modification and submit proof that the local officials have endorse and/or approved the modification(s) to the DEM. Upon final approval by the DEM and adoption by the permittee, this modification(s) shall become part of the approved pretreatment program and shall be incorporated into this permit in accordance with 40CFR 122.63(g).

- f. All sampling and analysis required of the permittee, or by the permittee of any Industrial User, must be performed in accordance with the techniques described in 40 CFR 136.
- g. For those Industrial Users with discharges that are not subject to Categorical Pretreatment Standards, the permittee shall require appropriate reporting in accordance with 40 CFR 403.12(h).
- h. The permittee shall, in accordance with 40 CFR 403.12(f), require all Industrial Users to immediately notify the permittee of all discharges by the Industrial User that could cause problems to the POTW, including slug loadings, as summarized in 40 CFR 403.5(b).
- i. The permittee shall require all Industrial Users to notify the permittee of substantial changes in discharge as specified in 40 CFR 403.12(j) and the permittee shall also notify DEM of each such substantial change in discharge prior to acceptance.
- j. The permittee shall require New Sources to install and have in operation all pollution control equipment required to meet applicable Pretreatment Standards before beginning to discharge. In addition, the permittee shall require New Sources to meet all applicable Pretreatment Standards within the shortest feasible time which shall not exceed ninety (90) days in accordance with 40 CFR 403.6(b).
- k. The permittee shall require all Industrial Users who are required to sample their effluent and report the results of analysis to the POTW to comply with signatory requirements contained in 40 CFR 403.12(l) when submitting such reports.
- l. The permittee shall determine, based on the criteria set forth in 40 CFR 403.8(f)(2)(viii), using the EPA method of "rolling quarters", the compliance status of each Industrial User. Any Industrial User determined to meet Significant Non-Compliance (SNC) criteria shall be included in an annual public notification as specified in 40 CFR 403.8(f)(2)(viii).
- m. The permittee shall require Industrial Users to comply with the notification and certification requirements of 40 CFR 403.12(p)(1), (3) and (4) pertaining to the discharge of substances to the POTW, which if disposed of otherwise, would be a hazardous waste under 40 CFR Part 261.

- n. The permittee shall continue to designate, as SIUs, those Industrial Users (IUs) which meet the definition contained in 40 CFR 403.3 and the permittee's sewer use ordinance.

The permittee shall notify each newly designated SIU of its classification as an SIU within thirty (30) days of identification and shall inform the SIU of the requirements of an SIU contained in 40 CFR 403.12.

6. Categorical Industrial Users (CIUs)

- a. The permittee shall require Industrial Users to comply with applicable Categorical Pretreatment Standards in addition to all applicable Pretreatment Standards and Requirements. The permittee shall require of all Categorical Industrial Users (CIUs), all reports on compliance with applicable Categorical Pretreatment Standards and Categorical Pretreatment Standard deadlines as specified in and in accordance with Sections (b), (d), (e) and (g) of 40 CFR 403.12. In addition, the permittee shall require Categorical Industrial Users to comply with the report signatory requirements contained in 40 CFR 403.12(1) when submitting such reports.
- b. If the permittee applies the Combined Wastestream Formula (CWF) to develop fixed alternative discharge limits of Categorical Pretreatment Standards, the application of the CWF and the enforcement of the resulting limits must comply with 40 CFR 403.6(e). The permittee must document all calculations within the control mechanism fact sheet and the resulting limits within the CIU's control mechanism. The permittee must ensure that the most stringent limit is applied to the CIU's effluent at end-of-pipe based upon a comparison of the resulting CWF limits and the permittee's local limits.
- c. If the permittee has or obtains the authority to apply and enforce equivalent mass-per-day and/or concentration limitations of production-based Categorical Pretreatment Standards, then the permittee shall calculate and enforce the limits in accordance with 40 CFR 403.6(c). The permittee must document all calculations within the control mechanism fact sheet and the resulting limits within the CIU's control mechanism.

7. Annual Report

The annual report for the permittee's program shall contain information pertaining to the reporting year which shall extend from October 1st through September 30th and shall be submitted to the DEM by December 15<sup>th</sup>. Each item below must be addressed separately and any items which are not applicable must be so indicated. If any item is deemed not applicable a brief explanation must be provided. The annual report shall include the following information pertaining to the reporting year:

- a. A listing of Industrial Users which complies with requirements stated in 40 CFR 403.12(i)(1). The list shall identify all Categorical Industrial Users, Significant Industrial Users and any other categories of users established by the permittee;
- b. A summary, including dates of any notifications received by the permittee of any substantial change in the volume or character of pollutants being introduced into the POTW by new or existing IUs. If applicable, an evaluation of the quality and quantity of influent introduced into the POTW and any anticipated impact due to the changed discharge on the quantity or quality of effluent to be discharged from the POTW shall be included;
- c. A summary of the Compliance status of each Industrial User (IU), as of the end of last quarter covered by the annual report. The list shall identify all IUs in non-compliance, the pretreatment program requirement which the IU failed to

meet, and the type, and date of the enforcement action initiated by the permittee in response to the violation. If applicable, the list shall also contain the date which IUs in non-compliance returned to compliance, a description of corrective actions ordered, and the penalties levied.

- d. A list of industries which were determined, in accordance with Part I.C.5.(l) of this permit, to be in significant non-compliance required to be published in a local newspaper and a copy of proof of publication from the newspaper that the names of these violators has been published.
- e. A summary of inspection and monitoring activity performed by the permittee, including;
  - significant industrial users inspected by the POTW (include inspection dates for each industrial user);
  - significant industrial user sampled by the POTW (include sampling dates and dates of analysis for each industrial user);
- f. A summary of permit issuance/reissuance activities including the name of the industrial user, expiration date of previous permit, issuance date of new permit, and a brief description of any changes to the permit;
- g. A list including the report/notification type, due date, and receipt date for each report/notification required by 40 CFR 403.12;
- h. A summary of public participation efforts including meetings and workshops held with the public and/or industry and notices/newsletters/bulletins published and/or distributed;
- i. A program evaluation in terms of program effectiveness, local limits application and resources which addresses but is not limited to:
  - A description of actions being taken to reduce the incidence of SNC by Industrial Users;
  - effectiveness of enforcement response program;
  - sufficiency of funding and staffing;
  - sufficiency of the SUO, Rules and Regulations and/or statutory authority;
- j. An evaluation of recent/proposed program modifications, both substantial and non-substantial, in terms of the modification type, implementation and actual/expected effect (note proposed modifications must be submitted under separate cover along with the information required by 40 CFR 403.18);
- k. A detailed description of all interference and pass-through that occurred during the past year and, if applicable;
  - A thorough description of all investigations into interference and pass-through during the past year;
  - A description of the monitoring, sewer inspections and evaluations which were done during the past year to detect interference and pass-through, specifying pollutants analyzed and frequencies;
- l. A summary of the average, maximum concentration, minimum concentration, and number of data points used for pollutant analytical results for influent, effluent, sludge and any toxicity or bioassay data from the wastewater treatment facility. The summary shall include a comparison of influent sampling results versus the maximum allowable headworks loadings contained in the approved local limits evaluation and effluent sampling results versus water quality standards. Such a comparison shall be based on the analytical results required in

Parts I.A and I.C. of this permit and any additional sampling data available to the permittee; and

m. A completed Annual Pretreatment Report Summary Sheet.

8. Interjurisdictional Agreement

The permittee has an approved Interjurisdictional Agreement with the Town of Narragansett dated March 22, 2007. The permittee shall continue to implement its approved Interjurisdictional Agreement and any subsequent amendments approved by DEM at all times.

9. Sewer Use Ordinance

The permittee has an approved Sewer Use Ordinance dated March 6, 2006. The permittee shall continue to implement its approved Sewer Use Ordinance and any subsequent amendments approved by DEM at all times.

**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 two (2) years shall be submitted to RIDEM, Office of Water Resources, by the 15<sup>th</sup> day of January following the two year period. The first report is due January 15, 2019.

**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. The permittee shall comply with the most current RIDEM Order of Approval for the disposal of sludge.

**F. DETECTION LIMITS**

The permittee shall assure that all wastewater testing required by this permit, is performed in conformance with the method detection limits below (the EPA method is noted for reference, other EPA approved methods found in 40 CFR Part 136 may be utilized). 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):

1. "could not be analyzed" data shall be excluded, and shall not be considered as failure to comply with the permit sampling requirements;
2. 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.

Volatiles - EPA Method 624		MDL ug/l (ppb)	Pesticides-EPA method 608		MDL ug/l (ppb)
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			
11V	chloroform	1.0	Base/Neutral-EPA Method 625		MDL ug/l (ppb)
12V	dichlorobromomethane	1.0	1B	acenaphthene*	1.0
14V	1,1-dichloroethane	1.0	2B	acenaphthylene*	1.0
15V	1,2-dichloroethane	1.0	3B	anthracene*	1.0
16V	1,1-dichloroethylene	1.0	4B	benzidine	4.0
17V	1,2-dichloropropane	1.0	5B	benzo(a)anthracene*	2.0
18V	1,3-dichloropropylene	1.0	6B	benzo(a)pyrene*	2.0
19V	ethylbenzene	1.0	7B	3,4-benzofluoranthene*	1.0
20V	methyl bromide	1.0	8B	benzo(ghi)perylene*	2.0
21V	methyl chloride	1.0	9B	benzo(k)fluoranthene*	2.0
22V	methylene chloride	1.0	10B	bis(2-chloroethoxy)methane	2.0
23V	1,1,2,2-tetrachloroethane	1.0	11B	bis(2-chloroethyl)ether	1.0
24V	tetrachloroethylene	1.0	12B	bis(2-chloroisopropyl)ether	1.0
25V	toluene	1.0	13B	bis(2-ethylhexyl)phthalate	1.0
26V	1,2-trans-dichloroethylene	1.0	14B	4-bromophenyl phenyl ether	1.0
27V	1,1,1-trichloroethane	1.0	15B	butylbenzyl phthalate	1.0
28V	1,1,2-trichloroethane	1.0	16B	2-chloronaphthalene	1.0
29V	trichloroethylene	1.0	17B	4-chlorophenyl phenyl ether	1.0
31V	vinyl chloride	1.0	18B	chrysene*	1.0
Acid Compounds-EPA Method 625		MDL ug/l (ppb)	19B	dibenzo (a,h)anthracene*	2.0
1A	2-chlorophenol	1.0	20B	1,2-dichlorobenzene	1.0
2A	2,4-dichlorophenol	1.0	21B	1,3-dichlorobenzene	1.0
3A	2,4-dimethylphenol	1.0	22B	1,4-dichlorobenzene	1.0
4A	4,6-dinitro-o-cresol	1.0	23B	3,3' -dichlorobenzidine	2.0
5A	2,4-dinitrophenol	2.0	24B	diethyl phthalate	1.0
6A	2-nitrophenol	1.0	25B	dimethyl phthalate	1.0
7A	4-nitrophenol	1.0	26B	di-n-butyl phthalate	1.0
8A	p-chloro-m-cresol	2.0	27B	2,4-dinitrotoluene	2.0
9A	pentachlorophenol	1.0	28B	2,6-dinitrotoluene	2.0
10A	phenol	1.0	29B	di-n-octyl phthalate	1.0
11A	2,4,6-trichlorophenol	1.0	30B	1,2-diphenylhydrazine (as azobenzene)	1.0
Pesticides-EPA Method 608		MDL ug/l (ppb)	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	chlordane	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			

## OTHER TOXIC POLLUTANTS

	MDL ug/l (ppb)
Antimony, Total	3.0
Arsenic, Total	1.0
Beryllium, Total	0.2
Cadmium, Total	0.1
Chromium, total	1.0
Chromium, Hexavalent***	20.0
Copper, Total	1.0
Lead, Total	1.0
Mercury, Total	0.2
Nickel, Total	1.0
Selenium, Total	2.0
Silver, Total	0.5
Thallium, Total	1.0
Zinc, Total	5.0
Asbestos	**
Cyanide, Total	10.0
Phenols, Total***	50.0
TCDD	**
MTBE (Methyl Tert Butyl Ether)	1.0
Aluminum, Total***	5.0

\*Polynuclear Aromatic Hydrocarbons

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

\*\*\*Not a priority pollutant

### 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.G.3 below).*

### 3. 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
- B. Notice of unauthorized discharges, including Sanitary Sewer Overflow (SSO) reporting
- C. Priority Pollutant Scan results
- D. Infiltration/Inflow Reports
- E. Pretreatment Program Annual Report
- F. Requests for changes to Permit conditions

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

### 4. 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.

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.

**RI0100374**

NAME AND 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, RI 02882**

RECEIVING WATER:

**Rhode Island Sound  
(Waterbody ID#: RI0010042E-01A)**

CLASSIFICATION:

**SB1**

**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 industrial sewage. The discharge is from the South Kingstown Regional Wastewater Treatment Plant.

**II. Description of Discharge**

A quantitative description of the discharge in terms of significant effluent parameters based on DMR data from March 2012 through November 2016 is shown on Attachment A-1.

**III. Permit Limitations and Conditions**

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

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

##### **Introduction**

The Town of South Kingstown ("the Town") owns and operates a regional wastewater treatment facility located at 275 Westmoreland Street, Narragansett, Rhode Island. The discharge to Rhode Island Sound consists of treated sanitary sewage contributed by the municipalities of South Kingstown (including the University of Rhode Island) and Narragansett. Treatment consists of the following: Coarse Screening, Comminution, Primary Settling, Fine Bubble Aeration, Secondary Settling, Chlorination, and Dechlorination. A topographic map of the facility is included in Attachment A-2, a process flow diagram is included as Attachment A-3, and an aerial photograph with superimposed acute and chronic mixing zones is included as Attachment A-4.

The Town's most recent RIPDES permit, authorizing discharges from the above-mentioned facility, was issued on January 13, 2012. The permit became effective on March 1, 2012 and expired on February 28, 2017. On May 25, 2012 the Town and DEM entered into Consent Agreement RIA-416 to resolve a February 8, 2012 request for an administrative hearing by the Town. The Consent Agreement required the Town to complete installation of a continuous TRC recorder after chlorination and prior to dechlorination to provide a continuous record that proper disinfection was achieved at all times by September 1, 2012. In an August 30, 2012 letter from the Town it was noted that a continuous TRC analyzer that records on the SCADA system at the facility and has a backup continuous read chart recorder was installed and placed online on July 12, 2012. The Town submitted an application for permit reissuance to the DEM on March 30, 2016, and updated that submittal on May 9, 2016. On May 17, 2016 the DEM issued an application complete letter to the Town. In accordance with Rule 13(a) of the Regulations for the Rhode Island Pollutant Discharge Elimination System, the Town's January 13, 2012 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 January 13, 2012 permit.

##### **Receiving Water Description**

The water body segment in the Rhode Island Sound that receives the discharge from the South Kingstown WWTF is described as coastal waters in the vicinity of Tucker's Dock which are within a 500 foot radius of the South Kingstown/Narragansett Regional Wastewater Treatment Facility outfall. The waterbody identification for this water body is RI0010042E-01A. This segment is located in Narragansett and is classified as a class SB1 water body according to the Rhode Island Water Quality Regulations. SB1 waters are designated for primary and secondary contact recreational activities and fish and wildlife habitat. They shall be suitable for aquacultural uses, 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 Class SB criteria must be met. This receiving water is not listed as being impaired for any pollutants in the DEM's latest 303(d) list.

##### **Permit 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. RIDEM'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 Rhode Island Pollutant Discharge Elimination System (RIPDES) permit limitations is a multi-step process consisting of the following steps: calculating allowable discharge levels based on instream criteria, background data and available dilution; assigning applicable Technology-based limits and appropriate Best Professional Judgement (BPJ) limits; determining if technology based limits apply; comparing existing permit limits to the new allowable discharge levels; and evaluating the ability of the facility to meet the final permit effluent limits.

Water quality criteria are comprised of numeric and narrative criteria. Numeric criteria are scientifically derived ambient concentrations developed by EPA or States for various pollutants of concern to protect human health and aquatic life. Narrative criteria are statements that describe the desired water quality goal. A technology-based limit is a numeric limit, which is determined by examining the capability of a treatment process to reduce or eliminate pollutants.

#### Conventional Pollutant Permit Limitations

##### *Flow Limits*

The basis for the facility's flow limit of 5.0 MGD is the facility's Facilities Plan dated October 1994.

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

The "Average Monthly" and "Average Weekly" biochemical oxygen demand (BOD<sub>5</sub>) and total suspended solids (TSS) permit limitations, the "Percent Removal" requirements for BOD<sub>5</sub> and TSS, and the effluent limitations for pH are based upon the secondary treatment requirements in Section 301(b)(1)(B) of the Clean Water Act (CWA), as defined in 40 CFR 133.102 (a) & (c). "Maximum Daily" BOD<sub>5</sub> and TSS limits are based on Rhode Island requirements for Publicly Owned Treatment Works (POTWs) under Rule 17.04(b) of the RIPDES Regulations and as provided in 40 CFR 123.25. Settleable Solids monitoring has been included as a process-control parameter that can aid in the assessment of the operation of the plant but need not have an effluent limit.

##### *Oil and Grease*

Oil and Grease monitoring requirements that were assigned have been maintained in this permit in order to serve as a process control parameter. Monitoring data will serve as an indicator of excessive levels of Oil and Grease which may result in blockages in the collection system and that are typically attributed to restaurants and other sources of Oil and Grease loading which discharge to the sewer collection system. The Town of South Kingstown and the RIDEM will be able to use this data to track and potentially initiate corrective action if necessary to prevent backups and blockages within the sewer collection system.

##### *Bacteria Limits*

Table 2.8.D(3) of the RI Water Quality Regulations include Enterococci criteria for primary contact/swimming of a geometric mean of 35 colonies/100 ml and a single sample maximum of 104 colonies/100 ml. However, the "single sample maximum" value is only used by the Rhode Island Department of Health to evaluate swimming advisories at public beaches and is not applied to the receiving water in the area of the South Kingstown WWTF's outfall. EPA's November 12, 2008 memorandum regarding "Initial Zones of Dilution for Bacteria in Rivers and Streams Designated for Primary Contact Recreation" specifies 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 Rhode Island Department of Environmental Management (DEM) has assigned a monthly average Enterococci limit of 35 colonies/100 ml. This limit is consistent with the water quality criteria from Table 2.8.D(3) of the RI Water Quality Regulations. 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/100 ml. The DEM has also assigned Fecal Coliform monitoring to 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.

#### Water Quality Based Permit Limitations

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, as amended.

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 Town's first permit to contain water quality based limits was issued in November 1995. The permit was subsequently reissued in May 2001, July 2006, and January 2012. Most of the conditions from the January 2012 RIPDES permit have remained intact however the basis for conditions which have been carried forward from the 2012 permit and the basis for those which are new to the 2017 permit are detailed below.

#### 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). The WWTF's effluent is discharged through a 28 inch pipe that is approximately 1,040 feet offshore and is fitted with a diffuser consisting of five (5) twelve (12) inch ports, each of which is five (5) feet in length. Rule 17 of the RIPDES Regulations requires the use of the design flow when establishing limits for POTWs. Permit limits were established based on acute and chronic dilution factors of 80:1 and 118:1 with respective mixing zone radii of 135 meters (approximately 443 feet) and 13.5 meters (approximately 44.3 feet), determined from the EPA computer model CORMIX2 assuming the design flow of 5.0 MGD, a mean low water depth of the outfall of approximately 41 feet, a wind speed of two (2) knots, and a conservative estimate of ambient current velocity (0.16 feet per second). Please refer to the November 27, 1995 Development Document for additional details regarding the dilution modeling. Because the conditions that were used to calculate the dilution factors in November of 1995 have not changed, the same dilution factors have been used during the reissuance of this permit. The South Kingstown WWTF mixing zone is presented as an aerial photograph in Attachment A-4.

Using these 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.

Since background data, in the area of the discharge, was not available, Water Quality-based permit limits were calculated using equation (a) above. Reference Attachment A-5 for calculations of allowable limits based on Aquatic Life and Human Health Criteria.

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 RIDEM 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.

- 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.

Since none of the permit limits are greater than the limits in the previous permit, there will not be an increased pollutant load to the receiving water and the Office has determined that all permit limitations are consistent with the Rhode Island Antidegradation Policy.

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 and 90% allocation when background data was available. 100% allocation of total residual chlorine (TRC) was used due to the fact that Chlorine is not expected to be found in ambient water and it is a non-conservative pollutant.

A summary of DMR data for the period March 2012- November 2016 and facility Priority Pollutant Scan data for the period 2012-2016 are provided in Attachments A-6 and A-7, respectively. Attachment A-8 is a summary comparison of the allowable limits vs. the DMR and Priority Pollutant Scan data.

#### Reasonable Potential

In accordance with 40 CFR 122.4(d)(1)(iii), it is only necessary to establish permit limits for those pollutants in the discharge which have the reasonable potential to cause or contribute to the exceedance of instream criteria. In order to evaluate the need for permit limits, the most stringent calculated acute and chronic limits are compared to the Discharge Monitoring Report (DMR) and the Priority Pollutant Scan data. Based on the analysis presented above, permit limits are required for Total Residual Chlorine (TRC) and Cyanide. Although the effluent concentrations for TRC did not have "reasonable potential", this was only because the effluent is de-chlorinated. Therefore, TRC limits have been included in the permit to ensure that the effluent is properly dechlorinated. Priority Pollutant Scan data in 2014 indicated a detection of Cyanide that exceeded calculated acute and chronic limits for Cyanide. Therefore, Cyanide limits have been included in the permit with the same quarterly monitoring to ensure the effluent complies with calculated water quality based limits. The remainder of the data for the pollutants from the Priority Pollutant Scans and as presented on DMRs clearly demonstrate that there is no reasonable potential for the discharge to exceed water quality criteria. This determination was made based on the fact that the data was well below levels that would be required in order to meet water quality. Although these pollutants did not have "reasonable potential", quarterly monitoring for Total Copper, Total Chromium, Total Cadmium, Total Lead, Total Zinc, Total Nickel and Total Aluminum have been included in the permit as part of the standard list of pollutants monitored as part of the quarterly toxicity testing.

#### Nutrients

Nutrient criteria have not been established for the receiving water. Seasonal (May through October) testing requirements for TKN, Nitrate, and Nitrite have been maintained to determine nutrient loadings to the receiving water, and are consistent with the Department's policy requiring all facilities to perform baseline nutrient monitoring. This information will aid the Department in the determination of the necessity for future nutrient removal from the treatment plant effluent.

#### Bioassay Testing

RIDEM's toxicity permitting policy is based on past toxicity data and the level of available dilution. Past bioassay monitoring data for South Kingstown indicates that the Town has had only one occurrence of toxicity for the past five years, which occurred in 2013. RIDEM's toxicity permitting policy requires that acute toxicity be evaluated for effluents with dilutions between

20:1 – 100:1. The permit requires that acute toxicity tests be conducted once per quarter on Mysids. The permit contains an acute LC<sub>50</sub> ≥ 100% effluent limit that shall assure control of the toxicity in the effluent. If recurrent toxicity is demonstrated, then toxicity identification and reduction will be required.

#### Other Limits and Conditions

The permit contains requirements for the permittee to comply with the State's Sludge Regulations and the most current RIDEM Order of Approval for sludge disposal in accordance with the requirements of 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 RIDEM Sludge Order of Approval sets forth the conditions to ensure this compliance.

The permit also requires that infiltration/inflow reports be submitted every two (2) years that summarize all actions taken to minimize infiltration/inflow.

The permit contains a reporting requirement for a local program to regulate industrial discharges to the sewer system (referred to as pretreatment program). This program is being required under authority of Section 402(b)(8) of the CWA and 40 CFR 122.44 (j) and 403.8 because the Town receives significant discharges of industrial wastewater.

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.

#### **Final Permit Limitations**

Presented in Table #1 is a summary of the permit limitations and the corresponding sampling frequency.

Table No.1 Final Permit Limitations

Parameter	Monthly Average	Weekly Average	Daily Maximum
Flow	5.0 MGD		
BOD <sub>5</sub>	30 mg/L	45 mg/L	50 mg/L
BOD <sub>5</sub>	1,251 lb/day		2,085 lb/day
BOD <sub>5</sub> % Removal	85 %		
TSS	30 mg/L	45 mg/L	50 mg/L
TSS	1,251 lb/day		2,085 lb/day
TSS % Removal	85 %		
Settleable Solids		--- ml/L	--- ml/L
Total Residual Chlorine	885 µg/L		1040 µg/L
Enterococci	<u>35 cfu</u> 100 ml		<u>276 cfu</u> 100 ml
Fecal Coliform	<u>--- MPN</u> 100 ml		<u>--- MPN</u> 100 ml
pH	6.0 SU (min.)		9.0 SU (max.)
Oil & Grease			--- mg/L

TKN (as N) (May 1 – Oct 31)			--- mg/L
Total Nitrate (as N) (May 1 – Oct 31)			--- mg/L
Total Nitrite (as N) (May 1 – Oct 31)			--- mg/L
Nitrogen, Total (TKN+Nitrate+Nitrite, as N) (May 1 – October 31)			--- mg/L
LC <sub>50</sub> - <u>Mysidopsis bahia</u>			≥ 100%
Cyanide	64 ug/L		64 ug/L
Total Copper	--- ug/L		--- ug/L
Total Cadmium	--- ug/L		--- ug/L
Total Chromium	--- ug/L		--- ug/L
Total Lead	--- ug/L		--- ug/L
Total Zinc	--- ug/L		--- ug/L
Total Nickel	--- ug/L		--- ug/L
Total Aluminum	--- ug/L		--- ug/L

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

#### 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. A public hearing will be held after a thirty (30) day public notice. 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 the 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 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 Rule 49 of the Regulations for the Rhode Island Pollutant Discharge Elimination System.

#### VI. DEM Contact

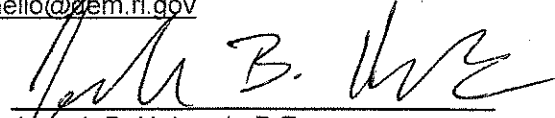
Additional information concerning the permit may be obtained between the hours of 8:30 a.m. and 4:00 p.m., Monday through Friday, excluding holidays from:

Aaron Mello  
Department of Environmental Management  
Office of Water Resources  
235 Promenade Street  
Providence, Rhode Island 02908

Telephone: (401) 222-4700 ext. 7405

Email: [aaron.mello@dem.ri.gov](mailto:aaron.mello@dem.ri.gov)

5/19/17  
Date

  
\_\_\_\_\_  
Joseph B. Haberek, P.E.  
Principal Sanitary Engineer  
✓ RIPDES Program  
Office of Water Resources  
Department of Environmental Management

## ATTACHMENT A-1

**DESCRIPTION OF DISCHARGE:** Secondary treated domestic and industrial wastewater.  
**DISCHARGE:** 001A - Secondary Treatment Discharge

### AVERAGE EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE:

PARAMETER	AVERAGE <sup>1</sup>	WEEKLY <sup>2</sup>	MAXIMUM <sup>3</sup>
FLOW (MGD)	<u>2.51</u> MGD		
BOD <sub>5</sub>	<u>15.73</u> mg/l	<u>19.52</u> mg/l	<u>27.22</u> mg/l
BOD <sub>5</sub>	<u>313.49</u> lbs/day		<u>544.39</u> lbs/day
TSS	<u>7.24</u> mg/l	<u>11.8</u> mg/l	<u>21.41</u> mg/l
TSS	<u>146.25</u> lbs/day		<u>432.02</u> lbs/day
Settleable Solids		<u>0.181</u> ml/l	<u>0.939</u> ml/l
Enterococci	<u>38.03</u> CFU/100 ml		<u>1684234.56</u> CFU/100 ml
Fecal Coliform	<u>8.75</u> MPN/100 ml		<u>203.58</u> MPN/100 ml
pH	<u>6.46</u> S.U. (Minimum)		<u>7.07</u> S.U. (Maximum)
Chlorine Residual	<u>98.49</u> ug/l		<u>357.80</u> ug/l
Oil & Grease			<u>1.85</u> mg/l
Nitrogen (Total)			<u>20.44</u> mg/l
Nitrogen, Nitrite (Total as N)			<u>1.53</u> mg/l
Nitrogen, Nitrate (Total as N)			<u>4.48</u> mg/l
Nitrogen, Total Kjeldhal			<u>14.44</u> mg/l
Cyanide	<u>4.444</u> ug/l		<u>4.444</u> ug/l
Total Copper	<u>19.39</u> ug/l		<u>19.39</u> ug/l
Total Cadmium	<u>0</u> ug/l		<u>0</u> ug/l
Total Chromium	<u>0.1778</u> ug/l		<u>0.1778</u> ug/l
Total Lead	<u>0.0556</u> ug/l		<u>0.0556</u> ug/l
Total Zinc	<u>65.83</u> ug/l		<u>65.83</u> ug/l
Total Nickel	<u>1.63</u> ug/l		<u>1.63</u> ug/l
Total Aluminum	<u>15.61</u> ug/l		<u>15.61</u> ug/l

<sup>1</sup>Data represents the mean of the monthly average data from 3/12 – 11/16

<sup>2</sup>Data represents the mean of the weekly average data from 3/12 – 11/16

<sup>3</sup>Data represents the mean of the daily maximum data 3/12 - 11/16

## ATTACHMENT A-1 (Cont.)

**DESCRIPTION OF DISCHARGE:** Secondary treated domestic and industrial wastewater.  
**DISCHARGE:** 001A - Secondary Treatment Discharge

### Biotoxicity Data LC<sub>50</sub> Values (in percent effluent)

[illegible]

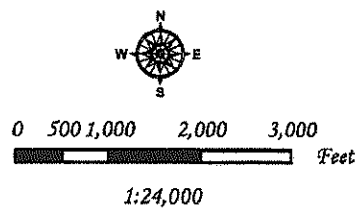
**ATTACHMENT A-2**

**South Kingstown Wastewater Treatment Facility  
Topographic Map**



Town of South Kingstown  
**SK Regional Wastewater  
 Treatment Facility**  
 One Mile Radius

USGS 7.5 Minute Topographic Quadrangles, Kingston and Narragansett Pier



Geographic  
 Information  
 System

PS16-18 cpb 3/16

**ATTACHMENT A-3**

**South Kingstown Wastewater Treatment Facility  
Process Flow Diagram**

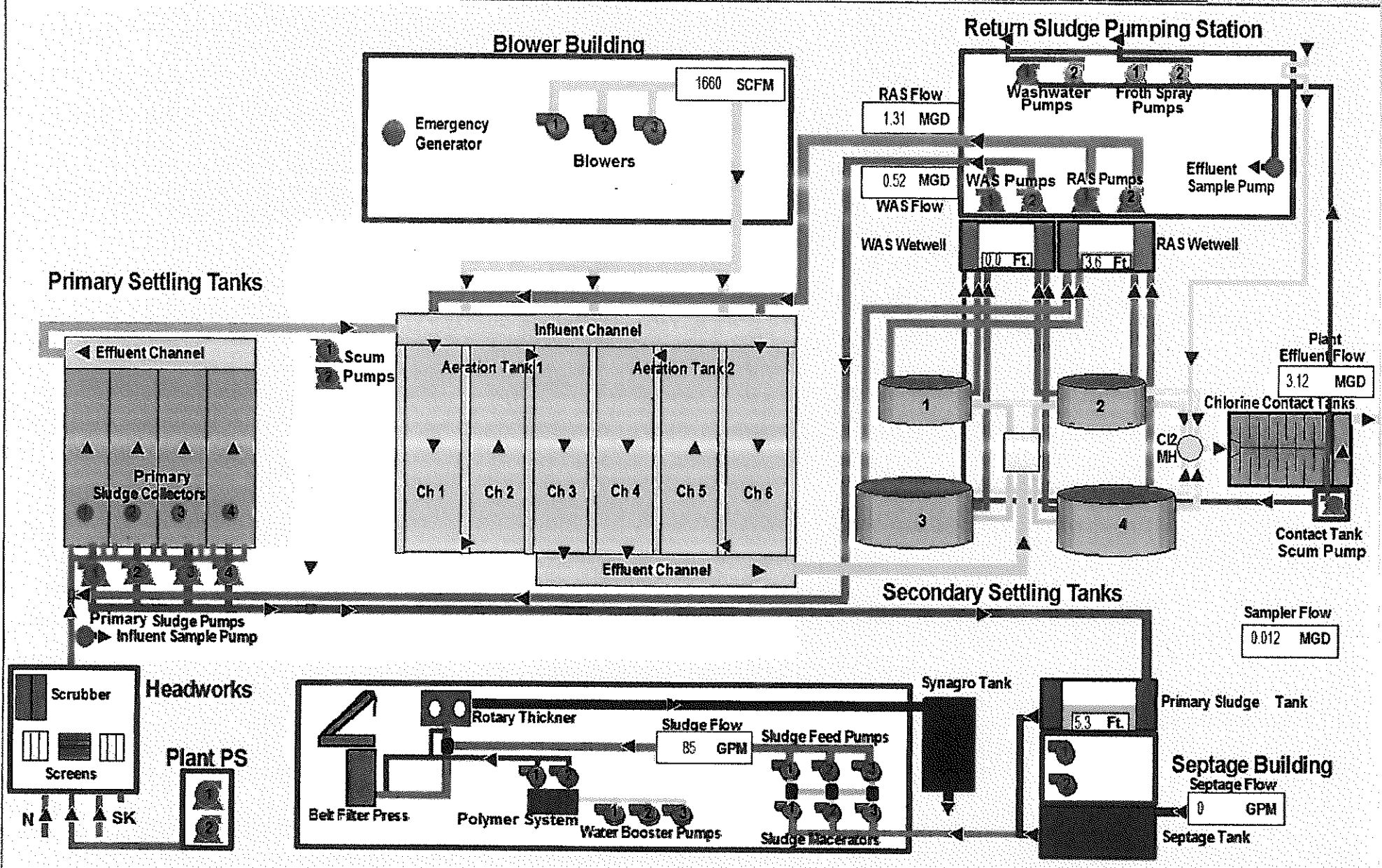
Menu of Screens

Log In

Ack	Date Last	Time Last	Description	Value	Status
✓	3/29/2016	05:47:31	264 Plant Alarm Disarm Status	DISARMED	CFN
✓	3/29/2016	05:46:48	472 Security Alarm Disarm Status	DISARMED	CFN

8:22:47 AM

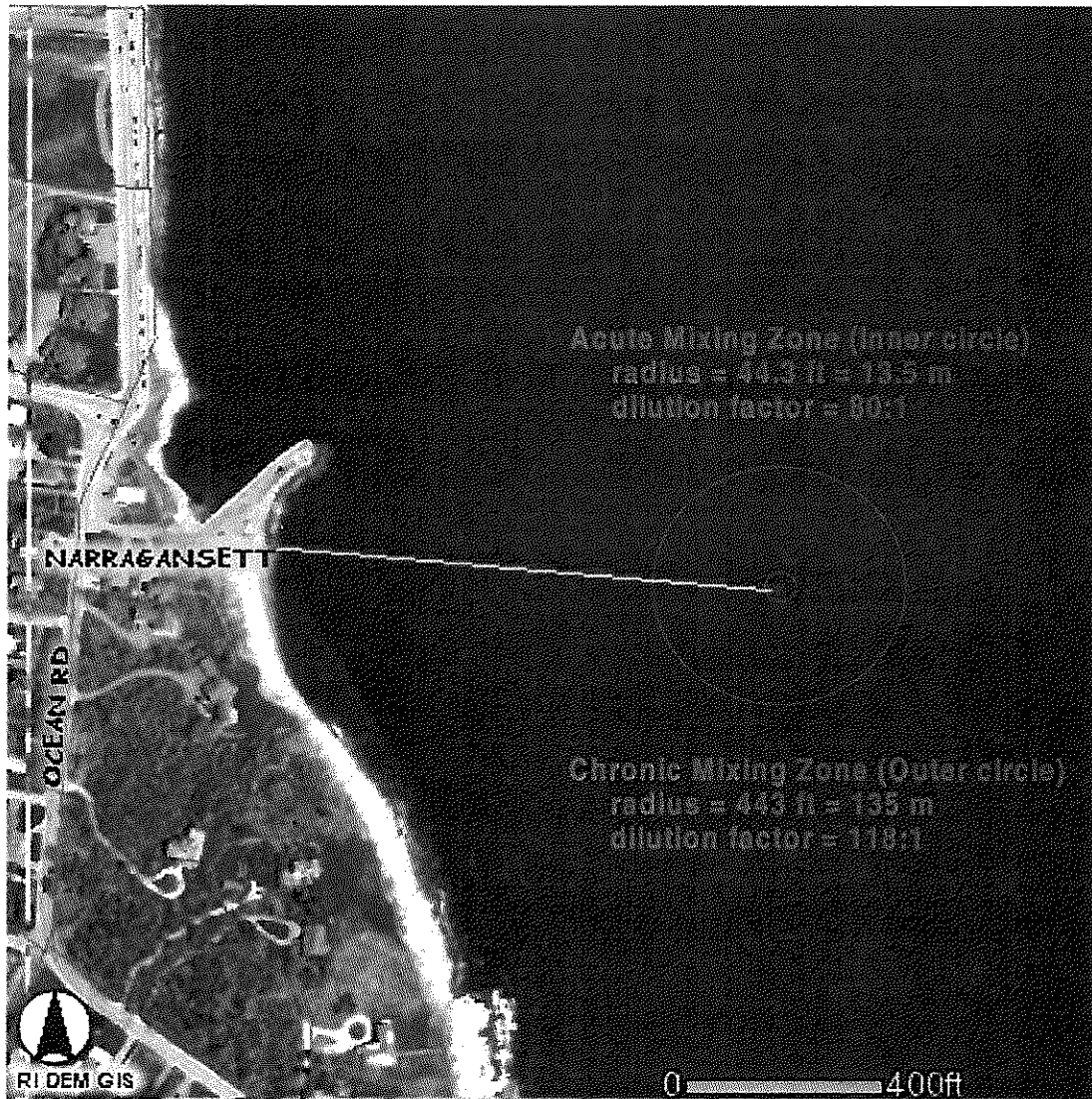
3/29/2016



**ATTACHMENT A-4**

**South Kingstown Wastewater Treatment Facility  
Aerial Photograph with Superimposed Acute and Chronic Mixing Zones**

## South Kingstown WWTF Mixing Zones and Dilution



## **ATTACHMENT A-5**

### **Calculation of Allowable Acute and Chronic Discharge Limitations Based on Saltwater Aquatic Life Criteria 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: South Kingstown WWTF 2017

RIPDES PERMIT #: RI0100374

	DISSOLVED BACKGROUND DATA (ug/L)	ACUTE METAL TRANSLATOR	CHRONIC METAL TRANSLATOR
ALUMINUM	NA	NA	NA
ARSENIC	NA	1	1
CADMIUM	NA	0.994	0.994
CHROMIUM III	NA	NA	NA
CHROMIUM VI	NA	0.993	0.993
COPPER	NA	0.83	0.83
LEAD	NA	0.951	0.951
MERCURY	NA	0.85	NA
NICKEL	NA	0.99	0.99
SELENIUM	NA	0.998	0.998
SILVER	NA	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 IN ATTACHMENT B.

NOTE 2: METAL TRANSLATORS FROM RI WATER  
QUALITY REGS.

DILUTION FACTORS	
ACUTE =	80 x
CHRONIC =	118 x
HUMAN HEALTH =	118 x

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

TOTAL AMMONIA CRITERIA (ug/L)	
WINTER ACUTE =	8700
CHRONIC =	1300
SUMMER ACUTE =	7300
CHRONIC =	1100

NOTE 1: LIMITS ARE FROM TABLE 3 IN  
THE RI WATER QUALITY REGS.  
USING:  
SALINITY = 30 g/Kg  
WINTER (NOV-APRIL) pH=8.4 s.u.;  
SUMMER (MAY-OCT) pH=8.2 s.u.  
WINTER (NOV-APRIL) TEMP=10.0 C;  
SUMMER (MAY-OCT) TEMP=20.0 C.

## CALCULATION OF WATER QUALITY BASED SALTWATER DISCHARGE LIMITS

FACILITY NAME: South Kingstown WWTF 2017 RIPDES PERMIT #: RI0100374

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	60416
ARSENIC (limits are total recoverable)	7440382	NA	69	4416	36	1.4	132.16
ASBESTOS	1332214			No Criteria			No Criteria
BERYLLIUM	7440417			No Criteria			No Criteria
CADMIUM (limits are total recoverable)	7440439	NA	40	2575.452716	8.8		835.7344064
CHROMIUM III (limits are total recoverable)	16065831	NA		No Criteria			No Criteria
CHROMIUM VI (limits are total recoverable)	18540299	NA	1100	70896.27392	50		4753.27291
COPPER (limits are total recoverable)	7440508	NA	4.8	370.1204819	3.1		352.5783133
CYANIDE	57125		1	64.00	1	140	94.4
LEAD (limits are total recoverable)	7439921	NA	210	14132.49211	8.1		804.0378549
MERCURY (limits are total recoverable)	7439976	NA	1.8	135.5294118	0.94	0.15	14.16
NICKEL (limits are total recoverable)	7440020	NA	74	4783.838384	8.2	4600	781.8989899
SELENIUM (limits are total recoverable)	7782492	NA	290	18597.19439	71	4200	6715.831663
SILVER (limits are total recoverable)	7440224	NA	1.9	143.0588235			No Criteria
THALLIUM	7440280			No Criteria		0.47	44.368
ZINC (limits are total recoverable)	7440666	NA	90	6088.794926	81	26000	8082.875264
<b>VOLATILE ORGANIC COMPOUNDS</b>							
ACROLEIN	107028			No Criteria		290	27376
ACRYLONITRILE	107131			No Criteria		2.5	236
BENZENE	71432			No Criteria		510	48144
BROMOFORM	75252			No Criteria		1400	132160
CARBON TETRACHLORIDE	56235			No Criteria		16	1510.4
CHLOROBENZENE	108907			No Criteria		1600	151040
CHLORODIBROMOMETHANE	124481			No Criteria		130	12272
CHLOROFORM	67663			No Criteria		4700	443680
DICHLOROBROMOMETHANE	75274			No Criteria		170	16048
1,2DICHLOROETHANE	107062			No Criteria		370	34928
1,1DICHLOROETHYLENE	75354			No Criteria		7100	670240
1,2DICHLOROPROPANE	78875			No Criteria		150	14160
1,3DICHLOROPROPYLENE	542756			No Criteria		21	1982.4
ETHYLBENZENE	100414			No Criteria		2100	198240
BROMOMETHANE (methyl bromide)	74839			No Criteria		1500	141600
CHLOROMETHANE (methyl chloride)	74873			No Criteria			No Criteria
METHYLENE CHLORIDE	75092			No Criteria		5900	556960

## CALCULATION OF WATER QUALITY BASED SALTWATER DISCHARGE LIMITS

FACILITY NAME: South Kingstown WWTF 2017 RIPDES PERMIT #: RI0100374

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)
1,1,2,2TETRACHLOROETHANE	79345			No Criteria		40	3776
TETRACHLOROETHYLENE	127184			No Criteria		33	3115.2
TOLUENE	108883			No Criteria		15000	1416000
1,2TRANS-DICHLOROETHYLENE	156605			No Criteria		10000	944000
1,1,1TRICHLOROETHANE	71556			No Criteria			No Criteria
1,1,2TRICHLOROETHANE	79005			No Criteria		160	15104
TRICHLOROETHYLENE	79016			No Criteria		300	28320
VINYL CHLORIDE	75014			No Criteria		2.4	226.56
ACID ORGANIC COMPOUNDS							
2CHLOROPHENOL	95578			No Criteria		150	14160
2,4DICHLOROPHENOL	120832			No Criteria		290	27376
2,4DIMETHYLPHENOL	105679			No Criteria		850	80240
4,6DINITRO-2-METHYL PHENOL	534521			No Criteria		280	26432
2,4DINITROPHENOL	51285			No Criteria		5300	500320
4-NITROPHENOL	88755			No Criteria			No Criteria
PENTACHLOROPHENOL	87865		13	832	7.9	30	745.76
PHENOL	108952			No Criteria		1700000	160480000
2,4,6-TRICHLOROPHENOL	88062			No Criteria		24	2265.6
BASE NEUTRAL COMPOUNDS							
ACENAPHTHENE	83329			No Criteria		990	93456
ANTHRACENE	120127			No Criteria		40000	3776000
BENZIDINE	92875			No Criteria		0.002	0.1888
POLYCYCLIC AROMATIC HYDROCARBONS				No Criteria		0.18	16.992
BIS(2-CHLOROETHYL)ETHER	111444			No Criteria		5.3	500.32
BIS(2-CHLOROISOPROPYL)ETHER	108601			No Criteria		65000	6136000
BIS(2-ETHYLHEXYL)PHTHALATE	117817			No Criteria		22	2076.8
BUTYL BENZYL PHTHALATE	85687			No Criteria		1900	179360
2-CHLORONAPHTHALENE	91587			No Criteria		1600	151040
1,2-DICHLOROBENZENE	95501			No Criteria		1300	122720
1,3-DICHLOROBENZENE	541731			No Criteria		960	90624
1,4-DICHLOROBENZENE	106467			No Criteria		190	17936
3,3-DICHLOROBENZIDENE	91941			No Criteria		0.28	26.432
DIETHYL PHTHALATE	84662			No Criteria		44000	4153600
DIMETHYL PHTHALATE	131113			No Criteria		1100000	103840000
Di-n-BUTYL PHTHALATE	84742			No Criteria		4500	424800
2,4-DINITROTOLUENE	121142			No Criteria		34	3209.6

## CALCULATION OF WATER QUALITY BASED SALTWATER DISCHARGE LIMITS

FACILITY NAME: South Kingstown WWTF 2017 RIPDES PERMIT #: RI0100374

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)
1,2DIPHENYLHYDRAZINE	122667			No Criteria		2	188.8
FLUORANTHENE	206440			No Criteria		140	13216
FLUORENE	86737			No Criteria		5300	500320
HEXACHLOROBENZENE	118741			No Criteria		0.0029	0.27376
HEXACHLOROBUTADIENE	87683			No Criteria		180	16992
HEXACHLOROCYCLOPENTADIENE	77474			No Criteria		1100	103840
HEXACHLOROETHANE	67721			No Criteria		33	3115.2
ISOPHORONE	78591			No Criteria		9600	906240
NAPHTHALENE	91203			No Criteria			No Criteria
NITROBENZENE	98953			No Criteria		690	65136
NNITROSODIMETHYLAMINE	62759			No Criteria		30	2832
NNITROSODINPROPYLAMINE	621647			No Criteria		5.1	481.44
NNITROSODIPHENYLAMINE	86306			No Criteria		60	5664
PYRENE	129000			No Criteria		4000	377600
1,2,4trichlorobenzene	120821			No Criteria		70	6608
PESTICIDES/PCBs							
ALDRIN	309002		1.3	83.2		0.0005	0.0472
Alpha BHC	319846			No Criteria		0.049	4.6256
Beta BHC	319857			No Criteria		0.17	16.048
Gamma BHC (Lindane)	58899		0.16	10.24		1.8	169.92
CHLORDANE	57749		0.09	5.76	0.004	0.0081	0.3776
4,4DDT	50293		0.13	8.32	0.001	0.0022	0.0944
4,4DDE	72559			No Criteria		0.0022	0.20768
4,4DDD	72548			No Criteria		0.0031	0.29264
DIELDRIN	60571		0.71	45.44	0.0019	0.00054	0.050976
ENDOSULFAN (alpha)	959988		0.034	2.176	0.0087	89	0.82128
ENDOSULFAN (beta)	33213659		0.034	2.176	0.0087	89	0.82128
ENDOSULFAN (sulfate)	1031078			No Criteria		89	8401.6
ENDRIN	72208		0.037	2.368	0.0023	0.06	0.21712
ENDRIN ALDEHYDE	7421934			No Criteria		0.3	28.32
HEPTACHLOR	76448		0.053	3.392	0.0036	0.00079	0.074576
HEPTACHLOR EPOXIDE	1024573		0.053	3.392	0.0036	0.00039	0.036816
POLYCHLORINATED BIPHENYLS3	1336363			No Criteria	0.03	0.00064	0.060416
2,3,7,8TCDD (Dioxin)	1746016			No Criteria		0.000000051	4.8144E-06
TOXAPHENE	8001352		0.21	13.44	0.0002	0.0028	0.01888
TRIBUTYL TIN			0.42	26.88	0.0074		0.69856

## CALCULATION OF WATER QUALITY BASED SALTWATER DISCHARGE LIMITS

FACILITY NAME: South Kingstown WWTF 2017 RIPDES PERMIT #: RI0100374

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)
NON PRIORITY POLLUTANTS:							
OTHER SUBSTANCES							
ALUMINUM (limits are total recoverable)	7429905	NA		No Criteria			No Criteria
AMMONIA as N (winter/summer)	7664417		7151   6000.6	457690 384038	1069   904.2		100876   85356.5
4BROMOPHENYL PHENYL ETHER				No Criteria			No Criteria
CHLORIDE	16887006			No Criteria			No Criteria
CHLORINE	7782505		13	1040	7.5		885
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: South Kingstown WWTF 2017RIPDES PERMIT #: RI0100374

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	60416.00
ARSENIC, TOTAL	7440382	4416.00	132.16
ASBESTOS	1332214	No Criteria	No Criteria
BERYLLIUM	7440417	No Criteria	No Criteria
CADMIUM, TOTAL	7440439	2575.45	835.73
CHROMIUM III, TOTAL	16065831	No Criteria	No Criteria
CHROMIUM VI, TOTAL	18540299	70896.27	4753.27
COPPER, TOTAL	7440508	370.12	352.58
CYANIDE	57125	64.00	64.00
LEAD, TOTAL	7439921	14132.49	804.04
MERCURY, TOTAL	7439976	135.53	14.16
NICKEL, TOTAL	7440020	4783.84	781.90
SELENIUM, TOTAL	7782492	18597.19	6715.83
SILVER, TOTAL	7440224	143.06	143.06
THALLIUM	7440280	No Criteria	44.37
ZINC, TOTAL	7440666	6088.79	6088.79
<b>VOLATILE ORGANIC COMPOUNDS</b>			
ACROLEIN	107028	No Criteria	27376.00
ACRYLONITRILE	107131	No Criteria	236.00
BENZENE	71432	No Criteria	48144.00
BROMOFORM	75252	No Criteria	132160.00
CARBON TETRACHLORIDE	56235	No Criteria	1510.40
CHLOROBENZENE	108907	No Criteria	151040.00
CHLORODIBROMOMETHANE	124481	No Criteria	12272.00
CHLOROFORM	67663	No Criteria	443680.00
DICHLOROBROMOMETHANE	75274	No Criteria	16048.00
1,2DICHLOROETHANE	107062	No Criteria	34928.00
1,1DICHLOROETHYLENE	75354	No Criteria	670240.00
1,2DICHLOROPROPANE	78875	No Criteria	14160.00
1,3DICHLOROPROPYLENE	542756	No Criteria	1982.40
ETHYLBENZENE	100414	No Criteria	198240.00
BROMOMETHANE (methyl bromide)	74839	No Criteria	141600.00
CHLOROMETHANE (methyl chloride)	74873	No Criteria	No Criteria
METHYLENE CHLORIDE	75092	No Criteria	556960.00
1,1,2,2TETRACHLOROETHANE	79345	No Criteria	3776.00

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
TETRACHLOROETHYLENE	127184	No Criteria	3115.20
TOLUENE	108883	No Criteria	1416000.00
1,2TRANS-DICHLOROETHYLENE	156605	No Criteria	944000.00
1,1,1TRICHLOROETHANE	71556	No Criteria	No Criteria
1,1,2TRICHLOROETHANE	79005	No Criteria	15104.00
TRICHLOROETHYLENE	79016	No Criteria	28320.00
VINYL CHLORIDE	75014	No Criteria	226.56
<b>ACID ORGANIC COMPOUNDS</b>			
2CHLOROPHENOL	95578	No Criteria	14160.00
2,4DICHLOROPHENOL	120832	No Criteria	27376.00
2,4DIMETHYLPHENOL	105679	No Criteria	80240.00
4,6DINITRO-2METHYL PHENOL	534521	No Criteria	26432.00
2,4DINITROPHENOL	51285	No Criteria	500320.00
4NITROPHENOL	88755	No Criteria	No Criteria
PENTACHLOROPHENOL	87865	832.00	745.76
PHENOL	108952	No Criteria	160480000.00
2,4,6TRICHLOROPHENOL	88062	No Criteria	2265.60
<b>BASE NEUTRAL COMPOUNDS</b>			
ACENAPHTHENE	83329	No Criteria	93456.00
ANTHRACENE	120127	No Criteria	3776000.00
BENZIDINE	92875	No Criteria	0.19
PAHs		No Criteria	16.99
BIS(2CHLOROETHYL)ETHER	111444	No Criteria	500.32
BIS(2CHLOROISOPROPYL)ETHER	108601	No Criteria	6136000.00
BIS(2ETHYLHEXYL)PHTHALATE	117817	No Criteria	2076.80
BUTYL BENZYL PHTHALATE	85687	No Criteria	179360.00
2CHLORONAPHTHALENE	91587	No Criteria	151040.00
1,2DICHLOROBENZENE	95501	No Criteria	122720.00
1,3DICHLOROBENZENE	541731	No Criteria	90624.00
1,4DICHLOROBENZENE	106467	No Criteria	17936.00
3,3DICHLOROBENZIDENE	91941	No Criteria	26.43
DIETHYL PHTHALATE	84662	No Criteria	4153600.00
DIMETHYL PHTHALATE	131113	No Criteria	103840000.00
DI-n-BUTYL PHTHALATE	84742	No Criteria	424800.00
2,4DINITROTOLUENE	121142	No Criteria	3209.60
1,2DIPHENYLHYDRAZINE	122667	No Criteria	188.80
FLUORANTHENE	206440	No Criteria	13216.00

## CALCULATION OF WATER QUALITY BASED SALTWATER DISCHARGE LIMITS

FACILITY NAME: South Kingstown WWTF 2017RIPDES PERMIT #: RI0100374

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
FLUORENE	86737	No Criteria	500320.00
HEXACHLORO BENZENE	118741	No Criteria	0.27
HEXACHLOROBUTADIENE	87683	No Criteria	16992.00
HEXACHLOROCYCLOPENTADIENE	77474	No Criteria	103840.00
HEXACHLOROETHANE	67721	No Criteria	3115.20
ISOPHORONE	78591	No Criteria	906240.00
NAPHTHALENE	91203	No Criteria	No Criteria
NITROBENZENE	98953	No Criteria	65136.00
N-NITROSODIMETHYLAMINE	62759	No Criteria	2832.00
N-NITROSODI-N-PROPYLAMINE	621647	No Criteria	481.44
N-NITROSODIPHENYLAMINE	86306	No Criteria	5664.00
PYRENE	129000	No Criteria	377600.00
1,2,4trichlorobenzene	120821	No Criteria	6608.00
<b>PESTICIDES/PCBs</b>			
ALDRIN	309002	83.20	0.05
Alpha BHC	319846	No Criteria	4.63
Beta BHC	319857	No Criteria	16.05
Gamma BHC (Lindane)	58899	10.24	10.24
CHLORDANE	57749	5.76	0.38
4,4DDT	50293	8.32	0.09
4,4DDE	72559	No Criteria	0.21
4,4DDD	72548	No Criteria	0.29
DIELDRIN	60571	45.44	0.05
ENDOSULFAN (alpha)	959988	2.18	0.82
ENDOSULFAN (beta)	33213659	2.18	0.82
ENDOSULFAN (sulfate)	1031078	No Criteria	8401.60
ENDRIN	72208	2.37	0.22
ENDRIN ALDEHYDE	7421934	No Criteria	28.32
HEPTACHLOR	76448	3.39	0.07
HEPTACHLOR EPOXIDE	1024573	3.39	0.04
POLYCHLORINATED BIPHENYLS3	1336363	No Criteria	0.06
2,3,7,8TCDD (Dioxin)	1746016	No Criteria	0.00
TOXAPHENE	8001352	13.44	0.02
TRIBUTYLTIN		26.88	0.70

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
<b>NON PRIORITY POLLUTANTS OTHER SUBSTANCES</b>			
ALUMINUM, TOTAL	7429905	No Criteria	No Criteria
AMMONIA (as N), WINTER (NOV-APR)	7664417	457689.60	100875.84
AMMONIA (as N), SUMMER (MAY-OC)	7664417	384038.40	85356.48
4BROMOPHENYL PHENYL ETHER		No Criteria	No Criteria
CHLORIDE	16887006	No Criteria	No Criteria
CHLORINE	7782505	1040.00	885.00
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 A-6**

**Summary of Discharge Monitoring Report Data  
March 2012 through November 2016**

**SOUTH KINGSTOWN WWTF**  
**DMR Data Summary 3/13/17**

**\*\*\* NOT ICIS CERTIFIED\*\*\***

**001A**

BOD, 5-day, 20 deg. C Location= 1

	MO AVG lb/d	DAILY MX lb/d
Mean	313.4912	544.393
Minimum	156.4	252
Maximum	515.1	1176.6
Data Count	57	57

	MO AVG mg/L	WKLY AVG mg/L	DAILY MX mg/L
Mean	15.7298	19.5175	27.2246
Minimum	8	9.4	13.3
Maximum	27.2	35.3	59.8
Data Count	57	57	57

Chlorine, total residual Location= 1

	MO AVG ug/L	DAILY MX ug/L
Mean	98.4912	356.5439
Minimum	21	21
Maximum	308	960
Data Count	57	57

Coliform, fecal general Location= 1

	MO GEO MPN/100mL	DAILY MX MPN/100mL
Mean	8.7523	203.5807
Minimum	1	1
Maximum	41.5	1600
Data Count	57	57

Enterococci Location= 1

	MO AVG CFU/100mL	DAILY MX CFU/100mL
Mean	38.0344	1684234.5614
Minimum	1	1
Maximum	1862.3	24000000
Data Count	57	57

Flow, in conduit or thru treatment pl

	MO AVG MGD
Mean	2.5122
Minimum	1.843
Maximum	5
Data Count	57

Nitrogen, Kjeldahl, total [as N] Loca

	DAILY MX mg/L
Mean	14.4367
Minimum	3.3

## SOUTH KINGSTOWN WWTF

### DMR Data Summary 3/13/17

DAILY MX mg/L  
Maximum 27  
Data Count 30

#### Nitrogen, nitrate total [as N] Locatio

DAILY MX mg/L  
Mean 4.475  
Minimum .15  
Maximum 14  
Data Count 30

#### Nitrogen, nitrite total [as N] Locatio

DAILY MX mg/L  
Mean 1.5307  
Minimum .48  
Maximum 2.6  
Data Count 30

#### Nitrogen, total [as N] Location= 1

DAILY MX mg/L  
Mean 20.4427  
Minimum 13.8  
Maximum 28.3  
Data Count 30

#### pH Location= 1

	MINIMUM SU	MAXIMUM SU
Mean	6.4554	7.07
Minimum	6.01	6.68
Maximum	6.89	8.81
Data Count	57	57

#### Solids, settleable Location= 1

	WKLY AVG mL/L	DAILY MX mL/L
Mean	.1807	.9386
Minimum		
Maximum	7.2	50
Data Count	57	57

#### Solids, total suspended Location=

	MO AVG lb/d	DAILY MX lb/d
Mean	146.2526	432.0175
Minimum	62.4	126.7
Maximum	601.8	7229
Data Count	57	57

	MO AVG mg/L	WKLY AVG mg/L	DAILY MX mg/L
Mean	7.2404	11.8018	21.4088
Minimum	3.3	4.3	7
Maximum	28.7	125.7	369
Data Count	57	57	57

**SOUTH KINGSTOWN WWTF****DMR Data Summary 3/13/17**

BOD, 5-day, 20 deg. C Location=

	MO AVG lb/d	DAILY MX lb/d
Mean	5484.2088	6954.7404
Minimum	3217.7	3430.5
Maximum	39276	41864.3
Data Count	57	57

	MO AVG mg/L	WKLY AVG mg/L	DAILY MX mg/L
Mean	242.2491	275.2614	338.9491
Minimum	153.1	167.6	189.7
Maximum	661.6	805	1584
Data Count	57	57	57

Solids, total suspended Location=

	MO AVG lb/d	DAILY MX lb/d
Mean	5104.6632	8862.8456
Minimum	3526.8	4415.6
Maximum	20720.5	69932.4
Data Count	57	57

	MO AVG mg/L	WKLY AVG mg/L	DAILY MX mg/L
Mean	252.7807	305.0421	430.693
Minimum	142	133.3	207
Maximum	772.2	1343	2646
Data Count	57	57	57

BOD, 5-day, percent removal Locat

	MO AV MN %
Mean	92.97
Minimum	87.8
Maximum	99.1
Data Count	57

Solids, suspended percent removal

	MO AV MN %
Mean	96.7912
Minimum	85.5
Maximum	99.27
Data Count	57

**001Q**

Aluminum, total [as Al] Location= 1

	MO AVG ug/L	DAILY MX ug/L
Mean	15.6111	15.6111
Minimum		
Maximum	80	80
Data Count	18	18

Cadmium, total [as Cd] Location= 1

## **SOUTH KINGSTOWN WWTF**

### **DMR Data Summary 3/13/17**

	MO AVG ug/L	DAILY MX ug/L
Mean		
Minimum		
Maximum		
Data Count	18	18

#### **Chromium, total [as Cr] Location= 1**

	MO AVG ug/L	DAILY MX ug/L
Mean	.1778	.1778
Minimum		
Maximum	3.2	3.2
Data Count	18	18

#### **Copper, total [as Cu] Location= 1**

	MO AVG ug/L	DAILY MX ug/L
Mean	19.3889	19.3889
Minimum		
Maximum	120	120
Data Count	18	18

#### **Cyanide, total [as CN] Location= 1**

	MO AVG ug/L	DAILY MX ug/L
Mean	4.4444	4.4444
Minimum		
Maximum	80	80
Data Count	18	18

#### **Lead, total [as Pb] Location= 1**

	MO AVG ug/L	DAILY MX ug/L
Mean	.0556	.0556
Minimum		
Maximum	1	1
Data Count	18	18

#### **Nickel, total [as Ni] Location= 1**

	MO AVG ug/L	DAILY MX ug/L
Mean	1.6333	1.6333
Minimum		
Maximum	3.9	3.9
Data Count	18	18

#### **Oil & Grease Location= 1**

	DAILY MX mg/L
Mean	1.8539
Minimum	
Maximum	16.2
Data Count	18

#### **Zinc, total [as Zn] Location= 1**

	MO AVG ug/L	DAILY MX ug/L
--	-------------	---------------

## SOUTH KINGSTOWN WWTF

### DMR Data Summary 3/13/17

	MO AVG ug/L	DAILY MX ug/L
Mean	65.8333	65.8333
Minimum		
Maximum	91	91
Data Count	18	18

### 001T

#### LC50 Statre 48Hr Acute Mysid. Bah

	MINIMUM %
Mean	98.7278
Minimum	77.1
Maximum	100
Data Count	18

**ATTACHMENT A-7**

**Summary of Priority Pollutant Scan Data  
2012-2016**

## USER FEE DATA

FACILITY: South Kingstown WWTF  
 RIPDES PERMIT #: RI0100374

PARAMETER	CONCENTRATION, PPB	SAMPLE DATE	AVERAGE	MAX. VALUE
<b>ALUMINUM, TOTAL</b>	16	9/29/2016	16	16
<b>BARIUM, TOTAL</b>	11	8/28/2012	15.5	20
BARIUM, TOTAL	17	9/11/2013		
BARIUM, TOTAL	14	9/18/2014		
BARIUM, TOTAL	20	9/22/2015		
<b>BOD</b>	5900	8/28/2012	6275	13000
BOD	2200	9/11/2013		
BOD	4000	9/22/2015		
BOD	13000	9/29/2016		
<b>CHLOROFORM</b>	6.9	8/28/2012	5.35	6.9
CHLOROFORM	3.8	9/29/2016		
<b>CHROMIUM, TOTAL</b>	1.1	8/28/2012	1.1	1.1
<b>COPPER, TOTAL</b>	24	8/28/2012	19.2	28
COPPER, TOTAL	16	9/11/2013		
COPPER, TOTAL	12	9/18/2014		
COPPER, TOTAL	28	9/22/2015		
COPPER, TOTAL	16	9/29/2016		
<b>CYANIDE, TOTAL</b>	150	9/18/2014	150	150
<b>NICKEL, TOTAL</b>	1.5	8/28/2012	2.125	3
NICKEL, TOTAL	2	9/18/2014		
NICKEL, TOTAL	3	9/22/2015		
NICKEL, TOTAL	2	9/29/2016		
<b>PHENOL</b>	27	9/22/2015	27	27
<b>SELENIUM, TOTAL</b>	112	9/11/2013	112	112
<b>TOTAL PHENOLS</b>	66	8/28/2012	35.333333	66
TOTAL PHENOLS	10	9/11/2013		
TOTAL PHENOLS	30	9/29/2016		
<b>TSS</b>	7000	8/28/2012	5325	7000
TSS	3700	9/11/2013		
TSS	5300	9/18/2014		
TSS	5300	9/22/2015		
<b>ZINC</b>	93	8/28/2012	78.6	93
ZINC	90	9/11/2013		
ZINC	28	9/18/2014		
ZINC	91	9/22/2015		
ZINC	91	9/29/2016		

**ATTACHMENT A-8**

**Comparison of Allowable Limits with Discharge Monitoring Report Data  
and Priority Pollutant Scan Data**

**Facility Name: South Kingstown WWTF**  
**RIPDES Permit #: RI0100374**

**Outfall #: 001A**

NOTE: METALS LIMITS ARE TOTAL METALS

Parameter	CAS #	Concentration Limits (ug/L)		Antideg. Limits (ug/L) Monthly Ave	PP Scan Data (ug/L)		Ave. DMR Data (ug/L)		Potential	
		Based on WQ Criteria			2012-2016		Mar 2012 - Nov 2016		Permit Limits (ug/L)	
		Daily Max	Monthly Ave		Max	Ave	Daily Max	Monthly Ave	Daily Max	Monthly Ave
PRIORITY POLLUTANTS										
TOXIC METALS AND CYANIDE										
ANTIMONY	7440360	No Criteria	60416.00	---	---	---	---	---	---	60416
ARSENIC (limits are total recoverable)	7440382	4416.00	132.16	---	---	---	---	---	4416	132.16
ASBESTOS	1332214	No Criteria	No Criteria	---	---	---	---	---	---	---
BERYLLIUM	7440417	No Criteria	No Criteria	---	---	---	---	---	---	---
CADMIUM (limits are total recoverable)	7440439	2575.45	835.73	---	---	---	---	---	2575.452716	835.7344064
CHROMIUM III (limits are total recoverable)	16065831	No Criteria	No Criteria	---	---	---	---	---	---	---
CHROMIUM VI (limits are total recoverable)	18540299	70896.27	4753.27	---	1.1	1.1	0.1778	0.1778	70896.27392	4753.27291
COPPER (limits are total recoverable)	7440508	370.12	352.58	---	28	19.2	19.39	19.39	370.1204819	352.5783133
CYANIDE	57125	64.00	64.00	---	150	150	4.44	4.44	64	64
LEAD (limits are total recoverable)	7439921	14132.49	804.04	---	---	---	0.056	0.056	14132.49211	804.0378549
MERCURY (limits are total recoverable)	7439976	135.53	14.16	---	---	---	---	---	135.5294118	14.16
NICKEL (limits are total recoverable)	7440020	4783.84	781.90	---	3	2.125	1.63	1.63	4783.838384	781.8989899
SELENIUM (limits are total recoverable)	7782492	18597.19	6715.83	---	112	112	---	---	18597.19439	6715.831663
SILVER (limits are total recoverable)	7440224	143.06	143.06	---	---	---	---	---	143.0588235	143.0588235
THALLIUM	7440280	No Criteria	44.37	---	---	---	---	---	---	44.368
ZINC (limits are total recoverable)	7440666	6088.79	6088.79	---	93	78.6	65.83	65.83	6088.794926	6088.794926
VOLATILE ORGANIC COMPOUNDS										
ACROLEIN	107028	No Criteria	27376.00	---	---	---	---	---	---	27376
ACRYLONITRILE	107131	No Criteria	236.00	---	---	---	---	---	---	236
BENZENE	71432	No Criteria	48144.00	---	---	---	---	---	---	48144
BROMOFORM	75252	No Criteria	132160.00	---	---	---	---	---	---	132160
CARBON TETRACHLORIDE	56235	No Criteria	1510.40	---	---	---	---	---	---	1510.4
CHLOROBENZENE	108907	No Criteria	151040.00	---	---	---	---	---	---	151040
CHLORODIBROMOMETHANE	124481	No Criteria	12272.00	---	---	---	---	---	---	12272
CHLOROFORM	67663	No Criteria	443680.00	---	6.9	5.35	---	---	---	443680
DICHLOROBROMOMETHANE	75274	No Criteria	16048.00	---	---	---	---	---	---	16048
1,2DICHLOROETHANE	107062	No Criteria	34928.00	---	---	---	---	---	---	34928
1,1DICHLOROETHYLENE	75354	No Criteria	670240.00	---	---	---	---	---	---	670240
1,2DICHLOROPROPANE	78875	No Criteria	14160.00	---	---	---	---	---	---	14160
1,3DICHLOROPROPYLENE	542756	No Criteria	1982.40	---	---	---	---	---	---	1982.4
ETHYLBENZENE	100414	No Criteria	198240.00	---	---	---	---	---	---	198240
BROMOMETHANE (methyl bromide)	74839	No Criteria	141600.00	---	---	---	---	---	---	141600

**Facility Name: *South Kingstown WWTF***  
**RIPDES Permit #: *RI0100374***  
**Outfall #: *001A***

NOTE: METALS LIMITS ARE TOTAL METALS

Parameter	CAS #	Concentration Limits (ug/L)		Antideg. Limits (ug/L) Monthly Ave	PP Scan Data (ug/L)		Ave. DMR Data (ug/L)		Potential	
		Based on WQ Criteria			2012-2016		Mar 2012 - Nov 2016		Permit Limits (ug/L)	
		Daily Max	Monthly Ave		Max	Ave	Daily Max	Monthly Ave	Daily Max	Monthly Ave
CHLOROMETHANE (methyl chloride)	74873	No Criteria	No Criteria	---	---	---	---	---	---	---
METHYLENE CHLORIDE	75092	No Criteria	556960.00	---	---	---	---	---	---	556960
1,1,2,2TETRACHLOROETHANE	79345	No Criteria	3776.00	---	---	---	---	---	---	3776
TETRACHLOROETHYLENE	127184	No Criteria	3115.20	---	---	---	---	---	---	3115.2
TOLUENE	108883	No Criteria	1416000.00	---	---	---	---	---	---	1416000
1,2TRANSDICHLOROETHYLENE	156605	No Criteria	944000.00	---	---	---	---	---	---	944000
1,1,1TRICHLOROETHANE	71556	No Criteria	No Criteria	---	---	---	---	---	---	---
1,1,2TRICHLOROETHANE	79005	No Criteria	15104.00	---	---	---	---	---	---	15104
TRICHLOROETHYLENE	79016	No Criteria	28320.00	---	---	---	---	---	---	28320
VINYL CHLORIDE	75014	No Criteria	226.56	---	---	---	---	---	---	226.56
ACID ORGANIC COMPOUNDS										
2CHLOROPHENOL	95578	No Criteria	14160.00	---	---	---	---	---	---	14160
2,4DICHLOROPHENOL	120832	No Criteria	27376.00	---	---	---	---	---	---	27376
2,4DIMETHYLPHENOL	105679	No Criteria	80240.00	---	---	---	---	---	---	80240
4,6DINITRO2METHYL PHENOL	534521	No Criteria	26432.00	---	---	---	---	---	---	26432
2,4DINITROPHENOL	51285	No Criteria	500320.00	---	---	---	---	---	---	500320
4NITROPHENOL	88755	No Criteria	No Criteria	---	---	---	---	---	---	---
PENTACHLOROPHENOL	87865	832.00	745.76	---	---	---	---	---	---	745.76
PHENOL	108952	No Criteria	160480000.00	---	27	27	---	---	---	160480000
2,4,6TRICHLOROPHENOL	88062	No Criteria	2265.60	---	---	---	---	---	---	2265.6
BASE NEUTRAL COMPOUNDS										
ACENAPHTHENE	83329	No Criteria	93456.00	---	---	---	---	---	---	93456
ANTHRACENE	120127	No Criteria	3776000.00	---	---	---	---	---	---	3776000
BENZIDINE	92875	No Criteria	0.19	---	---	---	---	---	---	0.1888
POLYCYCLIC AROMATIC HYDROCARBONS		No Criteria	16.99	---	---	---	---	---	---	16.992
BIS(2CHLOROETHYL)ETHER	111444	No Criteria	500.32	---	---	---	---	---	---	500.32
BIS(2CHLOROISOPROPYL)ETHER	108601	No Criteria	6136000.00	---	---	---	---	---	---	6136000
BIS(2ETHYLHEXYL)PHTHALATE	117817	No Criteria	2076.80	---	---	---	---	---	---	2076.8
BUTYL BENZYL PHTHALATE	85687	No Criteria	179360.00	---	---	---	---	---	---	179360
2CHLORONAPHTHALENE	91587	No Criteria	151040.00	---	---	---	---	---	---	151040
1,2DICHLOROBENZENE	95501	No Criteria	122720.00	---	---	---	---	---	---	122720
1,3DICHLOROBENZENE	541731	No Criteria	90624.00	---	---	---	---	---	---	90624
1,4DICHLOROBENZENE	106467	No Criteria	17936.00	---	---	---	---	---	---	17936
3,3DICHLOROBENZIDENE	91941	No Criteria	26.43	---	---	---	---	---	---	26.432

**Facility Name: *South Kingstown WWTF***  
**RIPDES Permit #: *RI0100374***  
**Outfall #: *001A***

NOTE: METALS LIMITS ARE TOTAL METALS

Parameter	CAS #	Concentration Limits (ug/L)		Antideg. Limits (ug/L)	PP Scan Data (ug/L)		Ave. DMR Data (ug/L)		Potential	
		Based on WQ Criteria			2012-2016		Mar 2012 - Nov 2016		Permit Limits (ug/L)	
		Daily Max	Monthly Ave	Monthly Ave	Max	Ave	Daily Max	Monthly Ave	Daily Max	Monthly Ave
DIETHYL PHTHALATE	84662	No Criteria	4153600.00	---	---	---	---	---	---	4153600
DIMETHYL PHTHALATE	131113	No Criteria	103840000.00	---	---	---	---	---	---	103840000
DInBUTYL PHTHALATE	84742	No Criteria	424800.00	---	---	---	---	---	---	424800
2,4DINITROTOLUENE	121142	No Criteria	3209.60	---	---	---	---	---	---	3209.6
1,2DIPHENYLHYDRAZINE	122667	No Criteria	188.80	---	---	---	---	---	---	188.8
FLUORANTHENE	206440	No Criteria	13216.00	---	---	---	---	---	---	13216
FLUORENE	86737	No Criteria	500320.00	---	---	---	---	---	---	500320
HEXACHLOROBENZENE	118741	No Criteria	0.27	---	---	---	---	---	---	0.27376
HEXACHLOROBUTADIENE	87683	No Criteria	16992.00	---	---	---	---	---	---	16992
HEXACHLOROCYCLOPENTADIENE	77474	No Criteria	103840.00	---	---	---	---	---	---	103840
HEXACHLOROETHANE	67721	No Criteria	3115.20	---	---	---	---	---	---	3115.2
ISOPHORONE	78591	No Criteria	906240.00	---	---	---	---	---	---	906240
NAPHTHALENE	91203	No Criteria	No Criteria	---	---	---	---	---	---	---
NITROBENZENE	98953	No Criteria	65136.00	---	---	---	---	---	---	65136
NNITROSODIMETHYLAMINE	62759	No Criteria	2832.00	---	---	---	---	---	---	2832
NNITROSODINPROPYLAMINE	621647	No Criteria	481.44	---	---	---	---	---	---	481.44
NNITROSODIPHENYLAMINE	86306	No Criteria	5664.00	---	---	---	---	---	---	5664
PYRENE	129000	No Criteria	377600.00	---	---	---	---	---	---	377600
1,2,4trichlorobenzene	120821	No Criteria	6608.00	---	---	---	---	---	---	6608
PESTICIDES/PCBs										
ALDRIN	309002	83.20	0.05	---	---	---	---	---	83.2	0.0472
Alpha BHC	319846	No Criteria	4.63	---	---	---	---	---	---	4.6256
Beta BHC	319857	No Criteria	16.05	---	---	---	---	---	---	16.048
Gamma BHC (Lindane)	58899	10.24	10.24	---	---	---	---	---	10.24	10.24
CHLORDANE	57749	5.76	0.38	---	---	---	---	---	5.76	0.3776
4,4DDT	50293	8.32	0.09	---	---	---	---	---	8.32	0.0944
4,4DDE	72559	No Criteria	0.21	---	---	---	---	---	---	0.20768
4,4DDD	72548	No Criteria	0.29	---	---	---	---	---	---	0.29264
DIELDRIN	60571	45.44	0.05	---	---	---	---	---	45.44	0.050976
ENDOSULFAN (alpha)	959988	2.18	0.82	---	---	---	---	---	2.176	0.82128
ENDOSULFAN (beta)	33213659	2.18	0.82	---	---	---	---	---	2.176	0.82128
ENDOSULFAN (sulfate)	1031078	No Criteria	8401.60	---	---	---	---	---	---	8401.6
ENDRIN	72208	2.37	0.22	---	---	---	---	---	2.368	0.21712
ENDRIN ALDEHYDE	7421934	No Criteria	28.32	---	---	---	---	---	---	28.32

**Facility Name: South Kingstown WWTF**  
**RIPDES Permit #: RI0100374**

**Outfall #: 001A**

NOTE: METALS LIMITS ARE TOTAL METALS

Parameter	CAS #	Concentration Limits (ug/L) Based on WQ Criteria		Antideg. Limits (ug/L) Monthly Ave	PP Scan Data (ug/L) 2012-2016		Ave. DMR Data (ug/L) Mar 2012 - Nov 2016		Potential Permit Limits (ug/L)	
		Daily Max	Monthly Ave		Max	Ave	Daily Max	Monthly Ave	Daily Max	Monthly Ave
HEPTACHLOR	76448	3.39	0.07	---	---	---	---	---	3.392	0.074576
HEPTACHLOR EPOXIDE	1024573	3.39	0.04	---	---	---	---	---	3.392	0.036816
POLYCHLORINATED BIPHENYLS3	1336363	No Criteria	0.06	---	---	---	---	---	---	0.060416
2,3,7,8TCDD (Dioxin)	1746016	No Criteria	0.0000048	---	---	---	---	---	---	4.8144E-06
TOXAPHENE	8001352	13.44	0.02	---	---	---	---	---	13.44	0.01888
TRIBUTYL TIN		26.88	0.70	---	---	---	---	---	26.88	0.69856
NON PRIORITY POLLUTANTS										
OTHER SUBSTANCES										
ALUMINUM (limits are total recoverable)	7429905	No Criteria	No Criteria	---	16	16	15.61	15.61	---	---
AMMONIA (winter)	7664417	457689.60	100875.84	---	---	---	---	---	457689.6	100875.84
AMMONIA (summer)		384038.40	85356.48	---	---	---	---	---	384038.4	85356.48
4BROMOPHENYL PHENYL ETHER	16887006	No Criteria	No Criteria	---	---	---	---	---	---	---
CHLORIDE	7782505	No Criteria	No Criteria	---	---	---	---	---	---	---
CHLORINE		1040.00	885.00	---	---	---	356.5	98.5	1040	885
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	---	---	---	---	---	---	---

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 Rule 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 Rule 14.18 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 Rule 14.18 of the RIPDES Regulations; and
  - (d) The permittee complied with any remedial measures required under Rule 14.05 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, 291 Promenade Street, Providence, Rhode Island. 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 Rules 15 and 23 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 Rule 49 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