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

October 24, 2017

CERTIFIED MAIL

The Honorable Lisa Baldelli-Hunt, Mayor
Woonsocket City Hall
PO Box B
Woonsocket, RI 02895

RE: Woonsocket Regional Wastewater Treatment Facility Final Permit
RIPDES Application No. RI0100111

Dear Mayor Baldelli-Hunt:

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)
Steven D'Agostino, City of Woonsocket (Electronic Copy)
James Lauzon, CH2M (Electronic Copy)
Bill Patenaude, DEM/OWR (Electronic Copy)
Alex Pinto, DEM/OWR (Electronic Copy)
Art Zeman, DEM/OWR (Electronic Copy)

RESPONSE TO COMMENTS

NO SIGNIFICANT COMMENTS WERE RECEIVED ON THE DRAFT PERMIT FOR THIS FACILITY; HOWEVER, TO ADDRESS THE NEWLY ISSUED RHODE ISLAND EXECUTIVE ORDER 17-10 (DATED SEPTEMBER 15, 2017) THE FOLLOWING RESPONSE JUSTIFIES THE ADDITION OF PART I.G.3 (RESLIENCY PLAN) TO THE FINAL PERMIT.

Response to R.I. Executive Order 17-10:

In response to Rhode Island Executive Order 17-10 (dated September 15, 2017), regarding impacts to facilities from climate change, including increased sea levels, intense storms, and flooding, the DEM has added language to the permit that requires, within one year of the effective date of the permit, the permittee shall submit a Resiliency Plan and schedule of short and long-term actions that will be taken to maintain operation and protect key collection and treatment system assets. The plan shall be consistent with the DEM's Guidance for the Consideration of Climate Change Impacts in the Planning and Design of Municipal Wastewater Collection and Treatment Infrastructure and include consideration of the findings of the 2017 DEM report Implications of Climate Change for Rhode Island Wastewater Collection and Treatment Infrastructure. The Resiliency Plan shall include, but not be limited to: (i) an assessment of current and projected impacts from natural hazards on critical components within the collection and treatment systems, as well as on the systems themselves; (ii) a plan to adapt and protect vulnerable components and systems; (iii) an analysis that provides justification for selected adaptation methods. The analysis must consider component and system design life and sea-level rise projections. For the purposes of this Resiliency Plan, critical components are considered those necessary to ensure the forward flow and treatment of wastewater in accordance with the limits set forth in this permit. The Resiliency Plan shall also consider impacts from neighboring facilities during high hazard events. This Plan shall be subject to DEM review and approval.

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,

City of Woonsocket
City Hall
169 Main Street
Woonsocket, RI 02895

is authorized to discharge from a facility located at

Woonsocket Regional Wastewater Commission
11 Cumberland Hill Road
Woonsocket, RI 02895

to receiving waters named

Blackstone River

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

This permit shall become effective on January 1, 2018.

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

This permit supersedes the permit issued on September 18, 2008.

This permit consists of 22 pages in Part I including effluent limitations, monitoring requirements, etc. and 10 pages in Part II including General Conditions.

Signed this 24th day of October 2017.

Angelo S. Liberti, PE, Chief of Surface Water Protection
Office of Water Resources
Rhode Island Department of Environmental Management
Providence, Rhode Island

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

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

Effluent Characteristic	Discharge Limitations					Monitoring Requirement	
	Quantity - lbs./day		Concentration - specify units				
	Average Monthly	Maximum Daily	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Flow	16 MGD	--- MGD				Continuous	Recorder
$CBOD_5$ (June 1 – October 31)	1,340	2,270	10 mg/L	15mg/L	17 mg/L	3/week	24-Hr. Comp.
$CBOD_5$ (November 1 – May 31)	3,335	6,005	25 mg/L	40 mg/L	45 mg/L	3/Week	24-Hr. Comp.
$CBOD_5$ - % Removal			85%			1/Month	Calculated
TSS (June 1 – October 31)	2,000	3,335	15 mg/L	20 mg/L	25 mg/L	3/Week	24-Hr. Comp.
(November 1 – May 31)	4,000	6,670	30 mg/L	45 mg/L	50 mg/L	3/Week	24-Hr. Comp.
TSS - % Removal			85%			1/Month	Calculated
Enterococci			54 cfu[1] / 100 ml		175 cfu[1] / 100 ml	3/Week	Grab
Fecal Coliform			--- MPN[1] / 100 mL	400 MPN[1] / 100 mL	400 MPN[1] / 100 mL	3/Week	Grab

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

[1]The fecal coliform sample shall be taken at the same time as the Enterococci samples. These samples shall be taken at the same time as one of the daily TRC samples. The geometric mean shall be used to obtain the "weekly average" and the "monthly average" for Fecal Coliform and the "monthly average" for Enterococci. The facility shall report any fecal coliform sample result that exceeds 400 MPN/100ml to the DEM in accordance with the 24-hour reporting requirements under Part II(I)(5) of the permit.

Testing for TSS and CBOD shall be performed and reported on influent and effluent with appropriate allowances for hydraulic detention (flow-through) time.

Sampling for CBOD, TSS, Enterococci, and Fecal Coliform shall be performed Tuesday, Thursday and Sunday.

All samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations: Outfall 001A (final treated discharge after disinfection).

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

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

Effluent Characteristic	Discharge Limitations					Monitoring Requirement	
	Quantity - lbs./day		Concentration - specify units				
	Average Monthly	Maximum Daily	Average Monthly *(Minimum)	Average Weekly	Maximum Daily *(Maximum)	Measurement Frequency	Sample Type
Total Residual Chlorine			56 µg/L[1]		97 µg/L[1]	Continuous	Recorder
Settleable Solids				--- ml/l	--- ml/l	1/Day	Grab
Oil and Grease					--- mg/L	1/Month	Grab[2]
pH			(6.0 SU)		(9.0 SU)	2/Day	Grab
Phosphorus, Total as P							
(Apr 1 – Oct 31)			0.1 mg/L		--- mg/L	3/Week	24-Hr. Comp.
(Nov 1 – Mar 31)			1.0 mg/L		--- mg/L	3/Week	24-Hr. Comp.
Orthophosphorus (Nov 1 – Mar 31)			--- mg/L		--- mg/L	3/Week	24-Hr. Comp.
Ammonia, Total as N							
(June 1-October 31)			2.0 mg/L		49.4 mg/L	3/Week	24-Hr. Comp.
(November 1-April 30)			15 mg/L		53.8 mg/L	1/Week	24-Hr. Comp.
(May 1-31)			12 mg/L		53.8 mg/L	3/Week	24-Hr. Comp.
Nitrate, Total as N							
(May 1 – Oct 31)			--- mg/L		--- mg/L	3/Week	24-Hr. Comp.
(Nov 1 – April 30)			--- mg/L		--- mg/L	1/Week	24-Hr. Comp.

[1]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 (3) grab samples (one (1) each eight (8) hour shift). The three (3) samples will be averaged to obtain the daily value for use in determining the daily maximum and monthly average values. The following methods may be used to analyze the grab samples: (1) Low Level Amperometric Titration, Standard Methods (18th Edition) No. 4500-Cl E; (2) DPD Spectrophotometric, EPA No. 330.5 or Standard Methods (18th Edition) No. 4500-Cl G.

Sampling for Settleable Solids, pH, and Total Residual Chlorine shall be performed Sunday - Saturday.

[2]One (1) grab sample to be taken during each eight (8) hour shift for a single twenty-four (24) hour period. Each of the three (3) grab samples must be analyzed individually and the maximum value reported.

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

--- signifies a parameter that 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 at the following locations: Outfall 001A (final treated discharge after disinfection).

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

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

Effluent Characteristic	Discharge Limitations					Monitoring Requirement	
	Quantity - lbs./day		Concentration - specify units				
	Average Monthly	Maximum Daily	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Nitrite, Total as N							
(May 1 – Oct 31)			--- mg/L		--- mg/L	3/Week	24-Hr. Comp.
(Nov 1 – April 30)			--- mg/L		--- mg/L	1/Week	24-Hr. Comp.
TKN, Total as N							
(May 1 – Oct 31)			--- mg/L		--- mg/L	3/Week	24-Hr. Comp.
(Nov 1 – April 30)			--- mg/L		--- mg/L	1/Week	24-Hr. Comp.
Total Nitrogen [TKN+ Nitrite+Nitrate]							
(April)	--- lb/d		10 mg/L		--- mg/L	1/Week	24-Hr. Comp.
(May 1 – Oct 31)	400 lb/d		3.0 mg/L		--- mg/L	3/Week	24-Hr. Comp.
(Nov 1 – Mar 31) [1]	--- lb/d		--- mg/L		--- mg/L	1/Week	24-Hr. Comp.
Copper, Total			21.1 µg/L		29.8 µg/L	2/Week	24 Hr. Comp.
Selenium, Total			20.5 µg/L		81.9 µg/L	2/Week	24 Hr. Comp.
Lead, Total			5.4 µg/L		138 µg/L	2/Week	24 Hr. Comp.
Cadmium, Total			--- µg/L		--- µg/L	1/Quarter	24 Hr. Comp.
Zinc, Total			--- µg/L		--- µg/L	1/Quarter	24 Hr. Comp.

[1] The permittee shall operate the treatment facility to reduce the discharge of total nitrogen, during the months of November through March, to the maximum extent possible using all available treatment equipment in place at the facility, except methanol addition.

--- Signifies a parameter that 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 Thursday and Sunday at the following locations: Outfall 001A (final treated discharge after disinfection)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

4. During the period beginning effective date and lasting through expiration, the permittee is authorized to discharge from outfall serial number 001A (final treated discharge after disinfection). Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations					Monitoring Requirement	
	Quantity - lbs./day		Concentration - specify units				
	Average Monthly	Maximum Daily	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Nickel, Total			--- µg/L		--- µg/L	1/Quarter	24 Hr. Comp.
Hexavalent Chromium			--- µg/L		--- µg/L	1/Quarter	24 Hr. Comp.
Iron, Total			4096 ug/L		--- ug/L	See Footnote 1	24 Hr. Comp.
Aluminum, Total			356 ug/L		3072 ug/L	See Footnote 1	24 Hr. Comp.
Cyanide			--- µg/L		--- µg/L	1/Quarter	Composite[2]
Ceriodaphnia sp. LC_{50}[3]					100% or Greater[4]	1/Quarter	24-Hr. Comp.
C-NOEC[5]					20% or Greater[6]	1/Quarter	24-Hr. Comp.

[1]Weekly sampling for Total Iron and/or Total Aluminum is only in effect during months in which Iron based and/or Aluminum based chemicals are used in the treatment process. For all other periods sampling is only required for Total Aluminum on a quarterly basis in accordance with Part I.B of this permit.

[2]This composite shall consist of one (1) grab sample to be taken during each eight (8) hour shift, over a twenty-four (24) hour period (total of three (3) grabs), and preserved. All three (3) samples shall be composited, then analyzed for Available Cyanide.

[3]LC_{50} is defined as the concentration of wastewater that causes mortality to 50% of the test organisms.

[4]The limit of 100% or greater is defined as a sample that is composed of 100% effluent.

[5]Chronic - No Observed Effects Concentration (C-NOEC) is the concentration of toxicant or effluent to which organisms are exposed in a life-cycle or partial life-cycle which causes no adverse effect on growth, survival or reproduction (see Section I.B.).

[6]The limit of 20% or greater is defined as a sample that is composed of 20% effluent.

--- signifies a parameter that 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 at the following locations: at Outfall 001A (final treated discharge after disinfection) in accordance with Part I.B. of the permit.

5. 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 (outfall 001A) shall maintain a minimum of 85 percent removal of total suspended solids and biochemical oxygen demand. The percent removal shall be based on monthly average values.

e. The permittee shall analyze its effluent from outfall 001A annually for the EPA Priority Pollutants as listed in 40 CFR 122, Appendix D, Tables II and III. Such analysis shall be conducted during the third calendar quarter bioassay sampling event. The results of these analyses shall be submitted to the Department of Environmental Management by October 15th 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.

f. When the effluent discharged for a period of ninety (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.

g. This permit serves as the State's Water Quality Certificate for the discharge 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) chronic and four (4) acute toxicity tests per year on samples collected from discharge outfall 001A. The permittee shall conduct the tests during dry weather periods (no rain 48 hours prior to or during sampling unless approved by DEM) according to the following test frequency and protocol. Chronic and acute toxicity data shall be reported as outlined in Section B.8. The chronic daphnid tests shall be used to calculate the acute LC_{50} at the 48-hour exposure interval. 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 will conduct toxicity tests on the specie listed below.

Species	Test Type	Frequency
Daphnid Ceriodaphnia sp.	Reproduction/Survival (Chronic static renewal - report chronic results and acute results 48 hours into test).	Quarterly

3. Methods

Toxicity tests shall be conducted in accordance with protocols listed in 40 CFR Part 136 or additional methods if approved by the Director of DEM.

4. Sample Collection

For each sampling event a 24-hour flow proportioned composite, effluent sample shall be collected at a location just after de-chlorination and during a dry weather period (no rain 48 hours prior to or during sampling unless approved by DEM).

For the chronic toxicity tests, a sampling event shall consist of three (3) 24-hour composite samples collected over the seven (7) day test-period. The effluent samples shall be collected on Days 0, 3, and 5 of the seven (7) day exposure period. The first sample is used for test initiation, Day 1, and for test solution renewal on Day 2. The second sample would be used for test solution renewal on Days 3 and 4. The third sample would be used for test solution renewal on Days 5, 6, and 7.

To eliminate the problem of potential rainfall interference during the five (5) day sampling period for the chronic tests, enough sample shall be collected on Day 0 to properly store and use one-third (1/3) on both Days 3 and 5 if rain has occurred since Day 0. In addition, if no rainfall has occurred since Day 3, enough sample should also be collected on Day 3 to use for Day 5 if necessary.

In the laboratory, the initial sample (Day 0) will be split into two (2) subsamples, after thorough mixing, for the following:

A: Chemical Analysis
B: Acute and Chronic Toxicity Testing

Days 3 and 5 samples will be held until test completion. If either the Day 3 or 5 renewal sample causes lethality to 50 percent (50%) or more test organisms in any of the dilutions for the chronic tests, then a chemical analysis shall be performed on the appropriate sample(s) as well. All samples held overnight shall be refrigerated at 4°C.

5. Dilution Water

Dilution water used for freshwater toxicity analyses should be of sufficient quality to meet minimum acceptability of test results (see Sections B.6 and B.7). For the chronic and acute tests, natural freshwater shall be used as the dilution water. This water shall be collected from the Pawtucket Reservoir. If this natural freshwater diluent is found to be, or suspected to be toxic or unreliable during the preliminary screening for the toxicity tests, an alternate or laboratory source of water of known quality with a hardness and pH similar to that of the receiving water may be substituted AFTER RECEIVING APPROVAL FROM DEM.

6. Effluent Toxicity Test Conditions for the Daphnid (Ceriodaphnia sp.) Survival and Reproduction Test[1]

a.	Test Type	Static Renewal
b.	Temperature	25 ± 1°C
c.	Light Quality	Ambient Laboratory Illumination
d.	Photoperiod	16-Hour Light, 8-Hour Dark
e.	Test Chamber Size	30 ml
f.	Test Solution Volume	15 ml
g.	Renewal of Test Solutions	Daily, using most recently collected sample.
h.	Age of Test Organisms	Less than 24 hours and all released within an 8-hour period of each other.
i.	Number of Neonates Per Test Chamber	1
j.	Number of Replicate Test Chambers Per Treatment	10
k.	Number of Neonates Per Test Concentration	10
l.	Feeding Regime	Feed 0.1 ml each of YTC and algal suspension per exposure chamber daily.
m.	Aeration	None
n.	Dilution Water	Pawtucket Reservoir water, see Section B.5.
o.	Effluent Concentrations	Five (5) dilutions plus a control: 100%, 50%, 25%, 12.5%, 6.25%, and 0% effluent.
p.	Test Duration	Until 60% of control females have three (3) broods (may require seven (7) days).

q.	End Points	Survival and Reproduction
r.	Test Acceptability	80% or greater survival and an average of fifteen (15) or more young per female in the control solutions. At least 60% of surviving females in controls should have produced third brood.
s.	Sampling Requirements	For off-site tests, a minimum of three (3) samples are collected (i.e., Days 0, 3, & 5) and used for renewal (see Section B.4). Off-site test samples must be first used within forty-eight (48) hours of collection.
t.	Sample Volume Required	Minimum two (2) liters/day.

7. Chemical Analysis

The following chemical analysis shall be performed for every one-specie or two specie sampling event.

Parameter	Effluent	Diluent	Minimum Detection Limit (mg/l)
Hardness	X	X	0.5
Alkalinity	X	X	2.0
pH	X	X	---
Specific Conductance	X	X	---
Total Solids and Suspended Solids	X	X	---
Total Ammonia	X	X	0.1
Total Organic Carbon	X		0.5
Cyanide	X		0.010

During the first, second, and fourth calendar quarter bioassay sampling events, the following chemical analyses shall be performed:

Total Metals	Effluent	Diluent	Minimum Detection Limit (ug/l)
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 metal analyses may be used to fulfill, in part or in whole, monitoring requirements in the permit for these specific metals.

During the third calendar quarter bioassay sampling event a final effluent sample, collected during the same 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 priority pollutant scan requirements.

In addition, the following chemical analyses shall be performed for the chronic toxicity tests as part of each daily renewal procedure on each dilution and the controls.

Parameter	Beginning of 24-Hour Exposure Period	End of 24-Hour Exposure Period
Dissolved Oxygen	X	X
Temperature	X	
pH	X	
Specific Conductance	X	
Alkalinity	X[1]	
Hardness	X[1]	

[1]These are performed on the 100% effluent and control samples only.

8. 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 analyses.
- 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.
- Raw data and laboratory sheets.
- Any other observations or test conditions affecting test outcome.
- Results of required chemical and physical analyses.

Toxicity test data shall include the following:

Chronic

- Daily survival of test organisms in the controls and all replicates in each dilution. Survival data should be analyzed by Fisher's Exact Test prior to analysis of reproduction data.
- Young per female for all replicates in each dilution for Ceriodaphnia.
- Dissolved oxygen, pH, specific conductance, and temperature for each dilution.
- Results of Dunnett's Procedure and/or other EPA recommended or approved methods for analyzing the data.
- C-NOEC = Chronic No Observed Effect Concentration
- LOEC = Lowest Observed Effect Concentration
- MATC = Maximum Allowable Toxicant Concentration

Acute – (These data points are to be obtained 48 hours into the chronic test).

- Survival for each concentration and replication at time 24 and 48 hours.
- Dissolved oxygen, pH, specific conductance for each concentration.
- LC_{50} and 95% confidence limits using one of the following methods in order of preference; Probit, Trimmed Spearman Karber, Moving Average Angle, or Graphical method; printout or copy of these calculations. 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 (% 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), a LC_{50} may be estimated using the graphical method.

9. Reporting of Bioassay Testing

Bioassay testing shall be reported as follows:

Quarter Testing to be Performed:	Results Submitted on DMR for:
January 1 -March 31	March
April 1 - June 30	June
July 1 - September 30	September
October 1 - December 31	December

Reports shall be maintained by the permittee and shall be made available upon request by 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 Work Plan dated January 28, 2011 that shall continue to be implemented 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 approved Local Limits Work 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 April 10, 1997 that meets the requirements of 40 CFR 403.8(f)(5). The permittee shall continue to implement its approved ERP 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)O(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 endorsed 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.

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 Industrial Pretreatment Program shall contain information pertaining to the reporting year which shall extend from July 1 through June 30 and shall be submitted to the DEM by September 15 each year. 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 Agreements

The permittee has approved Interjurisdictional Agreements with the Towns of Bellingham Massachusetts, Blackstone Massachusetts, and North Smithfield Rhode Island, and shall continue to implement its approved Interjurisdictional Agreements at all times.

9. Sewer Use Ordinance

The permittee has an approved Sewer Use Ordinance as amended dated December 2, 2013 which shall continue to be implemented at all times.

D. 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 Sewage Sludge Management. The permittee shall comply with its DEM Order of Approval for the disposal of sludge.

E. DETECTION LIMITS

The permittee shall assure that all wastewater testing required by this permit, is performed in conformance with the method detection limits below. 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 documented and maintained onsite.

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 maintained onsite. 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.

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 reported as zero in accordance with the DEM's DMR Instructions, provided that all appropriate EPA approved methods were followed.

Therefore, all sample results shall be reported as: an actual value, "could not be analyzed", or zero. 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.

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)
1V	acrolein	10.0
2V	acrylonitrile	5.0
3V	benzene	1.0
5V	bromoform	1.0
6V	carbon tetrachloride	1.0
7V	chlorobenzene	1.0
8V	chlorodibromomethane	1.0
9V	chloroethane	1.0
10V	2-chloroethylvinyl ether	5.0
11V	chloroform	1.0
12V	dichlorobromomethane	1.0
14V	1,1-dichloroethane	1.0
15V	1,2-dichloroethane	1.0
16V	1,1-dichloroethylene	1.0
17V	1,2-dichloropropane	1.0
18V	1,3-dichloropropylene	1.0
19V	ethylbenzene	1.0
20V	methyl bromide	1.0
21V	methyl chloride	1.0
22V	methylene chloride	1.0
23V	1,1,2,2-tetrachloroethane	1.0
24V	tetrachloroethylene	1.0
25V	toluene	1.0
26V	1,2-trans-dichloroethylene	1.0
27V	1,1,1-trichloroethane	1.0
28V	1,1,2-trichloroethane	1.0
29V	trichloroethylene	1.0
31V	vinyl chloride	5.0

Acid Compounds - EPA Method 625		MDL ug/l (ppb)
1A	2-chlorophenol	1.0
2A	2,4-dichlorophenol	1.0
3A	2,4-dimethylphenol	1.0
4A	4,6-dinitro-o-cresol	1.0
5A	2,4-dinitrophenol	2.0
6A	2-nitrophenol	1.0
7A	4-nitrophenol	1.0
8A	p-chloro-m-cresol	2.0
9A	pentachlorophenol	1.0
10A	phenol	1.0
11A	2,4,6-trichlorophenol	1.0

Pesticides - EPA Method 625		MDL ug/l (ppb)
1P	aldrin	0.059
2P	alpha-BHC	0.058
3P	beta-BHC	0.043
4P	gamma-BHC	0.048
5P	delta-BHC	0.034
6P	chlordane	0.211
7P	4,4'-DDT	0.251
8P	4,4'-DDE	0.049
9P	4,4'-DDD	0.139
10P	dieldrin	0.082
11P	alpha-endosulfan	0.031
12P	beta-endosulfan	0.036
13P	endosulfan sulfate	0.109
14P	endrin	0.050
15P	endrin aldehyde	0.062
16P	heptachlor	0.029
17P	heptachlor epoxide	0.040

Pesticides - EPA Method 625		MDL ug/l (ppb)
18P	PCB-1242	0.289
19P	PCB-1254	0.298
20P	PCB-1221	0.723
21P	PCB-1232	0.387
22P	PCB-1248	0.283
23P	PCB-1260	0.222
24P	PCB-1016	0.494
25P	toxaphene	1.670

Base/Neutral - EPA Method 625		MDL ug/l (ppb)
1B	acenaphthene *	1.0
2B	acenaphthylene *	1.0
3B	anthracene *	1.0
4B	benzidine	4.0
5B	benzo(a)anthracene *	2.0
6B	benzo(a)pyrene *	2.0
7B	3,4-benzofluoranthene *	1.0
8B	benzo(ghi)perylene *	2.0
9B	benzo(k)fluoranthene *	2.0
10B	bis(2-chloroethoxy)methane	2.0
11B	bis(2-chloroethyl)ether	1.0
12B	bis(2-chloroisopropyl)ether	1.0
13B	bis(2-ethylhexyl)phthalate	1.0
14B	4-bromophenyl phenyl ether	1.0
15B	butylbenzyl phthalate	1.0
16B	2-chloronaphthalene	1.0
17B	4-chlorophenyl phenyl ether	1.0
18B	chrysene *	1.0
19B	dibenzo (a,h)anthracene *	2.0
20B	1,2-dichlorobenzene	1.0
21B	1,3-dichlorobenzene	1.0
22B	1,4-dichlorobenzene	1.0
23B	3,3'-dichlorobenzidine	2.0
24B	diethyl phthalate	1.0
25B	dimethyl phthalate	1.0
26B	di-n-butyl phthalate	1.0
27B	2,4-dinitrotoluene	2.0
28B	2,6-dinitrotoluene	2.0
29B	di-n-octyl phthalate	1.0
30B	1,2-diphenylhydrazine (as azobenzene)	1.0
31B	fluoranthene *	1.0
32B	fluorene *	1.0
33B	hexachlorobenzene	1.0
34B	hexachlorobutadiene	1.0
35B	hexachlorocyclopentadiene	2.0
36B	hexachloroethane	1.0
37B	indeno(1,2,3-cd)pyrene *	2.0
38B	isophorone	1.0
39B	naphthalene *	1.0
40B	nitrobenzene	1.0
41B	N-nitrosodimethylamine	1.0
42B	N-nitrosodi-n-propylamine	1.0
43B	N-nitrosodiphenylamine	1.0
44B	phenanthrene *	1.0
45B	pyrene *	1.0
46B	1,2,4-trichlorobenzene	1.0

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	0.001
Nickel, Total	1.0
Selenium, Total	2.0
Silver, Total	0.5
Thallium, Total	1.0
Zinc, Total	5.0
Asbestos	**
Cyanide, Available	10.0
Phenols, Total	50.0
Aluminum, Total	5.0
TCDD	**
MTBE (Methyl Tert Butyl Ether)	1.0

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

NOTE:

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

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

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

F. MONITORING AND REPORTING

1. Monitoring

All monitoring required by this permit shall be done in accordance with sampling and analytical testing procedures specified in Federal Regulations (40 CFR Part 136).

2. Submittal of DMRs Using NetDMR

a. 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.

b. 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.) must be submitted to DEM hard copy via mail.

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

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

c. 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 when submitted to DEM.

- Written notifications required under Part II
- Notice of unauthorized discharges, including Sanitary Sewer Overflow (SSO) reporting
- Priority Pollutant Scan results for Outfall 001A
- Infiltration/Inflow Reports
- Pretreatment Reports

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

G. 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) calendar years shall be submitted to DEM, Office of Water Resources, by the 15th day of January of odd numbered years.

3. Resiliency Planning

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

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. **RI0100111**

NAME AND ADDRESS OF APPLICANT:

City of Woonsocket
City Hall
169 Main Street
Woonsocket, RI 02895

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Woonsocket Regional Wastewater Commission
11 Cumberland Hill Road
Woonsocket, RI 02895

RECEIVING WATER: **Blackstone River (Water Body ID No. RI0001003R-01A)**

CLASSIFICATION: **B1**

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

The above-named applicant has applied to the Rhode Island Department of Environmental Management (DEM) for the reissuance of its RIPDES Permit to discharge into the designated receiving water. The facility is engaged in the treatment of industrial and domestic wastewater.

II. Description of Discharge

A quantitative description of the discharge in terms of significant effluent parameters based upon DMR data from October 2008 through April 2017 is shown on *Attachment A-1*.

III. Permit Limitations and Conditions

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

IV. Permit Basis and Explanation of Effluent Limitation Derivation

The City of Woonsocket (Woonsocket) operates a regional wastewater treatment facility on Cumberland Hill Road in Woonsocket. The discharge to the Blackstone River consists of treated domestic and industrial wastewater contributed by the City of Woonsocket and the Town's of North Smithfield, RI and Blackstone and Bellingham, MA.

Nutrient Treatment Upgrade

On September 18, 2008 a final RIPDES permit was issued for the Woonsocket WWTF. Under this permit the City of Woonsocket was required to meet lower seasonal effluent total nitrogen and total phosphorus concentrations. The facility was required to meet a seasonal total effluent nitrogen concentration of 3.0 mg/L between May 1 and October 31, and a total effluent phosphorus concentration of 0.1 mg/L between April 1 and October 31 along with a 1.0 mg/L effluent limit from November 1 to March 31. On June 27, 2008 Consent Agreement No. RIA-368 was signed and subsequently modified on March 3, 2011 establishing a compliance scheduled for the City to meet final permit limits established for Total Nitrogen, Total Phosphorus, and Total Cadmium. In compliance with RIA-368 an Order of Approval Application was submitted for upgrades to the wastewater treatment plant in order to incorporate nitrogen and phosphorus removal as well as other miscellaneous physical upgrades.

Based on the May 2013 Facility's Plan Amendment the recommended nutrient removal treatment system combines nitrogen and phosphorus removal processes. The "AB" process consists of three (3) "A" process trains followed by two (2) "B" process trains followed by secondary clarifiers and then existing traveling bridge sand filters. In addition the existing aeration tanks were modified into a two-stage activated sludge AB process. A new 0.5 million gallon aeration tank was constructed adjacent to the existing tanks and the existing aeration tanks were reconfigured into two-stages with multiple anoxic and aerobic zones. The traveling bridge sand filters were reused and the filter building was also retained. The use of energy efficient equipment and systems were also integrated into the overall capital improvement efforts. Energy efficient features that were added include the use of efficient high speed turbo blowers for process aeration and the use of an enhanced nutrient removal process to optimize aeration and oxygen requirements. Final limits for Total Cadmium became effective on November 1, 2015 and the facility achieved compliance with Total Phosphorus and Total Nitrogen limits on September 1, 2016 following substantial completion of construction on August 23, 2016.

Treatment consists of: Coarse Screening, Communition, Aerated Grit Removal, Primary Settling, Biological Treatment w/ Nutrient Removal, Secondary Settling, Effluent Polishing Filters, Chlorination, and Dechlorination. Treated wastewater is discharged from Outfall 001A. A updated treatment process flow diagram is provided in *Attachment A-2*.

Receiving Water Description

The water body segment that receives the discharge from the Woonsocket WWTF is described as the Blackstone River. The waterbody identification number for these waters is RI0001003R-01A. This segment is located in Woonsocket, North Smithfield, Cumberland, Lincoln, and Central Falls. This segment is a class B1 water body according to the Rhode Island Water Quality Regulations. Class B1 waters are designated for primary and secondary contact recreational activities and fish and wildlife habitat. They shall be suitable for compatible industrial processes and cooling, hydropower, aquacultural uses, navigation, and irrigation and other agricultural uses. These waters shall have good aesthetic value. Primary contact recreational activities may be impacted due to pathogens from approved wastewater discharges. However all Class B criteria must be met. In addition, this segment is classified as a warm water fishery.

The attainment of the Clean Water Act goals is measured by determining how well waters support

their designated uses. According to the State of Rhode Island 2014 303(d) List of Impaired Waters this segment of the Blackstone River is not supporting the Fish and Wildlife Habitat use due to impairments associated with Benthic-Macroinvertebrate Bioassessments, Cadmium, Eurasian Water Milfoil, Myriophyllum spicatum, Lead, Non-Native Aquatic Plants, Dissolved Oxygen and Total Phosphorus. This segment is also not supporting the Fish Consumption use due to impairments associated with Mercury in fish tissue. Lastly this segment is not supporting the primary and secondary contact recreation use due to impairments associated with Enterococcus and Fecal Coliform.

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 Chapter 46-12, as amended. DEM's primary authority over the permit comes from the Environmental Protection Agency's (EPA's) delegation of the program in September 1984 under the Federal Clean Water Act (CWA).

Development of RIPDES permit limitations is a multi-step process consisting of the following steps: calculating allowable water quality-based discharge levels based on instream criteria, background data and available dilution; identifying any technology-based limits that apply to the facility; assigning appropriate Best Professional Judgment (BPJ) limits; setting the most stringent of these limits (water quality-based, technology-based, and BPJ-based) as the final allowable discharge levels; comparing existing permit limits to the new allowable discharge levels; and evaluating the ability of the facility to meet the final permit effluent limits. A description of these steps is presented below.

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.

The flow limitations established for the Woonsocket WWTF are set at 16.0 MGD average monthly which is based on the most recent Facility Plan Amendment dated May 2013.

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 Appendix B of the Rhode Island Water Quality Regulations. 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 dilution factor was calculated as:

$$DF = \frac{Q_D + Q_{wwtf}}{Q_{wwtf}}$$

Where: DF = Dilution Factor

Q_D = Design Flow (Receiving Water Flow)
Q_{wwtf} = Flow at the WWTF

Appendix B of the Water Quality Regulations describes the flows used to determine human health and aquatic life criteria. The design flow to be utilized for freshwater human health criteria is the harmonic mean flow. The harmonic mean flow is a long-term mean flow value calculated by dividing the number of daily flows analyzed by the sum of the reciprocals of those daily flows. Aquatic life criteria shall not be exceeded at or above the lowest average 7 consecutive day low flow with an average recurrence frequency of once in 10 years (7Q10).

It has been observed that there is generally a strong inverse correlation between river flow and hardness. Therefore, a semi-lognormal relationship was developed between flow and hardness from data collected at the Woonsocket US Geological Survey gaging station to establish aquatic life criteria for metals (which are based on hardness). Based on this relationship, a hardness of 50 mg/l at the 7Q10 flow of 69.5 MGD (102 cfs) was used to determine the appropriate metals criteria. Details of this relationship are presented in the 2008 Permit Development Document.

The allowable discharge limits were calculated as follows:

Background concentration unknown:

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

Background concentration known:

$$Limit_1 = (DF) * (Criteria) * (90\%) - (DF - 1) * (Background\ Concentration)$$

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

Since the background concentrations for the Blackstone River are either unknown or impacted by upstream sources, the water quality-based permit limits were calculated using the first equation (background concentration unknown). Reference Attachment A-3 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 DEM Effluent Disinfection Policy. The "Monthly Average" and "Daily Maximum" were based on a 100% allocation, a zero background concentration, and the appropriate dilution factor(s). The 100% allocation factor for TRC was used due to the non-conservative nature of chlorine and the improbability of the receiving water having a detectable background TRC concentration.

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 the analysis outlined above may allow a relaxation of monthly average limits, provided below is a brief introduction to Antibacksliding and Antidegradation; as well as a discussion on how the two policies were used to calculate water quality based limits.

Antibacksliding

Antibacksliding restricts the level of relaxation of water quality based limits from the previous permit. Section 303(d)(4) of the Clean Water Act addresses antibacksliding as the following:

Section 303(d)(4)

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

B) Standards attained - For receiving waters achieving or exceeding applicable water quality standards, limits can be relaxed if the revision is consistent with the State's Antidegradation Policy.

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

Antidegradation

The DEM document entitled "Policy on the Implementation of the Antidegradation Provisions of the Rhode Island Water Quality Regulations August 6, 1997" (the Policy) establishes four tiers of water quality protection:

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

Tier 2. In waters where the existing water quality exceeds the levels necessary to support the propagation of fish and wildlife and recreation in and on the water, that quality shall be maintained and protected except for insignificant changes (i.e.: short-term minor changes) in water quality as determined by the Director and in accordance with the Antidegradation Policy. In addition, the

Director may allow significant degradation, which is determined to be necessary to achieve important economic or social benefits to the State (important benefits demonstration) in accordance with the Antidegradation Policy.

Tier 2½. Where high quality waters constitute Special Resource Protection Waters SRPWs[1], there shall be no measurable degradation of the existing water quality necessary to protect the characteristics which cause the waterbody to be designated a SRPW. The new or increased

[1]SRPWs are surface waters identified by the Director as having significant recreational or ecological uses.

discharge or activity will not be allowed unless the applicant can provide adequate evidence that specific pollution controls and/or other mitigation measures will completely eliminate any measurable impacts to the water quality necessary to protect the characteristics that cause the waterbody to be designated a SRPW. Notwithstanding that all public drinking water supplies are SRPWs, public drinking water suppliers may undertake temporary and short-term activities within the boundary perimeter of a public drinking water supply impoundment for essential maintenance or to address emergency conditions in order to prevent adverse effect on public health or safety. These activities must comply with the requirements set forth in Tier 1 and Tier 2.

Tier 3. Where high quality waters constitute an Outstanding Natural Resource Waters (ONRWs[2]), that water quality shall be maintained and protected. The State may allow some limited activities that result in temporary and short-term changes in the water quality of an ONRW. Such activities must not permanently degrade water quality or result in water quality lower than necessary to protect the existing uses in the ONRW.

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

In terms of the applicability of Tier 2 of the Policy, a water body is assessed as being high quality on a parameter-by-parameter basis. In accordance with Part II of the Policy, "Antidegradation applies to all new or increased projects or activities which may lower water quality or affect existing water uses, including but not limited to all 401 Water Quality Certification reviews and any new, reissued, or modified RIPDES permits." Part VI.A of the Policy indicates that it is not applicable to activities which result in insignificant (i.e.: short-term minor) changes in water quality and that significant changes in Water quality will only be allowed if it is necessary to accommodate important economic and social development in the area in which the receiving waters are located.

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

Since none of the permit limits are less stringent than in the previous permit, antibacksliding regulations are being met. Additionally, the draft permit is being reissued with limitations as stringent or more stringent than those in the existing permit with no change to the outfall location or increase in flow. Therefore, as there will be no increase in loadings or flow to the receiving waterbody, no additional antidegradation review is necessary.

Reasonable Potential

In accordance with 40 CFR Part 122.4(d)(1))(iii), it is only necessary to establish limitations for those pollutants in the discharge which have the reasonable potential to cause or contribute to the exceedance of the instream criteria. In order to evaluate the reasonable potential and, therefore, the need for permit limitations, the monthly average (chronic) permit limitations were compared to the monthly average and daily maximum Discharge Monitoring Report (DMR) data and annual priority pollutant scan data reported by the permittee. A complete summary of DMR Data from October 2008 thru April 2017 is presented in *Attachment A-1*. *Attachment A-3* contains a summary of all applicable

[2]ONRWs are a special subset of high quality water bodies, identified by the State as having significant recreational or ecological water uses.

water quality based permit limits. *Attachment A-4* contains a listing of all priority pollutant scan data detections reported by the permittee from 2012 thru 2016. *Attachment A-5* is a summary comparison of the allowable discharge levels vs. the DMR data vs. annual priority pollutant scan detections.

Based on the analysis presented above, permit limits are required for Total Residual Chlorine, Copper, Lead, and Selenium. Although Zinc, Cyanide, and Cadmium limits were applied in the 2008 permit, limitations for these parameters have been removed from this permit based on the lack of reasonable potential to cause or contribute to the exceedance of instream criteria. Although the following pollutants did not have "reasonable potential" monitoring for Total Cadmium, Available Cyanide, Total Zinc, Total Aluminum, Total Nickel, and Hexavalent Chromium have been included in the permit since they are part of the standard list of pollutants monitored as part of the quarterly bioassay testing requirements.

The Woonsocket WWTF Facilities Plan Amendment dated May 2013 indicated that during the development of the recommended nutrient removal upgrades for the Woonsocket WWTF, the designers considered the monthly average water quality criteria for Iron. It was determined that compliance with the water quality criteria for iron would not be problematic for the facility. Based on the fact that the City of Woonsocket is currently using ferric chloride in the tertiary treatment process a monthly average limit of 4096 ug/l has been applied in the permit. As an alternative to ferric chloride the facility may decide to utilize an aluminum based coagulant. For this reason, a monthly average permit limit of 356 ug/l and a daily maximum permit limit of 3072 ug/l Total Aluminum have been included in the permit. Weekly sampling for Total Iron and/or Total Aluminum is only in effect during months in which Iron based or Aluminum based coagulation chemicals are used in the treatment process. For all other periods sampling is only required for Total Aluminum on a quarterly basis in accordance with Part I.B of this permit.

Ammonia, Phosphorus and Dissolved Oxygen

A waste load allocation (WLA) was completed for the Blackstone River in November of 1997. WLAs are required by Section 303(d) of the CWA and their purpose is to establish effluent discharge limits for all point sources in a given watershed that will ensure compliance with water quality standards. The Blackstone River WLA is based on a dissolved oxygen (DO) model developed by Dr. Ray Wright of the University of Rhode Island and funded by the EPA, the DEM, and the Massachusetts Department of Environmental Protection (MADEP). The WLA utilizes a mathematical water quality simulation model (QUAL2E) to establish discharge limits necessary to achieve the minimum dissolved oxygen criteria of 5.0 mg/l in the river. The model was calibrated and verified using water quality survey data collected in 1991. The water quality data and modeling report can be found in the Blackstone River Initiative document dated February 1998.

The dissolved oxygen based WLA has established the following permit limits for Woonsocket: monthly average $CBOD_5$ of 10 mg/l for June through October and monthly average Total Ammonia (as N) of 2.0 mg/l for June through October, 12 mg/l for May, and 15.0 mg/l for November – April. The monthly average DO based limits for Total Ammonia also ensure compliance with the applicable instream water quality-based Total Ammonia criteria for protection of aquatic life from chronic toxicity. The daily maximum Total Ammonia limits have been carried over from the previous permit, since they are more stringent that the water quality-based Total Ammonia daily maximum limits.

Conventional Pollutant Permit Limitations

The "Average Monthly" and "Average Weekly" $CBOD_5$ and total suspended solids (TSS) limits for, November – May, the "Percent Removal" requirements for TSS and $CBOD_5$, and the pH limitations are based upon the secondary treatment requirements of the CWA, as defined in 40 CFR 133.102 (a)-(c). The "Average Monthly" and "Average Weekly" total suspended solids (TSS)

limits for the summer months, June - October, have been reduced from the secondary treatment requirements due to the increased removal that will be recognized through the operation of the additional equipment that is necessary to meet other permit limits. The "Maximum Daily" $CBOD_5$ 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.

The Rhode Island Water Quality Regulations include Enterococci criteria for primary contact/swimming of a geometric mean of 54 colonies/100ml and a single sample maximum of 61 colonies/100ml. The "single sample maximum" value is only used to evaluate swimming advisories at designated public beaches and does not apply to the receiving water in the area of the outfall. EPA's November 12, 2008 memorandum regarding "Initial Zones of Dilution for Bacteria in Rivers and Streams Designated for Primary Contact Recreation" clarifies that it is not appropriate to use dilution for bacteria criteria in receiving waters that are designated for primary contact recreation. Therefore, because the receiving water is designated for primary contact recreation, the DEM has assigned a monthly average Enterococci limit of 54 colonies/100ml. The daily maximum enterococci limit has been set at the 90% upper confidence level value for "lightly used full body contact recreation" of 175 colonies/100ml. The DEM has also assigned Fecal Coliform monitoring to ensure that the WWTF is providing treatment that is comparable to historic treatment levels.

The settleable solids limits have been set at monitor only since both DEM and EPA agree that the Total Suspended Solids are an appropriate measure of the solids content being discharged to the receiving waters and that settleable solids are a "process-control parameter" that can aid in assessment of the operation of the plant but need not be an effluent limit.

Oil and Grease monitoring requirements were assigned in the previous permit and 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 facility 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.

Total Nitrogen

Significant areas of the Providence and Seekonk Rivers suffer from hypoxic (low DO), high phytoplankton, and anoxic (lack of DO) conditions directly related to excessive nitrogen loadings Available data shows that nitrogen loads are dominated by wastewater treatment facility inputs including the Woonsocket WWTF.

DEM hired a consultant and has been working with a technical advisory committee (TAC), consisting primarily of scientists and engineers representing, academic, municipal, state and federal organizations, to calibrate a model and develop a water quality restoration plan, or TMDL. It was concluded that the hydrodynamic model formulation could not adequately simulate conditions due to the relatively severe changes in the bathymetry in the Providence River. Therefore, the DEM has concluded that the best method available for evaluating impacts and setting nitrogen load reduction targets for the Providence River is to use the set of empirical relations developed from the Marine Ecosystems Research Laboratory (MERL) enrichment gradient studies at the University of Rhode Island.

In February 2004, DEM developed an analysis titled *Evaluation of Nitrogen Targets and WWTF Load Reductions for the Providence and Seekonk Rivers*. This analysis indicated that even if the wastewater treatment facility (WWTF) discharges are reduced to the limit of technology (total nitrogen of 3 mg/l), the Seekonk River and portions of the Providence River may not fully comply with existing water quality standards for DO. The DEM has evaluated the implementation costs,

the performance of available technology, and estimates of water quality improvement to develop a phased plan for implementation of WWTF improvements at Massachusetts and Rhode Island WWTFs which maximizes the DO levels relative to implementation cost.

Estimates of capital costs to modify existing facilities to achieve the target levels on a seasonal basis were developed. These costs included allowances for planning, design, construction and administration and must be considered Order-of-Magnitude estimates, since specific facility characteristics were not evaluated. This analysis has been added to the document *Evaluation of Nitrogen Targets and WWTF Load Reductions for the Providence and Seekonk Rivers*, which is available upon request.

Based on this evaluation the DEM has determined that it would be appropriate to establish seasonal (May – October) limits for total nitrogen of 3.0 mg/l to the Woonsocket WWTF. These limits, in combination with the reductions being assigned to the other WWTFs, will achieve a 50% reduction from the 1995-1996 Rhode Island WWTF loading, consistent with the recommendations from The Governor's Narragansett Bay and Watershed Planning Commission. In addition to adding a seasonal total nitrogen limit of 3.0 mg/l, this permit also requires that the permittee operate the treatment facility to reduce the discharge of total nitrogen, during the months of November through March, to the maximum extent possible using all available treatment equipment in place at the facility, and carries over the 10.0 mg/l total nitrogen limit during April from the previous permit. Assigning seasonal total nitrogen limits and requiring that the WWTF be operated year round in a manner to reduce the discharge of nitrogen to the maximum extent possible will result in substantial progress towards the mitigation of hypoxic/anoxic events and meeting water quality standards. The analysis contained in *Evaluation of Nitrogen Targets and WWTF Load Reductions for the Providence and Seekonk Rivers*, indicates that the contribution of the Massachusetts WWTFs is significant and DEM is working with the MADEP and the EPA to pursue appropriate nitrogen reductions.

An integral component of this phased implementation approach is monitoring and assessment of water quality changes to determine if additional reductions are necessary to meet applicable standards. DEM, in partnership with other agencies, will monitor the water quality of the Providence and Seekonk Rivers. This monitoring will provide the data necessary to evaluate compliance with water quality standards, particularly temporal detail needed to evaluate compliance with EPA's DO guidelines.

Phosphorus

Phosphorus and other nutrients (e.g. nitrogen) promote the growth of nuisance algae that contributes to low DO when algae utilize oxygen in the evening (i.e. through respiration) and when algae die and decompose. In addition to the impact on DO, phosphorus and other nutrients also promote the growth of nuisance algae and rooted aquatic plants which results in reduced water clarity and poor aesthetic quality. Rule 8.D.(2) of the Rhode Island Water Quality Regulations establishes the following criteria for Nutrients:

"*Average Total Phosphorus shall not exceed 0.025 mg/l in any lake, pond, kettlehole or reservoir, and average Total P in tributaries at the point where they enter such bodies of water shall not cause exceedance of this phosphorus criteria, except as naturally occurs, unless the Director determines, on a site-specific basis, that a different value for phosphorus is necessary to prevent cultural eutrophication.*"

Determination of whether the water quality criterion of 25 ug/l is applicable to the Blackstone River requires an evaluation of whether the Blackstone River flows into a lake, pond or reservoir (including whether run of the river impoundments constitute a lake, pond or reservoir). For the development of nutrient criteria, the EPA document titled *Nutrient Criteria Technical Guidance*

Manual: Lakes and Reservoirs: First Edition has defined lakes as natural and artificial impoundments with a surface area greater than 10 acres and having a minimum mean water residence time of 14 days. After evaluation, DEM has determined that none of the run of the river impoundments along the Rhode Island portion of the Blackstone River meet these criteria. However, Scott Pond receives the majority of its flow from the Blackstone River and, therefore, the criterion of 25 ug/l must be met in the Blackstone River at the point in which it enters Scott Pond in Lincoln, RI. It should be noted that Scott Pond is listed on the Rhode Island 303(d) List of Impaired Waters due to the fact that it is not supporting the Fish and Wildlife Habitat use as a result of impairments associated with Copper, Dissolved Oxygen, and Total Phosphorus.

In addition to the 25 ug/l phosphorus water quality criterion for lakes, ponds, and reservoirs, the Rhode Island Water Quality Regulations contain narrative, but not numeric, nutrient water quality criteria for streams that do not impact a lake, pond, or reservoir. However, EPA has produced several guidance documents, which contain recommended numeric total phosphorus criteria for receiving waters. The 1986 Quality Criteria of Water (Gold Book) recommends in stream phosphorus concentrations of 50 ug/l in any stream entering a lake or reservoir, 100 ug/l for any stream not discharging directly to lakes or impoundments, and 25 ug/l within the lake or reservoir. In addition, in December 2000, EPA published guidelines, which vary based by eco-region. The recommended EPA criteria applicable to Rhode Island waters are described in the document titled *Ambient Water Quality Criteria Recommendations: Information Supporting the Development of State and Tribal Nutrient Criteria, Rivers and Streams in Nutrient Ecoregion XIV (EPA 822-B-00-022, December 2000)*. This document identifies the EPA recommended guidelines applicable to Rhode Island waters as 8 ug/l in lakes and 23.75 ug/l in rivers. However, these recommended guidelines do not substitute for the CWA or EPA's regulations, nor are the documents themselves regulations. Thus, they cannot impose legally binding requirements on EPA, States, Indian tribes or the regulated community. Therefore, for the portions of the Blackstone River that do not impact a lake, pond or reservoir DEM has decided to apply the Gold Book criterion (100 ug/l) rather than the more stringent eco-region criteria, given that it was developed from an effects-based approach, versus the eco-region criteria that were developed on the basis of reference conditions.

The effects-based approach was selected because it is often more directly associated with an impairment to a designated use (i.e. fishing, swimming). The effects-based approach provides a threshold value above which adverse effects (i.e., water quality impairments) are likely to occur using empirical observations of a causal variable (i.e., phosphorus) and a response variable (i.e., chlorophyll a) associated with designated use impairments. Reference-based values are statistically derived from a comparison within a population of rivers in the same eco-region class and are a quantitative set of river characteristics (physical, chemical, and biological) that represent minimally impacted conditions.

The previous permit contained a Total Phosphorus monthly average limit of 1.0 mg/l for the months of April through October based on the WLA for the Blackstone River that was completed in November of 1997. Since, as previously mentioned, Scott Pond was identified as impaired based on data collected prior to all Wastewater Treatment Facilities (WWTFs) achieving compliance with the WLA requirements, the results of the WLA model were reviewed. The WLA model predicts that the following in-stream conditions will exist after compliance with the WWTF limits established by the WLA:

	Chlorophyll a (ug/l)	Phosphorus (ug/l)
RI portion downstream of Woonsocket WWTF	Range from 15 – 22	Range 120-170
Entrance to Scott Pond	17	120

As can be seen from the above table, the in-stream phosphorus concentrations for both the RI portion of the Blackstone River downstream of the Woonsocket WWTF and at the entrance to Scott Pond will exceed the applicable water quality criteria (100 ug/l for the River and 25 ug/l at the entrance to Scott Pond).

RIDEM has used the WLA model to predict the impact of various levels of phosphorus reduction from WWTFs on the Blackstone River's phosphorus concentrations. As a result, it has been determined that an effluent limit of 100 ug/l for the Woonsocket WWTF is necessary to achieve compliance with the Gold Book criterion for free flowing streams and to ensure the Blackstone River does not cause a violation of the RI Water Quality criteria in Scott Pond (note: the model predicts 30 ug/l at the entrance to Scott Pond as rounded to the precision level of the model to the nearest 10 ug/l). The Gold Book-recommended criterion is applied based on the best currently available information. Furthermore, this limit is also consistent with the requirement to remove phosphates to the extent that such removal is technically and reasonably feasible, found in Rule 8.D.(2)10.b of the Rhode Island Water Quality Regulations.

The draft Permit therefore includes a warm weather limit of 0.1 mg/l total phosphorous and a cold weather limit of 1 mg/l. The total phosphorous warm weather limit (0.1 mg/l) is applied April 1st to October 31st, the period during which eutrophic conditions are most likely to occur and during which phosphorus effluent loading is most detrimental to water quality goals. The total phosphorous cold weather limit (1.0 mg/l) applies November 1st to March 31st. A higher phosphorus effluent discharge limitation in the winter period is appropriate because the predominant form of phosphorus (dissolved fraction), lacking plant growth to absorb it, will likely remain dissolved and flow out of the system. Imposing a limit on phosphorous during the cold weather months is, however, necessary to ensure that phosphorous discharged during the cold weather months does not result in the accumulation of phosphorous in the sediments, which would then subsequently be released into the water column during the warm weather growing season. To ensure DEM's understanding of the anticipated behavior of dissolved and particulate phosphorus is correct, a monitoring requirement for orthophosphorous has been included for the cold weather months (November 1st – March 31st) in order to determine the dissolved particulate fraction.

Bioassay Testing

The biomonitoring requirements are set forth in the State's Water Quality Regulations. DEM's toxicity permitting policy is based on past toxicity data and the level of available dilution. The assigned dilution factor of five (5) requires that both acute and chronic toxicity be evaluated. The bioassay testing requirements in the permit consists of chronic and acute toxicity tests conducted on Ceriodaphnia (Daphnid). The permit contains an acute LC_{50} toxicity of ≥ 100% effluent and a chronic toxicity of ≥ 20% (note: the chronic test can be used to calculate the acute LC_{50} value). If recurrent toxicity is demonstrated, then toxicity identification and/or reduction will be required.

Other Limits and Conditions

The effluent monitoring requirements have been specified in accordance with RIPDES regulations as well as 40 CFR 122.41(j), 122.44(i), and 122.48 to yield data representative of the discharge.

The permit contains requirements for the permittee to comply with the State's Rules and Regulations for Sewage Sludge Management and its DEM 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 DEM Sludge Order of Approval sets forth the conditions to ensure this compliance.

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 city receives significant discharges of industrial wastewater.

The permit requires that, within one year of the effective date of this permit, the Permittee shall submit a Resiliency Plan and schedule of short and long-term actions that will be taken to maintain operation and protect key collection and treatment system assets that will be subject to DEM review and approval. The plan shall be consistent with the DEM's Guidance for the Consideration of Climate Change Impacts in the Planning and Design of Municipal Wastewater Collection and Treatment Infrastructure and include consideration of the findings of the 2017 DEM report Implications of Climate Change for Rhode Island Wastewater Collection and Treatment Infrastructure. The Resiliency Plan shall include, but not be limited to: (i) an assessment of current and projected impacts from natural hazards on critical components within the collection and treatment systems, as well as on the systems themselves; (ii) a plan to adapt and protect vulnerable components and systems; (iii) an analysis that provides justification for selected adaptation methods. The analysis must consider component and system design life and sea-level rise projections. For the purposes of this Resiliency Plan, critical components are considered those necessary to ensure the forward flow and treatment of wastewater in accordance with the limits set forth in this permit. The Resiliency Plan shall also consider impacts from neighboring facilities during high hazard events.

The Office has determined that all permit limitations are consistent with the Rhode Island Antidegradation Policy.

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 consisting primarily of management requirements common to all permits.

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. Any person, prior to such date, may submit a request in writing for a public hearing to consider the draft permit to the DEM. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty days public notice whenever the Director finds that response to this notice indicates significant public interest. In reaching a final decision on the draft permit the Director will respond to all significant comments and make these responses available to the public at DEM's Providence Office.

Following the close of the comment period, and after a public hearing, the Director will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments 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 draft 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 02908-5767
Telephone: (401) 222-4700 ext. 7405
E-mail: Aaron.Mello@dem.ri.gov

10/24/17
Date

Joseph B. Haberek, P.E.
Supervising Sanitary Engineer
Office of Water Resources
Rhode Island 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[1]	MAXIMUM[2]
Flow	5.90 MGD	8.36 MGD
CBOD Loading (June 1 – Oct. 31)	100.9 lb/day	212.0 lb/day
CBOD (June 1 – Oct. 31)	2.0 mg/l	4.2 mg/l
BOD_5 Loading (Nov. 1 – May 31)	451.4 lb/day	2249.3 lb/day
BOD_5 (Nov. 1 – May 31)	5.7 mg/l	21.9 mg/l
BOD % Removal	98.2 % (Minimum)	
TSS Loading (June 1 – Oct. 31) (Nov. 1 – May 31)	154.3 lb/day 447.5 lb/day	351.8 lb/day 1383.5 lb/day
TSS (June 1 – Oct. 31) (Nov. 1 – May 31)	3.7 mg/l 6.9 mg/l	7.6 mg/l 17.4 mg/l
TSS % Removal	98.3 % (Minimum)	
Fecal Coliform	2.4 MPN/100 ml	40.5 MPN/100 ml
Settleable Solids		0.3 ml/l
pH	6.8 S.U. (Minimum)	7.6 S.U. (Maximum)
Chlorine Total Residual	20.2 ug/l	43.5 ug/l
Oil & Grease		1.9 mg/l
Total Phosphorus [as P] (Apr. 1 – Oct. 31) (Nov. 1 – March 31)	0.67 mg/l 2.23 mg/l	2.38 mg/l 6.40 mg/l
Orthophosphorus [as P] (Nov. 1 – March 31)	1.83 mg/l	5.24 mg/l
Total Ammonia, Nitrogen [as N] (June 1 – Oct. 31) (Nov. 1 – April 30) (May 1 – 31)	0.6 mg/l 1.2 mg/l 4.8 mg/l	2.9 mg/l 3.5 mg/l 5.5 mg/l
Total Nitrate, Nitrogen [as N] (Apr. 1 – Oct. 31) (Nov 1 – Mar. 31)	4.36 mg/l 4.66 mg/l	6.99 mg/l 4.90 mg/l
Total Nitrite, Nitrogen [as N] (Apr. 1 – Oct. 31)	0.07 mg/l	0.31 mg/l

(Nov 1 – Mar. 31)	0.07 mg/l	0.10 mg/l
TKN, Total [as N]		
(Apr. 1 – Oct. 31)	2.6 mg/l	6.9 mg/l
(Nov. 1 – Mar. 31)	1.7 mg/l	2.3 mg/l
Total Nitrogen [TKN + Nitrite + Nitrate]		
(April)	8.6 mg/l	16.7 mg/l
(May 1 – Oct. 31)	6.8 mg/l	10.8 mg/l
(Nov. 1 – Mar. 31)	6.3 mg/l	7.9 mg/l
Total Nitrogen [TKN + Nitrite + Nitrate]		
(April)	580.3 lb/day	
(May 1 – Oct. 31)	285.4 lb/day	
(Nov. 1 – Mar. 31)	326.3 lb/day	
Cadmium, Total	0.3 ug/l	0.4 ug/l
Copper, Total	8.2 ug/l	14.1 ug/l
Cyanide, Total	7.8 ug/l	8.5 ug/l
Lead, Total	1.4 ug/l	2.7 ug/l
Zinc, Total	19.5 ug/l	32.4 ug/l

[1]Data represents the mean of the monthly average data from October 2008 – April 2017.

[2]Data represents the mean of the daily maximum data from October 2008 – April 2017.

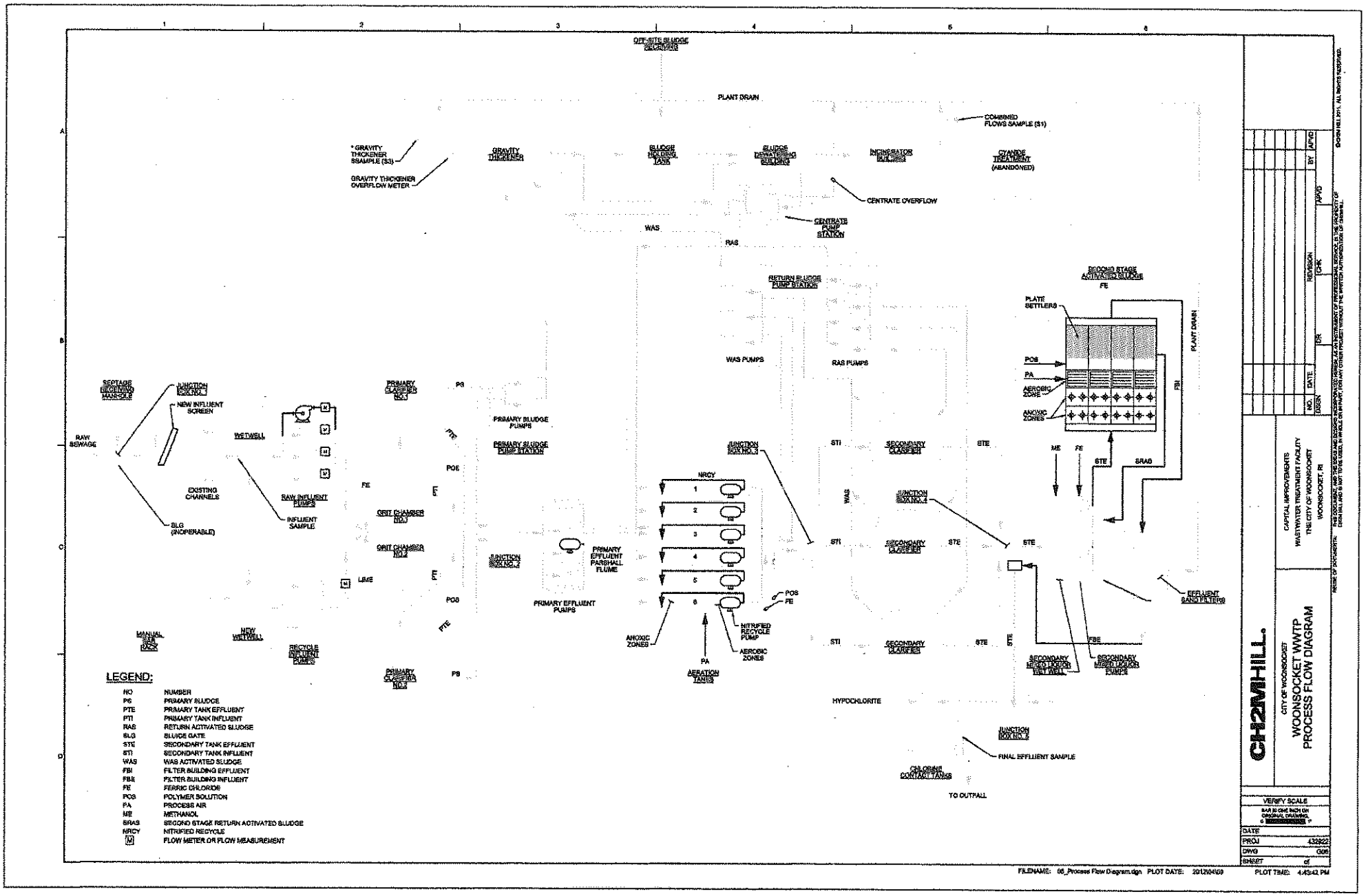
Whole Effluent Toxicity Testing Results (percent effluent)

Species: Ceriodaphnia Dubia

Monitoring Quarter	LC50 Result	C-NOEC Result
1st Quarter 2015	=100%	=50%
2nd Quarter 2015	=100%	=50%
3rd Quarter 2015	=100%	=100%
4th Quarter 2015	=100%	=100%
1st Quarter 2016	=100%	=100%
2nd Quarter 2016	=100%	=100%
3rd Quarter 2016	=100%	=100%
4th Quarter 2016	=100%	=100%
1st Quarter 2017	=100%	=100%

ATTACHMENT A-2

Woonsocket WWTF Process Flow Diagram



LEGEND:

NO	NUMBER
PS	PRIMARY SLUDGE
PTE	PRIMARY TANK EFFLUENT
PTI	PRIMARY TANK INFLUENT
RAS	RETURN ACTIVATED SLUDGE
SLG	SLUDGE GATE
STE	SECONDARY TANK EFFLUENT
STI	SECONDARY TANK INFLUENT
WAS	WAS ACTIVATED SLUDGE
FBI	FILTER BUILDING EFFLUENT
FBE	FILTER BUILDING INFLUENT
FE	FERRIC CHLORIDE
POS	POLYMER SOLUTION
PA	PROCESS AIR
ME	METHANOL
SRAS	SECOND STAGE RETURN ACTIVATED SLUDGE
NRCY	NITRIFIED RECYCLE
M	FLOW METER OR FLOW MEASUREMENT

NO.	DATE	REVISION	BY	APVD
DESIGN	DR	CHK	APVD	

CAPITAL IMPROVEMENTS
WASTEWATER TREATMENT FACILITY
THE CITY OF WOONSOCKET
WOONSOCKET, RI

CH2MHILL

CITY OF WOONSOCKET
WOONSOCKET WWTP
PROCESS FLOW DIAGRAM

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET ADJUST SCALE ACCORDINGLY

DATE
PROJ 432822
DWG G06
SHEET 6

FILENAME: 06_Process Flow Diagram.dgn PLOT DATE: 2012/04/09 PLOT TIME: 4:43:42 PM

ATTACHMENT A-3

Summary of Applicable Water Quality Based Limits

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY SPECIFIC DATA INPUT SHEET

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

FACILITY NAME: **Woonsocket WWTF**

RIPDES PERMIT #: **RI0100111**

	DISSOLVED BACKGROUND DATA (ug/L)	ACUTE METAL TRANSLATOR	CHRONIC METAL TRANSLATOR
ALUMINUM	NA	NA	NA
ARSENIC	NA	1	1
CADMIUM	NA	0.973000781	0.938000781
CHROMIUM III	NA	0.316	0.86
CHROMIUM VI	NA	0.982	0.962
COPPER	NA	0.96	0.96
LEAD	NA	0.892001304	0.892001304
MERCURY	NA	0.85	0.85
NICKEL	NA	0.998	0.997
SELENIUM	NA	NA	NA
SILVER	NA	0.85	NA
ZINC	NA	0.978	0.986
AMMONIA (as N)	NA		

USE NA WHEN NO DATA IS AVAILABLE

NOTE 1: METAL TRANSLATORS FROM RI WATER QUALITY REGS.

pH =	7.0 S.U.
HARDNESS =	50.0 (mg/L as CaCO3)

FLOW DATA	
DESIGN FLOW =	16.000 MGD
=	24.757 CFS
7Q10 FLOW =	102.000 CFS
7Q10 (JUNE-OCT) =	102.000 CFS
7Q10 (NOV-MAY) =	152.000 CFS
30Q5 FLOW =	134.400 CFS
HARMONIC FLOW =	357.000 CFS

DILUTION FACTORS	
ACUTE =	5.120
CHRONIC =	5.120
(MAY-OCT) =	5.120
(NOV-APR) =	7.140
30Q5 FLOW =	6.429
HARMONIC FLOW =	15.420

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY NAME: Woonsocket WWTF RIPDES PERMIT #: RI0100111

Month	Upper 90th% pH	Acute Criteria* ug/L as N	Chronic Criteria* ug/L as N
May	7.9	10.1	1.46
Jun	7.9	10.1	1.46
Jul	7.9	10.1	1.46
Aug	7.9	10.1	1.46
Sep	7.9	10.1	1.46
Oct	7.9	10.1	1.46
Nov	7.9	10.1	1.46
Dec	7.9	10.1	1.46
Jan	7.9	10.1	1.46
Feb	7.9	10.1	1.46
Mar	7.9	10.1	1.46
Apr	7.9	10.1	1.46

**NOTE: Criteria from Appendix B of the RI Water Quality Regs., July 2006.*

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY NAME: Woonsocket WWTF RIPDES PERMIT #: RI0100111

NOTE: METALS CRITERIA ARE EXPRESSED AS DISSOLVED, METALS LIMITS ARE EXPRESSED AS TOTAL

CHEMICAL NAME	CAS #	BACKGROUND CONCENTRATION (ug/L)	FRESHWATER CRITERIA ACUTE (ug/L)	DAILY MAX LIMIT (ug/L)	FRESHWATER CRITERIA CHRONIC (ug/L)	HUMAN HEALTH NON-CLASS A CRITERIA (ug/L)	MONTHLY AVE LIMIT (ug/L)
PRIORITY POLLUTANTS:							
TOXIC METALS AND CYANIDE							
ANTIMONY	7440360		450	1843.19424	10	640	40.959872
ARSENIC (limits are total recoverable)	7440382	NA	340	1392.635648	150	1.4	17.27033728
ASBESTOS	1332214			No Criteria			No Criteria
BERYLLIUM	7440417		7.5	30.719904	0.17		0.696317824
CADMIUM (limits are total recoverable)	7440439	NA	1.025922486	4.31876875	0.151891831		0.663269164
CHROMIUM III (limits are total recoverable)	16065831	NA	322.9617115	4186.224799	42.01068336		200.0874666
CHROMIUM VI (limits are total recoverable)	18540299	NA	16	66.73706232	11		46.83561247
COPPER (limits are total recoverable)	7440508	NA	6.994233901	29.84197139	4.953040664		21.13290746
CYANIDE	57125		22	90.1117184	5.2	140	21.29913344
LEAD (limits are total recoverable)	7439921	NA	30.13591353	138.381318	1.174353286		5.392521297
MERCURY (limits are total recoverable)	7439976	NA	1.4	6.746331859	0.77	0.15	0.907579031
NICKEL (limits are total recoverable)	7440020	NA	260.4912991	1069.107241	28.93254117	4600	118.86391
SELENIUM (limits are total recoverable)	7782492	NA	20	81.919744	5	4200	20.479936
SILVER (limits are total recoverable)	7440224	NA	1.047242626	5.046461639	NA		No Criteria
THALLIUM	7440280		46	188.4154112	1	0.47	2.417185485
ZINC (limits are total recoverable)	7440666	NA	65.13170714	272.7797943	65.66448184	26000	272.7797943
VOLATILE ORGANIC COMPOUNDS							
ACROLEIN	107028		2.9	11.87836288	0.06	290	0.245759232
ACRYLONITRILE	107131		378	1548.283162	8.4	2.5	30.839888
BENZENE	71432		265	1085.436608	5.9	510	24.16632448
BROMOFORM	75252		1465	6000.621248	33	1400	135.1675776
CARBON TETRACHLORIDE	56235		1365	5591.022528	30	16	122.879616
CHLOROBENZENE	108907		795	3256.309824	18	1600	73.7277696
CHLORODIBROMOMETHANE	124481			No Criteria		130	1603.674176
CHLOROFORM	67663		1445	5918.701504	32	4700	131.0715904
DICHLOROBROMOMETHANE	75274			No Criteria		170	2097.112384
1,2DICHLOROETHANE	107062		5900	24166.32448	131	370	536.5743232
1,1DICHLOROETHYLENE	75354		580	2375.672576	13	7100	53.2478336
1,2DICHLOROPROPANE	78875		2625	10751.9664	58	150	237.5672576
1,3DICHLOROPROPYLENE	542756			No Criteria		21	108.0019046
ETHYLBENZENE	100414		1600	6553.57952	36	2100	147.4555392
BROMOMETHANE (methyl bromide)	74839			No Criteria		1500	7714.42176
CHLOROMETHANE (methyl chloride)	74873			No Criteria			No Criteria
METHYLENE CHLORIDE	75092		9650	39526.27648	214	5900	876.5412608

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY NAME: Woonsocket WWTF RIPDES PERMIT #: RI0100111

NOTE: METALS CRITERIA ARE EXPRESSED AS DISSOLVED, METALS LIMITS ARE EXPRESSED AS TOTAL

CHEMICAL NAME	CAS #	BACKGROUND CONCENTRATION (ug/L)	FRESHWATER CRITERIA ACUTE (ug/L)	DAILY MAX LIMIT (ug/L)	FRESHWATER CRITERIA CHRONIC (ug/L)	HUMAN HEALTH NON-CLASS A CRITERIA (ug/L)	MONTHLY AVE LIMIT (ug/L)
1,1,2,2TETRACHLOROETHANE	79345		466	1908.730035	10	40	40.959872
TETRACHLOROETHYLENE	127184		240	983.036928	5.3	33	21.70873216
TOLUENE	108883		635	2600.951872	14	15000	57.3438208
1,2TRANSDICHLOROETHYLENE	156605			No Criteria		10000	51429.4784
1,1,1TRICHLOROETHANE	71556			No Criteria			No Criteria
1,1,2TRICHLOROETHANE	79005		900	3686.38848	20	160	81.919744
TRICHLOROETHYLENE	79016		1950	7987.17504	43	300	176.1274496
VINYL CHLORIDE	75014			No Criteria		2.4	29.60629248
ACID ORGANIC COMPOUNDS							
2CHLOROPHENOL	95578		129	528.3823488	2.9	150	11.87836288
2,4DICHLOROPHENOL	120832		101	413.6947072	2.2	290	9.01117184
2,4DIMETHYLPHENOL	105679		106	434.1746432	2.4	850	9.83036928
4,6DINITRO2METHYL PHENOL	534521			No Criteria		280	1440.025395
2,4DINITROPHENOL	51285		31	126.9756032	0.69	5300	2.826231168
4NITROPHENOL	88755			No Criteria			No Criteria
PENTACHLOROPHENOL	87865		0.054292982	0.22238336	0.041653899	30	0.170613837
PHENOL	108952		251	1028.092787	5.6	1700000	22.93752832
2,4,6TRICHLOROPHENOL	88062		16	65.5357952	0.36	24	1.474555392
BASE NEUTRAL COMPUNDS							
ACENAPHTHENE	83329		85	348.158912	1.9	990	7.78237568
ANTHRACENE	120127			No Criteria		40000	205717.9136
BENZIDINE	92875			No Criteria		0.002	0.02467191
POLYCYCLIC AROMATIC HYDROCARBONS				No Criteria		0.18	2.220471936
BIS(2CHLOROETHYL)ETHER	111444			No Criteria		5.3	65.38056256
BIS(2CHLOROISOPROPYL)ETHER	108601			No Criteria		65000	334291.6096
BIS(2ETHYLHEXYL)PHTHALATE	117817		555	2273.272896	12	22	49.1518464
BUTYL BENZYL PHTHALATE	85687		85	348.158912	1.9	1900	7.78237568
2CHLORONAPHTHALENE	91587			No Criteria		1600	8228.716544
1,2DICHLOROBENZENE	95501		79	323.5829888	1.8	1300	7.37277696
1,3DICHLOROBENZENE	541731		390	1597.435008	8.7	960	35.63508864
1,4DICHLOROBENZENE	106467		56	229.3752832	1.2	190	4.91518464
3,3DICHLOROBENZIDENE	91941			No Criteria		0.28	3.454067456
DIETHYL PHTHALATE	84662		2605	10670.04666	58	44000	237.5672576
DIMETHYL PHTHALATE	131113		1650	6758.37888	37	1100000	151.5515264
DI-n-BUTYL PHTHALATE	84742			No Criteria		4500	23143.26528
2,4DINITROTOLUENE	121142		1550	6348.78016	34	34	139.2635648

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY NAME: Woonsocket WWTF RIPDES PERMIT #: RI0100111

NOTE: METALS CRITERIA ARE EXPRESSED AS DISSOLVED, METALS LIMITS ARE EXPRESSED AS TOTAL

CHEMICAL NAME	CAS #	BACKGROUND CONCENTRATION (ug/L)	FRESHWATER CRITERIA ACUTE (ug/L)	DAILY MAX LIMIT (ug/L)	FRESHWATER CRITERIA CHRONIC (ug/L)	HUMAN HEALTH NON-CLASS A CRITERIA (ug/L)	MONTHLY AVE LIMIT (ug/L)
1,2DIPHENYLHYDRAZINE	122667		14	57.3438208	0.31	2	1.269756032
FLUORANTHENE	206440		199	815.1014528	4.4	140	18.02234368
FLUORENE	86737			No Criteria		5300	27257.62355
HEXACHLOROBENZENE	118741			No Criteria		0.0029	0.03577427
HEXACHLOROBUTADIENE	87683			No Criteria		180	2220.471936
HEXACHLOROCYCLOPENTADIENE	77474		0.35	1.43359552	0.008	1100	0.032767898
HEXACHLOROETHANE	67721		49	200.7033728	1.1	33	4.50558592
ISOPHORONE	78591		5850	23961.52512	130	9600	532.478336
NAPHTHALENE	91203		115	471.038528	2.6		10.64956672
NITROBENZENE	98953		1350	5529.58272	30	690	122.879616
N-NITROSODIMETHYLAMINE	62759			No Criteria		30	370.078656
N-NITROSODI-N-PROPYLAMINE	621647			No Criteria		5.1	62.91337152
N-NITROSODIPHENYLAMINE	86306		293	1200.12425	6.5	60	26.6239168
PYRENE	129000			No Criteria		4000	20571.79136
1,2,4trichlorobenzene	120821		75	307.19904	1.7	70	6.96317824
PESTICIDES/PCBs							
ALDRIN	309002		3	12.2879616		0.0005	0.006167978
Alpha BHC	319846			No Criteria		0.049	0.604461805
Beta BHC	319857			No Criteria		0.17	2.097112384
Gamma BHC (Lindane)	58899		0.95	3.89118784		1.8	22.20471936
CHLORDANE	57749		2.4	9.83036928	0.0043	0.0081	0.017612745
4,4DDT	50293		1.1	4.50558592	0.001	0.0022	0.004095987
4,4DDE	72559			No Criteria		0.0022	0.027139101
4,4DDD	72548			No Criteria		0.0031	0.038241461
DIELDRIN	60571		0.24	0.983036928	0.056	0.00054	0.006661416
ENDOSULFAN (alpha)	959988		0.22	0.901117184	0.056	89	0.229375283
ENDOSULFAN (beta)	33213659		0.22	0.901117184	0.056	89	0.229375283
ENDOSULFAN (sulfate)	1031078			No Criteria		89	457.7223578
ENDRIN	72208		0.086	0.352254899	0.036	0.06	0.147455539
ENDRIN ALDEHYDE	7421934			No Criteria		0.3	1.542884352
HEPTACHLOR	76448		0.52	2.129913344	0.0038	0.00079	0.009745405
HEPTACHLOR EPOXIDE	1024573		0.52	2.129913344	0.0038	0.00039	0.004811023
POLYCHLORINATED BIPHENYLS3	1336363			No Criteria	0.014	0.00064	0.007895011
2,3,7,8TCDD (Dioxin)	1746016			No Criteria		0.000000051	6.29134E-07
TOXAPHENE	8001352		0.73	2.990070656	0.0002	0.0028	0.000819197
TRIBUTYLTIN			0.46	1.884154112	0.072		0.294911078

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY NAME: Woonsocket WWTF RIPDES PERMIT #: RI0100111

NOTE: METALS CRITERIA ARE EXPRESSED AS DISSOLVED, METALS LIMITS ARE EXPRESSED AS TOTAL

CHEMICAL NAME	CAS #	BACKGROUND CONCENTRATION (ug/L)	FRESHWATER CRITERIA ACUTE (ug/L)	DAILY MAX LIMIT (ug/L)	FRESHWATER 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	750	3071.9904	87		356.3508864
AMMONIA as N(winter/summer)	7664417		10.1 | 10.1	57688 | 41369	1.46 | 1.46		8339.03 | 5980.14
4BROMOPHENYL PHENYL ETHER			18	73.7277696	0.4		1.63839488
CHLORIDE	16887006		860000	3522548.992	230000		
CHLORINE	7782505		19	97.279696	11		56.319824
4CHLORO2METHYLPHENOL			15	61.439808	0.32		1.310715904
1CHLORONAPHTHALENE			80	327.678976	1.8		7.37277696
4CHLOROPHENOL	106489		192	786.4295424	4.3		17.61274496
2,4DICHLORO6METHYLPHENOL			22	90.1117184	0.48		1.966073856
1,1DICHLOROPROPANE			1150	4710.38528	26		106.4956672
1,3DICHLOROPROPANE	142289		303	1241.084122	6.7		27.44311424
2,3DINITROTOLUENE			17	69.6317824	0.37		1.515515264
2,4DINITRO6METHYL PHENOL			12	49.1518464	0.26		1.064956672
IRON	7439896			No Criteria	1000		4095.9872
pentachlorobenzene	608935		13	53.2478336	0.28		1.146876416
PENTACHLOROETHANE			362	1482.747366	8		32.7678976
1,2,3,5tetrachlorobenzene			321	1314.811891	7.1		29.08150912
1,1,1,2TETRACHLOROETHANE	630206		980	4014.067456	22		90.1117184
2,3,4,6TETRACHLOROPHENOL	58902		7	28.6719104	0.16		0.655357952
2,3,5,6TETRACHLOROPHENOL			8.5	34.8158912	0.19		0.778237568
2,4,5TRICHLOROPHENOL	95954		23	94.2077056	0.51		2.088953472
2,4,6TRINITROPHENOL	88062		4235	17346.50579	94		385.0227968
XYLENE	1330207		133	544.7662976	3		

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY NAME: Woonsocket WWTF RIPDES PERMIT #: RI0100111

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
PRIORITY POLLUTANTS			
TOXIC METALS AND CYANIDE			
ANTIMONY	7440360	1843.19	40.96
ARSENIC, TOTAL	7440382	1392.64	17.27
ASBESTOS	1332214	No Criteria	0.00
BERYLLIUM	7440417	30.72	0.70
CADMIUM, TOTAL	7440439	4.32	0.66
CHROMIUM III, TOTAL	16065831	4186.22	200.09
CHROMIUM VI, TOTAL	18540299	66.74	46.84
COPPER, TOTAL	7440508	29.84	21.13
CYANIDE	57125	90.11	21.30
LEAD, TOTAL	7439921	138.38	5.39
MERCURY, TOTAL	7439976	6.75	0.91
NICKEL, TOTAL	7440020	1069.11	118.86
SELENIUM, TOTAL	7782492	81.92	20.48
SILVER, TOTAL	7440224	5.05	5.05
THALLIUM	7440280	188.42	2.42
ZINC, TOTAL	7440666	272.78	272.78
VOLATILE ORGANIC COMPOUNDS			
ACROLEIN	107028	11.88	0.25
ACRYLONITRILE	107131	1548.28	30.84
BENZENE	71432	1085.44	24.17
BROMOFORM	75252	6000.62	135.17
CARBON TETRACHLORIDE	56235	5591.02	122.88
CHLOROBENZENE	108907	3256.31	73.73
CHLORODIBROMOMETHANE	124481	No Criteria	1603.67
CHLOROFORM	67663	5918.70	131.07
DICHLOROBROMOMETHANE	75274	No Criteria	2097.11
1,2DICHLOROETHANE	107062	24166.32	536.57
1,1DICHLOROETHYLENE	75354	2375.67	53.25
1,2DICHLOROPROPANE	78875	10751.97	237.57
1,3DICHLOROPROPYLENE	542756	No Criteria	108.00
ETHYLBENZENE	100414	6553.58	147.46
BROMOMETHANE (methyl bromide)	74839	No Criteria	7714.42
CHLOROMETHANE (methyl chloride)	74873	No Criteria	0.00
METHYLENE CHLORIDE	75092	39526.28	876.54
1,1,2,2TETRACHLOROETHANE	79345	1908.73	40.96
TETRACHLOROETHYLENE	127184	983.04	21.71
TOLUENE	108883	2600.95	57.34
1,2TRANSDICHLOROETHYLENE	156605	No Criteria	51429.48
1,1,1TRICHLOROETHANE	71556	No Criteria	0.00
1,1,2TRICHLOROETHANE	79005	3686.39	81.92
TRICHLOROETHYLENE	79016	7987.18	176.13
VINYL CHLORIDE	75014	No Criteria	29.61
ACID ORGANIC COMPOUNDS			
2CHLOROPHENOL	95578	528.38	11.88
2,4DICHLOROPHENOL	120832	413.69	9.01
2,4DIMETHYLPHENOL	105679	434.17	9.83
4,6DINITRO2METHYL PHENOL	534521	No Criteria	1440.03
2,4DINITROPHENOL	51285	126.98	2.83
4NITROPHENOL	88755	No Criteria	0.00
PENTACHLOROPHENOL	87865	0.22	0.17
PHENOL	108952	1028.09	22.94
2,4,6TRICHLOROPHENOL	88062	65.54	1.47
BASE NEUTRAL COMPUNDS			
ACENAPHTHENE	83329	348.16	7.78
ANTHRACENE	120127	No Criteria	205717.91
BENZIDINE	92875	No Criteria	0.02
PAHs		No Criteria	2.22
BIS(2CHLOROETHYL)ETHER	111444	No Criteria	65.38
BIS(2CHLOROISOPROPYL)ETHER	108601	No Criteria	334291.61
BIS(2ETHYLHEXYL)PHTHALATE	117817	2273.27	49.15
BUTYL BENZYL PHTHALATE	85687	348.16	7.78
2CHLORONAPHTHALENE	91587	No Criteria	8228.72
1,2DICHLOROBENZENE	95501	323.58	7.37
1,3DICHLOROBENZENE	541731	1597.44	35.64
1,4DICHLOROBENZENE	106467	229.38	4.92
3,3DICHLOROBENZIDENE	91941	No Criteria	3.45
DIETHYL PHTHALATE	84662	10670.05	237.57
DIMETHYL PHTHALATE	131113	6758.38	151.55
DI-n-BUTYL PHTHALATE	84742	No Criteria	23143.27
2,4DINITROTOLUENE	121142	6348.78	139.26
1,2DIPHENYLHYDRAZINE	122667	57.34	1.27
FLUORANTHENE	206440	815.10	18.02

CALCULATION OF WATER QUALITY BASED NON-CLASS AA FRESHWATER DISCHARGE LIMITS

FACILITY NAME: Woonsocket WWTF RIPDES PERMIT #: RI0100111

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
FLUORENE	86737	No Criteria	27257.62
HEXACHLOROBENZENE	118741	No Criteria	0.04
HEXACHLOROBUTADIENE	87683	No Criteria	2220.47
HEXACHLOROCYCLOPENTADIENE	77474	1.43	0.03
HEXACHLOROETHANE	67721	200.70	4.51
ISOPHORONE	78591	23961.53	532.48
NAPHTHALENE	91203	471.04	10.65
NITROBENZENE	98953	5529.58	122.88
N-NITROSODIMETHYLAMINE	62759	No Criteria	370.08
N-NITROSODI-N-PROPYLAMINE	621647	No Criteria	62.91
N-NITROSODIPHENYLAMINE	86306	1200.12	26.62
PYRENE	129000	No Criteria	20571.79
1,2,4trichlorobenzene	120821	307.20	6.96
PESTICIDES/PCBs			
ALDRIN	309002	12.29	0.01
Alpha BHC	319846	No Criteria	0.60
Beta BHC	319857	No Criteria	2.10
Gamma BHC (Lindane)	58899	3.89	3.89
CHLORDANE	57749	9.83	0.02
4,4DDT	50293	4.51	0.00
4,4DDE	72559	No Criteria	0.03
4,4DDD	72548	No Criteria	0.04
DIELDRIN	60571	0.98	0.01
ENDOSULFAN (alpha)	959988	0.90	0.23
ENDOSULFAN (beta)	33213659	0.90	0.23
ENDOSULFAN (sulfate)	1031078	No Criteria	457.72
ENDRIN	72208	0.35	0.15
ENDRIN ALDEHYDE	7421934	No Criteria	1.54
HEPTACHLOR	76448	2.13	0.01
HEPTACHLOR EPOXIDE	1024573	2.13	0.00
POLYCHLORINATED BIPHENYLS3	1336363	No Criteria	0.01
2,3,7,8TCDD (Dioxin)	1746016	No Criteria	0.00
TOXAPHENE	8001352	2.99	0.00
TRIBUTYLTIN		1.88	0.29

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
NON PRIORITY POLLUTANTS: OTHER SUBSTANCES			
ALUMINUM, TOTAL	7429905	3071.99	356.35
AMMONIA (as N), WINTER (NOV-AP	7664417	57687.84	8339.03
AMMONIA (as N), SUMMER (MAY-O	7664417	41369.47	5980.14
4BROMOPHENYL PHENYL ETHER		73.73	1.64
CHLORIDE	16887006	3522548.99	3522548.99
CHLORINE	7782505	97.28	56.32
4CHLORO2METHYLPHENOL		61.44	1.31
1CHLORONAPHTHALENE		327.68	7.37
4CHLOROPHENOL	106489	786.43	17.61
2,4DICHLORO6METHYLPHENOL		90.11	1.97
1,1DICHLOROPROPANE		4710.39	106.50
1,3DICHLOROPROPANE	142289	1241.08	27.44
2,3DINITROTOLUENE		69.63	1.52
2,4DINITRO6METHYL PHENOL		49.15	1.06
IRON	7439896	No Criteria	4095.99
pentachlorobenzene	608935	53.25	1.15
PENTACHLOROETHANE		1482.75	32.77
1,2,3,5tetrachlorobenzene		1314.81	29.08
1,1,1,2TETRACHLOROETHANE	630206	4014.07	90.11
2,3,4,6TETRACHLOROPHENOL	58902	28.67	0.66
2,3,5,6TETRACHLOROPHENOL		34.82	0.78
2,4,5TRICHLOROPHENOL	95954	94.21	2.09
2,4,6TRINITROPHENOL	88062	17346.51	385.02
XYLENE	1330207	544.77	544.77

ATTACHMENT A-4

Priority Pollutant Scan Summary Data

Woonsocket WWTF - RIPDES Permit No. RI0100111

Summary of Effluent Priority Pollutant Scan Detections

Parameter (ug/l)	2012	2013	2014	2015	2016	Average	Maximum
Nickel	3	3.5	8.2	6	8	5.74	8.2
Copper	5	8	10	23	7	10.60	23
Zinc	10	18	21	21	10	16.00	21
Arsenic	7	0	0	13	4	4.80	13
Beryllium	0	0	0	0.1	0	0.02	0.1
Selenium	14	0	24	10	8	11.20	24
Antimony	3	0	0	3	4	2.00	4
Chloroform	9.8	23	12.6	ND	4.4	12.45	23
Chromium	0	0	0	1	2	0.60	2
Bis(2-ethylhexyl)phthalate	0	0	18	22.8	0	8.16	22.8
Bromodichloromethane	10	13.6	15.4	0	8.5	9.50	15.4
Bromoform	4.51	0	3.5	0	0	1.60	4.51
Lead	2	2	0	0	4	1.60	4
Chlorodibromomethane	7.91	6.4	11.9	0	8.2	6.88	11.9

ATTACHMENT A-5

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

Facility Name: *2017 Woonsocket WWTF*
RIPDES Permit #: *RI0100111*
Outfall #: *001A*

NOTE: METALS LIMITS ARE TOTAL METALS

Parameter	Concentration Limits (ug/L) Based on WQ Criteria		Antideg. Limits (ug/L)	PP-Scan Detections (ug/L) 2012-2016		Ave. DMR Data (ug/L) 10/08 - 4/17		Potential Permit Limits (ug/L)	
	Daily Max	Monthly Ave	Monthly Ave	Max	Ave	Daily Max	Monthly Ave	Daily Max	Monthly Ave
TOXIC METALS AND CYANIDE									
ANTIMONY	1843.19	40.96	---	4	2	---	---	1843.19	40.96
ARSENIC, TOTAL	1392.64	17.27	---	13	4.8	---	---	1392.64	17.27
ASBESTOS	No Criteria	0.00	---	---	---	---	---	---	0.00
BERYLLIUM	30.72	0.70	---	0.1	0.02	---	---	30.72	0.70
CADMIUM, TOTAL	4.32	0.66	---	---	---	0.4	0.3	4.32	0.66
CHROMIUM III, TOTAL	4186.22	200.09	---	2	0.6	---	---	4186.22	200.09
CHROMIUM VI, TOTAL	66.74	46.84	---	---	---	---	---	66.74	46.84
COPPER, TOTAL	29.84	21.13	---	23	10.6	14.1	8.2	29.84	21.13
CYANIDE	90.11	21.30	---	---	---	8.5	7.8	90.11	21.30
LEAD, TOTAL	138.38	5.39	---	4	1.6	2.7	1.4	138.38	5.39
MERCURY, TOTAL	6.75	0.91	---	---	---	---	---	6.75	0.91
NICKEL, TOTAL	1069.11	118.86	---	8.2	5.74	---	---	1069.11	118.86
SELENIUM, TOTAL	81.92	20.48	---	24	11.2	---	---	81.92	20.48
SILVER, TOTAL	5.05	5.05	---	---	---	---	---	5.05	5.05
THALLIUM	188.42	2.42	---	---	---	---	---	188.42	2.42
ZINC, TOTAL	272.78	272.78	---	21	16	32.4	19.5	272.78	272.78
VOLATILE ORGANIC COMPOUNDS									
ACROLEIN	11.88	0.25	---	---	---	---	---	11.88	0.25
ACRYLONITRILE	1548.28	30.84	---	---	---	---	---	1548.28	30.84
BENZENE	1085.44	24.17	---	---	---	---	---	1085.44	24.17
BROMOFORM	6000.62	135.17	---	4.51	1.6	---	---	6000.62	135.17
CARBON TETRACHLORIDE	5591.02	122.88	---	---	---	---	---	5591.02	122.88
CHLOROBENZENE	3256.31	73.73	---	---	---	---	---	3256.31	73.73
CHLORODIBROMOMETHANE	No Criteria	1603.67	---	11.9	6.88	---	---	---	1603.67
CHLOROFORM	5918.70	131.07	---	23	12.45	---	---	5918.70	131.07
DICHLOROBROMOMETHANE	No Criteria	2097.11	---	15.4	9.5	---	---	---	2097.11
1,2DICHLOROETHANE	24166.32	536.57	---	---	---	---	---	24166.32	536.57
1,1DICHLOROETHYLENE	2375.67	53.25	---	---	---	---	---	2375.67	53.25
1,2DICHLOROPROPANE	10751.97	237.57	---	---	---	---	---	10751.97	237.57
1,3DICHLOROPROPYLENE	No Criteria	108.00	---	---	---	---	---	---	108.00
ETHYLBENZENE	6553.58	147.46	---	---	---	---	---	6553.58	147.46
BROMOMETHANE (methyl bromide)	No Criteria	7714.42	---	---	---	---	---	---	7714.42

Facility Name: *2017 Woonsocket WWTF*
RIPDES Permit #: *RI0100111*
Outfall #: *001A*

NOTE: METALS LIMITS ARE TOTAL METALS

Parameter	Concentration Limits (ug/L) Based on WQ Criteria		Antideg. Limits (ug/L)	PP-Scan Detections (ug/L) 2012-2016		Ave. DMR Data (ug/L) 10/08 - 4/17		Potential Permit Limits (ug/L)	
	Daily Max	Monthly Ave	Monthly Ave	Max	Ave	Daily Max	Monthly Ave	Daily Max	Monthly Ave
CHLOROMETHANE (methyl chloride)	No Criteria	0.00	---	---	---	---	---	---	0.00
METHYLENE CHLORIDE	39526.28	876.54	---	---	---	---	---	39526.28	876.54
1,1,2,2TETRACHLOROETHANE	1908.73	40.96	---	---	---	---	---	1908.73	40.96
FLUORENE	No Criteria	27257.62	---	---	---	---	---	---	27257.62
HEXACHLOROBENZENE	No Criteria	0.04	---	---	---	---	---	---	0.04
HEXACHLOROBUTADIENE	No Criteria	2220.47	---	---	---	---	---	---	2220.47
HEXACHLOROCYCLOPENTADIENE	1.43	0.03	---	---	---	---	---	1.43	0.03
HEXACHLOROETHANE	200.70	4.51	---	---	---	---	---	200.70	4.51
ISOPHORONE	23961.53	532.48	---	---	---	---	---	23961.53	532.48
NAPHTHALENE	471.04	10.65	---	---	---	---	---	471.04	10.65
NITROBENZENE	5529.58	122.88	---	---	---	---	---	5529.58	122.88
N-NITROSODIMETHYLAMINE	No Criteria	370.08	---	---	---	---	---	---	370.08
N-NITROSODI-N-PROPYLAMINE	No Criteria	62.91	---	---	---	---	---	---	62.91
N-NITROSODIPHENYLAMINE	1200.12	26.62	---	---	---	---	---	1200.12	26.62
PYRENE	No Criteria	20571.79	---	---	---	---	---	---	20571.79
1,2,4 TRICHLOROBENZENE	307.20	6.96	---	---	---	---	---	307.20	6.96
PESTICIDES/PCBs									
ALDRIN	**12.29**	**0.01**	---	---	---	---	---	12.29	0.01
Alpha BHC	No Criteria	0.60	---	---	---	---	---	---	0.60
Beta BHC	No Criteria	2.10	---	---	---	---	---	---	2.10
Gamma BHC (Lindane)	3.89	3.89	---	---	---	---	---	3.89	3.89
CHLORDANE	9.83	0.02	---	---	---	---	---	9.83	0.02
4,4DDT	4.51	0.00	---	---	---	---	---	4.51	0.00
4,4DDE	No Criteria	0.03	---	---	---	---	---	---	0.03
4,4DDD	No Criteria	0.04	---	---	---	---	---	---	0.04
DIELDRIN	0.98	0.01	---	---	---	---	---	0.98	0.01
ENDOSULFAN (alpha)	0.90	0.23	---	---	---	---	---	0.90	0.23
ENDOSULFAN (beta)	0.90	0.23	---	---	---	---	---	0.90	0.23
ENDOSULFAN (sulfate)	No Criteria	457.72	---	---	---	---	---	---	457.72
ENDRIN	0.35	0.15	---	---	---	---	---	0.35	0.15
ENDRIN ALDEHYDE	No Criteria	1.54	---	---	---	---	---	---	1.54
HEPTACHLOR	2.13	0.01	---	---	---	---	---	2.13	0.01

Facility Name: *2017 Woonsocket WWTF*
RIPDES Permit #: *RI0100111*
Outfall #: *001A*

NOTE: METALS LIMITS ARE TOTAL METALS

Parameter	Concentration Limits (ug/L) Based on WQ Criteria		Antideg. Limits (ug/L)	PP-Scan Detections (ug/L) 2012-2016		Ave. DMR Data (ug/L) 10/08 - 4/17		Potential Permit Limits (ug/L)	
	Daily Max	Monthly Ave	Monthly Ave	Max	Ave	Daily Max	Monthly Ave	Daily Max	Monthly Ave
HEPTACHLOR EPOXIDE	2.13	0.00	---	---	---	---	---	2.13	0.00
POLYCHLORINATED BIPHENYLS3	No Criteria	0.01	---	---	---	---	---	---	0.01
2,3,7,8TCDD (Dioxin)	No Criteria	0.00	---	---	---	---	---	---	0.00
TOXAPHENE	2.99	0.00	---	---	---	---	---	2.99	0.00
TRIBUTYLTIN	1.88	0.29	---	---	---	---	---	1.88	0.29
TETRACHLOROETHYLENE	983.04	21.71	---	---	---	---	---	983.04	21.71
TOLUENE	2600.95	57.34	---	---	---	---	---	2600.95	57.34
1,2TRANSDICHLOROETHYLENE	No Criteria	51429.48	---	---	---	---	---	---	51429.48
1,1,1TRICHLOROETHANE	No Criteria	0.00	---	---	---	---	---	---	0.00
1,1,2TRICHLOROETHANE	3686.39	81.92	---	---	---	---	---	3686.39	81.92
TRICHLOROETHYLENE	7987.18	176.13	---	---	---	---	---	7987.18	176.13
VINYL CHLORIDE	No Criteria	29.61	---	---	---	---	---	---	29.61
ACID ORGANIC COMPOUNDS			---	---	---	---	---	---	---
2CHLOROPHENOL	528.38	11.88	---	---	---	---	---	528.38	11.88
2,4DICHLOROPHENOL	413.69	9.01	---	---	---	---	---	413.69	9.01
2,4DIMETHYLPHENOL	434.17	9.83	---	---	---	---	---	434.17	9.83
4,6DINITRO2METHYL PHENOL	No Criteria	1440.03	---	---	---	---	---	---	1440.03
2,4DINITROPHENOL	126.98	2.83	---	---	---	---	---	126.98	2.83
4NITROPHENOL	No Criteria	0.00	---	---	---	---	---	---	0.00
PENTACHLOROPHENOL	0.22	0.17	---	---	---	---	---	0.22	0.17
PHENOL	1028.09	22.94	---	---	---	---	---	1028.09	22.94
2,4,6TRICHLOROPHENOL	65.54	1.47	---	---	---	---	---	65.54	1.47
BASE NEUTRAL COMPOUNDS									
ACENAPHTHENE	348.16	7.78	---	---	---	---	---	348.16	7.78
ANTHRACENE	No Criteria	205717.91	---	---	---	---	---	---	205717.91
BENZIDINE	No Criteria	0.02	---	---	---	---	---	---	0.02
PAHs	No Criteria	2.22	---	---	---	---	---	---	2.22
BIS(2CHLOROETHYL)ETHER	No Criteria	65.38	---	---	---	---	---	---	65.38
BIS(2CHLOROISOPROPYL)ETHER	No Criteria	334291.61	---	---	---	---	---	---	334291.61
BIS(2ETHYLHEXYL)PHTHALATE	2273.27	49.15	---	22.8	8.16	---	---	2273.27	49.15
BUTYL BENZYL PHTHALATE	348.16	7.78	---	---	---	---	---	348.16	7.78
2CHLORONAPHTHALENE	No Criteria	8228.72	---	---	---	---	---	---	8228.72
1,2DICHLOROBENZENE	323.58	7.37	---	---	---	---	---	323.58	7.37
1,3DICHLOROBENZENE	1597.44	35.64	---	---	---	---	---	1597.44	35.64

Facility Name: *2017 Woonsocket WWTF*
RIPDES Permit #: *RI0100111*
Outfall #: *001A*

NOTE: METALS LIMITS ARE TOTAL METALS

Parameter	Concentration Limits (ug/L) Based on WQ Criteria		Antideg. Limits (ug/L)	PP-Scan Detections (ug/L) 2012-2016		Ave. DMR Data (ug/L) 10/08 - 4/17		Potential Permit Limits (ug/L)	
	Daily Max	Monthly Ave	Monthly Ave	Max	Ave	Daily Max	Monthly Ave	Daily Max	Monthly Ave
1,4DICHLOROBENZENE	229.38	4.92	---	---	---	---	---	229.38	4.92
3,3DICHLOROBENZIDENE	No Criteria	3.45	---	---	---	---	---	---	3.45
DIETHYL PHTHALATE	10670.05	237.57	---	---	---	---	---	10670.05	237.57
DIMETHYL PHTHALATE	6758.38	151.55	---	---	---	---	---	6758.38	151.55
DI-n-BUTYL PHTHALATE	No Criteria	23143.27	---	---	---	---	---	---	23143.27
2,4DINITROTOLUENE	6348.78	139.26	---	---	---	---	---	6348.78	139.26
1,2DIPHENYLHYDRAZINE	57.34	1.27	---	---	---	---	---	57.34	1.27
FLUORANTHENE	815.10	18.02	---	---	---	---	---	815.10	18.02
OTHER SUBSTANCES									
ALUMINUM, TOTAL	3071.99	356.35	---	---	---	---	---	3071.99	356.35
AMMONIA (as N), WINTER (NOV-APR)	57687.84	8339.03	---	---	---	---	---	57687.84	8339.03
AMMONIA (as N), SUMMER (MAY-OCT)	41369.47	5980.14	---	---	---	---	---	41369.47	5980.14
4BROMOPHENYL PHENYL ETHER	73.73	1.64	---	---	---	---	---	73.73	1.64
CHLORIDE	3522548.99	3522548.99	---	---	---	---	---	3522548.99	3522548.99
CHLORINE	97.28	56.32	---	---	---	43.5	20.2	97.28	56.32
4CHLORO2METHYLPHENOL	61.44	1.31	---	---	---	---	---	61.44	1.31
1CHLORONAPHTHALENE	327.68	7.37	---	---	---	---	---	327.68	7.37
4CHLOROPHENOL	786.43	17.61	---	---	---	---	---	786.43	17.61
2,4DICHLORO6METHYLPHENOL	90.11	1.97	---	---	---	---	---	90.11	1.97
1,1DICHLOROPROPANE	4710.39	106.50	---	---	---	---	---	4710.39	106.50
1,3DICHLOROPROPANE	1241.08	27.44	---	---	---	---	---	1241.08	27.44
2,3DINITROTOLUENE	69.63	1.52	---	---	---	---	---	69.63	1.52
2,4DINITRO6METHYL PHENOL	49.15	1.06	---	---	---	---	---	49.15	1.06
IRON	No Criteria	4095.99	---	---	---	---	---	---	4095.99
PENTACHLOROBENZENE	53.25	1.15	---	---	---	---	---	53.25	1.15
PENTACHLOROETHANE	1482.75	32.77	---	---	---	---	---	1482.75	32.77
1,2,3,5 TETRACHLOROBENZENE	1314.81	29.08	---	---	---	---	---	1314.81	29.08
1,1,1,2TETRACHLOROETHANE	4014.07	90.11	---	---	---	---	---	4014.07	90.11
2,3,4,6TETRACHLOROPHENOL	28.67	0.66	---	---	---	---	---	28.67	0.66
2,3,5,6TETRACHLOROPHENOL	34.82	0.78	---	---	---	---	---	34.82	0.78
2,4,5TRICHLOROPHENOL	94.21	2.09	---	---	---	---	---	94.21	2.09

Facility Name: *2017 Woonsocket WWTF*
RIPDES Permit #: *RI0100111*
Outfall #: *001A*

NOTE: METALS LIMITS ARE TOTAL METALS

Parameter	Concentration Limits (ug/L) Based on WQ Criteria		Antideg. Limits (ug/L)	PP-Scan Detections (ug/L) 2012-2016		Ave. DMR Data (ug/L) 10/08 - 4/17		Potential Permit Limits (ug/L)	
	Daily Max	Monthly Ave	Monthly Ave	Max	Ave	Daily Max	Monthly Ave	Daily Max	Monthly Ave
2,4,6TRINITROPHENOL	17346.51	385.02	---	---	---	---	---	17346.51	385.02
XYLENE	544.77	544.77	---	---	---	---	---	544.77	544.77

PART II
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GENERAL REQUIREMENTS

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 (l)(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 pubic 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^3/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_3-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_3-N	nitrate nitrogen as nitrogen
NO_2-N	nitrite nitrogen as nitrogen
NO_3-NO_2	combined nitrate and nitrite nitrogen as nitrogen
Cl_2	total residual chlorine