

PRETREATMENT PROGRAM
ANNUAL REPORT

JANUARY 1, 2018 - DECEMBER 31, 2018



ATTACHMENT VOLUME I
NBC AND PRETREATMENT PROGRAM
SPECIFIC INFORMATION

ATTACHMENT VOLUME I
NARRAGANSETT BAY COMMISSION
AND
PRETREATMENT PROGRAM
SPECIFIC INFORMATION

LISTING OF ATTACHMENT SECTIONS ATTACHMENT VOLUME I

NBC AND PRETREATMENT PROGRAM SPECIFIC INFORMATION

<u>SECTION #</u>	<u>TITLE</u>
1	NBC Public Information – Mailings, Newspaper Articles, Public Notices, Press Releases, Newsletters, and Educational Documents
2	Typical NBC Wastewater Discharge Permits
3	Various Pretreatment Program Documents ~ Spill and Slug Prevention Control Plan Guidance Document ~ Toxic Organic / Solvent Management Plan Guidance Document ~ Significant Industrial User Annual Inspection Checklist ~ NBC Sampling, Reporting, and Chain of Custody Forms
4	Sample Enforcement Letters, Notices, and Orders

ATTACHMENT VOLUME I

SECTION 1

***NBC PUBLIC INFORMATION,
MAILINGS, NEWSPAPER ARTICLES,
AND ADVERTISEMENTS***

***INFORMATIONAL LETTERS TO
USERS***



January 4, 2018

**SEPTAGE HAULER
FEE PAID STICKER LETTER**

Permit Number:

Dear _____ :

Enclose please find «NUMBER» 2018 Narragansett Bay Commission (NBC) permitted Septage Hauler Identification Sticker(s). Effective January 1, 2018, a sticker must be affixed to the inside windshield of each NBC permitted truck for identification purposes. Vehicles without a sticker will not be permitted to dump at the NBC Septage Receiving Facility.

If you have any questions regarding this matter, please contact the NBC Pretreatment Staff at 461-8848, ext. 490.

Sincerely,

Sulema Martinez
Pretreatment Clerk

Enclosure(s)



March 6, 2018

PERFECT COMPLIANCE

Mass Mailing

All SIUs - Both Districts

List Attached

Dear _____ :

As you may be aware the Narragansett Bay Commission (NBC) Pretreatment staff reviews the files of all Significant Industrial Users (SIUs) as a part of the Pretreatment Annual Report preparation. As a part of this review, a list of SIUs achieving perfect compliance is compiled. These companies did not receive any Notices of Violation during the review period. In 2017, 23 SIUs achieved perfect compliance with the NBC Rules and Regulations and their permits. These companies are to be commended for their hard work and efforts to maintain compliance. I would like to take this opportunity to congratulate the following companies:

A. Harrison & Company, Inc.	Narragansett Jewelry, Inc. d/b/a C & J Jewelry
Dominion Energy Manchester Street, Inc.	Pawtucket Power Associates
Eagle Laundry, Inc.	Pilgrim Screw Corporation
Electrolizing, Inc.	Providence Journal Company - Production Facility
Hord Crystal Corporation	Providence Metallizing Company, Inc.
HP Services, Inc.	Stackbin Corporation
Induplate, LLC	Tanury Industries PVD, Inc.
International Chromium Plating	Technodic, Inc.
Interplex Engineered Products, Inc.	Teknicote, Inc.
Mahr, Inc.	Truex, Inc.
Materion Technical Materials, Inc.	Univar USA, Inc.
Metallurgical Solutions, Inc.	

An advertisement recognizing the achievements of these companies was published in the Providence Journal on February 23, 2018. Aligned herewith is a copy of the advertisement for your reference.

Sincerely,

Kerry M. Britt
Pretreatment Manager

KMB:smb

NARRAGANSETT BAY COMMISSION
Perfect Compliance
in recognition of Significant Industrial User Perfect Compliance in 2017

The Narragansett Bay Commission recognizes these Significant Industrial User companies for perfect regulatory compliance with Pretreatment Program regulations during 2017:

A. Harrison & Company, Inc.	Eagle Laundry, Inc.
Dominion Energy	Electrolizing, Inc.
Manchester St., Inc.	HP Services, Inc.
Hord Crystal Corporation	Induplate, LLC
International Chromium Plating	Materion Technical Materials, Inc.
Mahr, Inc.	Interplex Engineered Products, Inc.
Metallurgical Solutions, Inc.	Narragansett Jewelry, dba
Pawtucket Power Associates	C & J Jewelry Company
Pilgrim Screw Corporation	Providence Metallizing
Providence Journal Company	Company, Inc.
Production Facility	Stackbin Corporation
Tanury Industries PVD, Inc.	Technodic, Inc.
Teknicote, Inc.	Truex, Inc.
Univar USA, Inc.	

Has your company demonstrated extraordinary environmental efforts this year?
If so, apply for an NBC Environmental Merit Award! Download an application form at www.narrabay.com.

Vincent J. Mesolella, Chairman • Raymond J. Marshall, P.E., Executive Director
One Service Road, Providence, RI 02905
401-461-8848 • www.narrabay.com



March 8, 2018

**MASS MAILING ALL SIUs
Field's Point and Bucklin Point
List Attached**

Dear _____ :

The R. I. DEM requires the Narragansett Bay Commission (NBC), prior to submission of its Annual Pretreatment Report, to notify all significant industrial users annually if their firm was classified as a Significant Industrial User (SIU) during that report year. Therefore, this letter is to notify you that your firm was classified as a SIU during 2017, since one or more of the following criteria applied to your firm:

1. Firm is subject to Federal EPA categorical standards;
2. Firm discharges an average process waste stream of 5,000 gallons per day (0.005 MGD) or more;
3. Firm contributes a process waste stream which is 5% or more of the average dry weather hydraulic or organic capacity of the NBC treatment facility to which the firm discharges;
4. Firm has reasonable potential to adversely affect the POTW's operation, or has the potential for violating any pretreatment standard or requirement.

In accordance with EPA and NBC regulations and the terms of NBC Wastewater Discharge Permits, SIUs must comply with various site specific requirements and must also comply with the EPA reporting requirements outlined in 40§CFR part 403.12. Site specific requirements may include (1) development, implementation, and maintenance of Toxic Organic Solvent Management and Spill & Slug Prevention Control Plans, (2) monitoring of process effluent, and (3) maintenance of logbooks, manifests, and associated paperwork. Reporting requirements may include (1) immediate notification of any spill or slug discharge, (2) twenty-four hour notification of any effluent violation, (3) submission of effluent monitoring reports within thirty days from the end of the month in which monitoring is required, or within thirty days from the sampling date, (4) submission of properly completed and signed Self-Monitoring Compliance Reports with each wastewater analysis, (5) notification of any changes in operation, and (6) submission of any other document by the NBC specified date.

Please refer to your discharge permit to ensure that you are in full compliance with the specific aforementioned requirements that apply to your facility. I recommend that you have regular meetings with all levels of employees at your firm to discuss the environmental regulations and your specific permit requirements and to develop ways to maintain full compliance. I recommend that you form Employee Awareness Programs, since so often your existing employees with the “hands on” responsibilities may see a better way to produce your product or to achieve and maintain compliance. I also encourage your firm to develop Environmental Management Systems (EMS) to provide your firm the environmental focus needed to ensure compliance with today's complex environmental regulations and issues. Avoiding non-compliance is a hard job requiring the participation of every employee from the hourly worker to the owner or CEO. The hard work of all employees is necessary to ensure that the name of your firm is never published in the annual Public Notice in the Providence Journal for being in Significant Non-Compliance (SNC) with NBC and EPA regulations.

The NBC Environmental, Safety & Technical Assistance (ESTA) Program is available to assist you with pollution prevention measures to help your firm achieve and maintain full compliance with environmental regulations. This technical assistance program is free and confidential. Contact Mr. James McCaughey, P.E., at 461-8848, ext. 352 to find out more about the NBC ESTA Program.

The NBC wishes you well at your efforts to comply with the NBC and EPA regulations throughout 2018. If you have any questions regarding this letter or the NBC Pretreatment Program in general, feel free to contact the engineer or technician responsible for regulating your firm at 461-8848, ext. 490.

Sincerely,

A handwritten signature in cursive script, appearing to read "Kerry M. Britt".

Kerry M. Britt
Pretreatment Manager

KMB:smb

cc: Pretreatment Engineers/Technicians



March 9, 2018

ENVIRONMENTAL MERIT AWARDS

Mass Mailing - All Users - Both Districts

List Attached

Dear _____ :

The Narragansett Bay Commission (NBC) is proud to announce its twenty-third annual NBC Environmental Merit Awards. As you may be aware, each year the NBC honors companies that have gone above and beyond compliance using pollution prevention techniques and approaches, implemented storm water mitigation technologies, and companies that achieved perfect compliance records.

There are three types of Environmental Merit Awards, the Pollution Prevention Award, the Perfect Compliance Award, and the Stormwater Management Award. Companies qualified for a Pollution Prevention Award must be in good standing with the NBC Rules and Regulations and able to demonstrate pollution prevention efforts that have resulted in volume/toxicity reduction of pollutants, commitment to sound environmental management practices, application of pollution prevention efforts for use by other companies, employee participation, extraordinary efforts to go beyond compliance and/or demonstrate innovative approaches to waste management. Companies that are qualified for Stormwater Management Awards must demonstrate stormwater abatement efforts resulting in measurable reduction/elimination of storm flow to the NBC sewer system.

If you would like to nominate your company for an NBC Environmental Merit Award, you can find the application and award criteria on our website using the following link:

<https://www.narrabay.com/ProgramsAndProjects/PretreatmentProgram/Environmental%20Merit%20Awards.aspx>

Please download the application and return it by March 23, 2018 to:

Jim McCaughey, PE, BCEE
Environmental Safety Technical Assistance Manager
Narragansett Bay Commission
One Service Road
Providence, RI 02905
Email: jmccaughey@narrabay.com
Fax: 401.461-6540

Page 2

If you have any questions, please contact me at 461.8848, ext. 490.

Sincerely,

A handwritten signature in black ink, appearing to read "Kerry M. Britt". The signature is fluid and cursive, with the first name "Kerry" being the most prominent.

Kerry M. Britt
Pretreatment Manager

cc: Jim McCaughey
John Zuba



March 16, 2018

MASS MAILING

Categories 11 through 59 - Both Districts

List Attached

Dear «Title» «LastName»:

This informational form letter is being sent to all industrial firms regulated by the Narragansett Bay Commission (NBC) Pretreatment Program to educate our users about EPA Regulations regarding Significant Non-Compliance. Federal general pretreatment program regulations require the NBC to annually publish a list of all industrial users that violate any of the EPA Significant Non-Compliance Criteria listed below:

SIGNIFICANT NON-COMPLIANCE CRITERIA

- A. Chronic violations of wastewater discharge limits, defined here as those in which 66% or more of all of the measurements taken during a six-month period exceed (by any magnitude) a numerical Pretreatment Standard or Requirement for the same pollutant parameter;
- B. Technical Review Criteria (TRC) violations, defined here as those in which 33% or more of all the measurements for each pollutant parameter taken during a six-month period equal or exceed the product of a numerical Pretreatment Standard or Requirement multiplied by the applicable TRC value (TRC = 1.4 for BOD, TSS, fats, oil, and grease and 1.2 for all other pollutants except pH);
- C. Any other violation of a pretreatment effluent limit (daily maximum or long-term average) that the Commission determines has caused, alone or in combination with other discharges, interference or pass through (including endangering the health of Commission personnel or the general public);
- D. Any discharges of a pollutant that has caused imminent endangerment to human health, welfare or the environment or has resulted in the Commission's exercise of its emergency authority to halt or prevent such a discharge;

- E. Failure to meet, within 90 days after the scheduled date, a compliance milestone contained in a Commission notification, permit or enforcement order, for starting construction, completing construction or attaining final compliance;
- F. Failure to provide, within 30 days after the due date, required reports such as baseline monitoring reports, 90-day compliance reports, self-monitoring compliance reports and reports on compliance with compliance schedules;
- G. Failure to accurately report non-compliance;
- H. Any other violation or group of violations which the Commission determines has adversely effected the operation or implementation of the Pretreatment Program.

The EPA requires that the NBC must review each industrial user file every three (3) months for SNC criteria A and B referenced above, evaluating the user's previous six (6) month compliance status as can be seen from the enclosed EPA graphic. **If an industrial user exceeds the compliance percentages specified in the SNC criteria A or B, even for just one quarterly evaluation period, the user is in significant non-compliance and must be listed in the newspaper.** The compliance percentages specified in SNC criteria A and B are calculated for each sample location specified in your Wastewater Discharge Permit. The NBC still reviews each user file annually to determine the user's compliance status with EPA criteria C through H. This EPA data evaluation method clearly shows how important it is for an industrial user to sample early and often during each quarterly data review period, especially for any parameters which your firm may periodically experience excursions above the discharge limits. Sampling early and often each quarterly review period will ensure that you are not listed as a violator for criteria A and B.

SUBMIT ALL REPORTS BY THE DUE DATE SPECIFIED BY THE NBC. The name of your firm will automatically be published in the newspaper as being in SNC for criteria F if any NBC requirement is not satisfied within thirty (30) days of the due date. Notify the NBC within twenty-four (24) hours of becoming aware of any sampling violation and immediately begin to resample for any parameters in violation (except for BOD and TSS). This is required by your discharge permit and is clearly stated on the Self-Monitoring Compliance Report form that must accompany each analyses. Please do not hesitate to contact the NBC Environmental, Safety & Technical Assistance (ESTA) Section if your firm is experiencing compliance problems and would like assistance with pollution prevention measures. The NBC ESTA staff is available to provide FREE technical assistance to your firm. For information regarding how pollution prevention assistance can help your firm achieve and maintain compliance, contact Mr. James McCaughey at 461-8848, ext. 352.

PLEASE NOTE THAT THE NBC DOES NOT WANT TO PUBLISH THE NAME OF ANY FIRM, BUT WE MAY HAVE NO CHOICE. On February 23, 2018, the names of nine (9) firms from both districts were published in an advertisement in the Providence Journal due to their SNC status. These firms were billed by the NBC for the reimbursement cost for this public notice. A copy of this public notice is enclosed for your information. Only you can ensure that the name of your firm is not published for being in Significant Non-Compliance with NBC and EPA regulations. Please feel free to contact the ESTA staff if the NBC can be of assistance with your compliance endeavors. Good luck maintaining full compliance during 2018.

If you should have any questions regarding this letter or the permit requirements specific to your facility, contact the engineer or technician that regulates your firm at 461-8848, ext. 490.

Sincerely,

A handwritten signature in cursive script, appearing to read "Kerry M. Britt".

Kerry M. Britt
Pretreatment Manager

KMB:smb

Enclosures

cc: Pretreatment Engineers and Technicians



SIGNIFICANT NON-COMPLIANCE CRITERIA

- (a) Chronic Violations of Wastewater discharge limits, defined here as those in which 66% or more of all of the measurements taken during a six (6) month period exceed (by any magnitude) a numerical Pretreatment Standard or Requirement for the sample pollutant parameter;
- (b) Technical Review Criteria (TRC) violations, defined here as those in which 33% or more of all measurements for each pollutant parameter taken during a six (6) month period equal or exceed the product of a numerical Pretreatment Standard or Requirement multiplied by the applicable TRC (TRC = 1.4 for oil and grease and 1.2 for all other pollutants except pH);
- (c) Any other violation of a pretreatment effluent limit (daily maximum or long-term average) that the Narragansett Bay Commission (NBC) determines has caused, alone or in combination with other discharges, interference or pass through, including endangering the health of NBC personnel or the general public;
- (d) Any discharges of a pollutant that has caused imminent endangerment to human health, welfare of the environment or has resulted in the NBC's exercise of its emergency authority to halt or prevent such a discharge;
- (e) Failure to meet, within ninety (90) days after the scheduled date, a compliance milestone contained in a permit or enforcement order for completing construction or attaining final compliance;
- (f) Failure to provide, within thirty (30) days after the due date, required reports such as baseline monitoring reports, ninety (90) day compliance reports, Self-Monitoring Compliance Reports, and reports on compliance with compliance schedules;
- (g) Failure to accurately report noncompliance;
- (h) Any other violation or group of violations which the NBC determines will adversely affect the operation or implementation of the Pretreatment Program.

EXPLANATION OF SIGNIFICANT NON-COMPLIANCE (SNC) CRITERIA

SNC Criteria A 66 % or more of measurements are in violation of effluent standards for any six (6) month review period.

Example: Firm samples for copper ten (10) times in the six (6) month evaluation period of January 1 through June 30. Copper results are as follows:

(1)	1.16 ppm	-	In Compliance	(6)	1.21 ppm	-	Violation
(2)	2.34 ppm	-	Violation	(7)	4.35 ppm	-	Violation
(3)	1.26 ppm	-	Violation	(8)	1.40 ppm	-	Violation
(4)	2.31 ppm	-	Violation	(9)	2.17 ppm	-	Violation
(5)	0.87 ppm	-	In Compliance	(10)	0.91 ppm	-	In Compliance

The discharge limit for copper is 1.20 ppm, 7 out of 10 samples exceed this limit, therefore 70% of the copper samples are in violation, resulting in the firm being in SNC for copper for Criteria A.

SNC Criteria B Technical Review Criteria - 33% or more of measurements for the six (6) month review period exceed the limit multiplied by the TRC value. The TRC value = 1.2 for all parameters except oil and grease, where the TRC = 1.4

Example: For copper the TRC value multiplied by the copper limit = $1.2 \times 1.2 = 1.44$. Using the same results for copper as given in the example above:

<u>Measurements</u>	<u>Copper</u>	<u>TRC Limit</u>	<u>In Compliance With TRC Limit?</u>
(1)	1.16 ppm	1.44 ppm	Yes
(2)	2.34 ppm	1.44 ppm	No
(3)	1.26 ppm	1.44 ppm	Yes
(4)	2.31 ppm	1.44 ppm	No
(5)	0.87 ppm	1.44 ppm	Yes
(6)	1.21 ppm	1.44 ppm	Yes
(7)	4.35 ppm	1.44 ppm	No
(8)	1.40 ppm	1.44 ppm	Yes
(9)	2.17 ppm	1.44 ppm	No
(10)	0.91 ppm	1.44 ppm	Yes

The TRC limit for copper, 1.44 is exceeded four (4) out of ten (10) samples in the review period, therefore, 40% exceedence of the TRC limit occurred, resulting in the firm being in SNC for Criteria B.

SNC Criteria C Any violation of a pretreatment effluent limit that has caused interference or pass-through of NBC facilities.

Example: A firm dumps an electroplating tank containing copper and cyanide. These toxic chemicals kill the microorganism at the NBC Wastewater Treatment facility, interfering with NBC operations. The firm is in SNC for Criteria C.

Example: A firm discharges a concentrated red dye containing copper. The red color passes through the NBC Wastewater Treatment facility, discoloring the receiving waters of Narragansett Bay. The firm is in SNC for Criteria C.

SNC Criteria D Discharging a pollutant that has caused imminent endangerment to human health or the environment.

Example: A firm dumps a degreasing solvent such as trichloroethylene into the sewer. Toxic chemical odors are evolved and enter nearby homes, businesses and endangers sewer workers. The firm is in SNC for Criteria D.

Example: An automotive repair facility dumps gasoline into the sewer creating toxic odors and explosive conditions in the sewer system. The firm is in SNC for criteria D.

SNC Criteria E Failure to meet, within ninety (90) days after a scheduled completion date, a compliance milestone...

Example: The firm, required by a compliance order, compliance schedule, permit or other document, fails to achieve a compliance milestone such as installing a pretreatment system, by the required date and exceeds the compliance milestone deadline by more than ninety (90) days. The firm is in SNC for Criteria E.

SNC Criteria F Failure to submit documents within thirty (30) days from the due date.

Example: A firm is required to sample in May and the compliance report is due by June 30. The report is submitted to the NBC on July 31, thirty one (31) days past the due date, therefore the firm is in SNC for Criteria F.

SNC Criteria G Failure to accurately report non-compliance.

Example: A firm is required to continuously record the pH of their effluent and to report the results monthly to the NBC on a monitoring report form. During the annual NBC inspection of the firm, the pH charts are reviewed and it is determined that low and high effluent pH violations have not been reported. The firm is in SNC for Criteria G and could face additional enforcement action for falsification of monitoring reports.

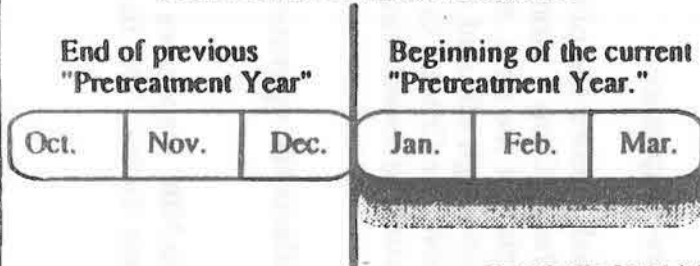
SNC Criteria H Any violation that adversely effects the operation or implementation of the pretreatment program.

Example: A firm refuses to allow access to NBC inspectors or harasses the NBC inspectors while performing their duties. The firm would be in SNC for Criteria H.

Determination of Industrial User (IU) Significant Noncompliance (SNC)

1. The POTW (in conjunction with the Approval Authority) must establish its "Pretreatment Year."
2. At the end of each quarter, POTWs and States should evaluate their IU's compliance status for the two criteria which are evaluated on a six month time frame (i.e., the "A" and "B" criteria - 403.8(f)(2)(vii)(A) and (B)) as illustrated below. The example below assumes a "Pretreatment Year" equal to the calendar year.

FIRST EVALUATION PERIOD



3. At the end of the first quarter (March 30th in our example), the POTW must evaluate the data from an industrial user for the previous six months (e.g., beginning with October 1 of the previous "Pretreatment Year" as in our example). Likewise, the POTW must evaluate six months of data at the end of each subsequent quarter (e.g., June 30th, September 30th, and December 31st).

SECOND EVALUATION PERIOD



4. At the end of the "Pretreatment Year," the POTW must summarize the compliance status of its industrial users over the reporting period and report on this compliance status to the Approval Authority. The POTW must publish all industrial users which were identified in SNC during the "Pretreatment Year," unless the IU was previously published for violations which occurred solely in the last quarter of the previous "Year."

THIRD EVALUATION PERIOD



FOURTH EVALUATION PERIOD



End of the current "Pretreatment Year."

The Narragansett Bay Commission

PUBLIC NOTICE

Firms in Significant Non-Compliance

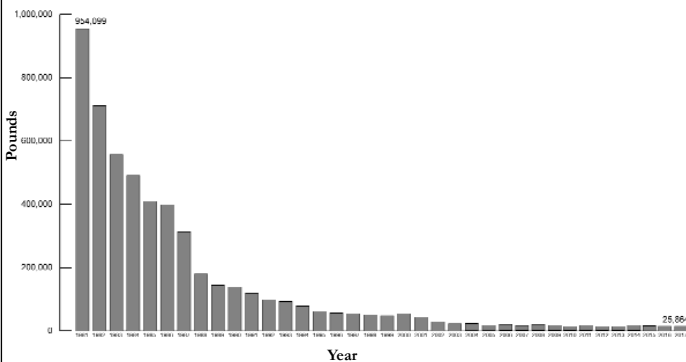


THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGULATION 40 C.F.R. 403.8(f) (2) (vii) and Article 10 of the Narragansett Bay Commission, Rules and Regulations require the NBC to publish annually the names of all industrial users in Significant Non-Compliance (SNC) with pretreatment standards and other pretreatment requirements during the preceding year. Companies deemed to be in Significant Non-Compliance are those industrial users who have violated any of the Significant Non-Compliance criteria listed, as defined by Article 2 of the NBC Rules and Regulations during the time period from October 1, 2016 through December 31, 2017. The parameter for which a company was not in compliance and/or the specific administrative deficiency are listed after the company name. The number(s) in parentheses correspond to the type of SNC criteria specified below. Some of the firms listed below may have been issued an Administrative Order in which administrative and/or civil penalties may have been assessed. Many of the companies listed have made significant progress toward correcting the violation and may now be in compliance.

Significant Non-Compliance Criteria:

- (1) Chronic violations of wastewater discharge limits, defined here as those in which 66% or more of all of the measurements taken during a six-month period exceed (by any magnitude) a numerical Pretreatment Standard or Requirement for the same pollutant parameter;
- (2) Technical Review Criteria (TRC) violations, defined here as those in which 33% or more of all the measurements for each pollutant parameter taken during a six-month period equal or exceed the product of a numerical Pretreatment Standard or Requirement multiplied by the applicable TRC value (TRC = 1.4 for BOD, TSS, fats, oil, and grease and 1.2 for all other pollutants except pH);
- (3) Any other violation of a pretreatment effluent limit (daily maximum or long-term average) that the Commission determines has caused, alone or in combination with other discharges, interference or pass through (including endangering the health of Commission personnel or the general public);
- (4) Any discharges of a pollutant that has caused imminent endangerment to human health, welfare or the environment or has resulted in the Commission's exercise of its emergency authority to halt or prevent such a discharge;
- (5) Failure to meet, within 90 days after the scheduled date, a compliance milestone contained in a Commission notification, permit or enforcement order, for starting construction, completing construction or attaining final compliance;
- (6) Failure to provide, within 30 days after the due date, required reports such as baseline monitoring reports, 90-day compliance reports, self-monitoring compliance reports and reports on compliance with compliance schedules;
- (7) Failure to accurately report noncompliance;
- (8) Any other violation or group of violations which the Commission determines has adversely effected the operation or implementation of the Industrial Pretreatment Program.

Total Metals Influent to Field's Point WWTF, 1981-2017



THE NARRAGANSETT BAY COMMISSION IS COMMITTED TO PROTECTING THE STATE'S TWO LARGEST WASTEWATER TREATMENT FACILITIES AND NARRAGANSETT BAY FROM TOXIC DISCHARGES. This is accomplished by the issuance of discharge permits to commercial and industrial sewer users. These discharge permits specify the level of pollutants that can be discharged in a facility's wastestream and may require a firm to conduct wastewater monitoring to verify compliance with discharge limits, to implement a Spill Control Plan and/or Toxic Organic/Solvent Management Plan, and to install pretreatment equipment. Various reporting and record keeping requirements may also be written into discharge permits. The firms listed in this public notice violated one or more of the significant non-compliance criteria specified above. The Commission is required by the RI DEM and the US EPA to annually publish the names of all firms violating any of these criteria. Therefore, firms must be sure to comply with all the terms specified in their discharge permit to ensure that the name of their firm is not listed in this annual public notice. The NBC offers FREE technical assistance to firms located in the NBC service area through its non-regulatory Office of Environmental, Safety & Technical Assistance. For information on how the NBC Environmental, Safety & Technical Assistance Program can help your firm achieve and maintain compliance, contact the Environmental, Safety & Technical Assistance Program Staff at 461-8848/TDD 461-6549.

Most businesses located in the NBC district are to be commended for the fine job they have done treating their process discharges to remove toxic pollutants. In 1981, local industries discharged 954,099 pounds of heavy metals such as copper, nickel and zinc and 80,440 pounds of cyanide to the Field's Point Wastewater Treatment Facility. Since 1981, the total metals and cyanide loadings to the Field's Point facility have been reduced by 97.3% and 98.3% respectively. Similar toxic loading reductions have been observed at the NBC Bucklin Point facility.

Bucklin Point Service Area

Lincoln		
Company Name	Violations Cited	Present Status
Michael Healy Designs, Inc.	Failure to submit report on time (6)	Report has been received.
Putnam Holdings, Inc.	Failure to submit reports on time (6)	Reports have not been received.
Pawtucket		
John H. Collins & Sons Company	TTO (2)	Firm is now in compliance.

Field's Point Service Area

Johnston		
Company Name	Violations Cited	Present Status
DiFruscia Industries, Inc.	Failure to submit reports on time (6)	Reports have been received.
Providence		
Providence Specialty Products	O&G (1, 2)	Firm is still out of compliance.
JC Gorham Co.	Failure to submit reports on time (6)	Reports have not been received.
Bella's Jewelry	Failure to submit report on time (6)	Report has been received.
The Providence Mint	Failure to submit report on time (6)	Report has been received.
Ximedica	Zn (2)	Firm is now in compliance.

The Narragansett Bay Commission will continue to lead in wastewater treatment, environmental protection, and environmental education to ensure a cleaner Narragansett Bay for all to enjoy.

Vincent J. Mesolella, *Chairman* • Raymond J. Marshall, P.E., *Executive Director*
 Narragansett Bay Commission • One Service Road • Providence, RI 02905 • 401-461-8848 • TDD 401-461-6549 • FAX 401-461-6540 • <http://www.narrabay.com>
 Twitter: @narrabay • Facebook: www.facebook.com/narrabay • Instagram: @narrabay
The cost of this public notice will be billed to the firms listed above that were in significant non-compliance.



April 24, 2018

**2017 SNC Letter
Sent to Leah Foster in (PDF)**

Dear «Title» «LastName»:

The Narragansett Bay Commission (NBC) is required by the EPA to publish annually the names of all firms in Significant Non-Compliance (SNC). As you may know, the name of your firm was published in the Providence Journal on February 23, 2018 as being in SNC with NBC or EPA regulations for the reporting period of October 1, 2016 through December 31, 2017. A copy of the Public Notice is enclosed for your information. The publication of your firm's name should have come as no surprise to you since a form letter dated March 16, 2018 was sent to all users explaining the NBC regulations, the SNC review criteria, and the consequences for non-compliance. In addition, your firm was notified by Notice of Violation citing each non-compliance event at the time the violation occurred, notifying you of the fact the name of your firm may be published for being in SNC.

Enclosed please find an invoice in the amount of \$362.00 for your share of the cost of the public notice. Your check must be made payable to the **Narragansett Bay Commission and mailed to the Pretreatment Section, 2 Ernest Street, Providence, RI 02905, no later than April 30, 2018. (Please do not send check to customer service with your pretreatment fee or consumption payment as this will result in billing errors.)**

Thank you for your anticipated prompt payment, and I urge you to comply with all your permit requirements and NBC/EPA regulations so that the NBC will not have to publish the name of your firm in the future. The NBC Environmental Safety & Technical Assistance (ESTA) Section is available to provide free technical assistance to your firm. To take advantage of the free NBC Pollution Prevention program, contact Mr. James McCaughey at 461-8848, ext. 352.

Sincerely,

Kerry M. Britt
Pretreatment Manager

KMB:sm

Enclosures

cc: Leah Foster
Jennifer J. Harrington, Esq.

PUBLIC NOTICE

Firms in Significant Non-Compliance

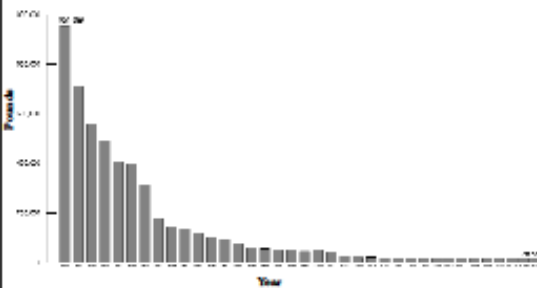


THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGULATION 40 C.F.R. 403.8(b) (2) (vi) and Article 10 of the Narragansett Bay Commission, Rules and Regulations require the NBC to publish annually the names of all industrial users in Significant Non-Compliance (SNC) with pretreatment standards and other pretreatment requirements during the preceding year. Companies deemed to be in Significant Non-Compliance are those industrial users who have violated any of the Significant Non-Compliance criteria listed, as defined by Article 2 of the NBC Rules and Regulations during the time period from October 1, 2016 through December 31, 2017. The parameter for which a company was not in compliance and/or the specific administrative deficiency are listed after the company name. The number(s) in parentheses correspond to the type of SNC criteria specified below. Some of the firms listed below may have been issued an Administrative Order in which administrative and/or civil penalties may have been assessed. Many of the companies listed have made significant progress toward correcting the violation and may now be in compliance.

Significant Non-Compliance Criteria:

- (1) Chronic violations of wastewater discharge limits, defined here as those in which 60% or more of all of the measurements taken during a six-month period exceed (by any magnitude) a numerical Pretreatment Standard or Requirement for the same pollutant parameter;
- (2) Technical Review Criteria (TRC) violations, defined here as those in which 33% or more of all the measurements for each pollutant parameter taken during a six-month period equal or exceed the product of a numerical Pretreatment Standard or Requirement multiplied by the applicable TRC value (TRC = 1.4 for BOD, TSS, fat, oil, and grease and 1.2 for all other pollutants except pH);
- (3) Any other violation of a pretreatment effluent limit (daily maximum or long-term average) that the Commission determines has caused, alone or in combination with other discharges, interference or pass through (including endangering the health of Commission personnel or the general public);
- (4) Any discharge of a pollutant that has caused imminent endangerment to human health, welfare or the environment or has resulted in the Commission's exercise of its emergency authority to halt or prevent such a discharge;
- (5) Failure to meet, within 90 days after the scheduled date, a compliance milestone contained in a Commission notification, permit or enforcement order, for starting construction, completing construction or attaining final compliance;
- (6) Failure to provide, within 30 days after the due date, required reports such as baseline monitoring reports, 90-day compliance reports, self-monitoring compliance reports and reports on compliance with compliance schedules;
- (7) Failure to accurately report non-compliance;
- (8) Any other violation or group of violations which the Commission determines has adversely effected the operation or implementation of the Industrial Pretreatment Program.

Total Metals Influent to Field's Point WWTF, 1981-2017



THE NARRAGANSETT BAY COMMISSION IS COMMITTED TO PROTECTING THE STATE'S TWO LARGEST WASTEWATER TREATMENT FACILITIES AND NARRAGANSETT BAY FROM TOXIC DISCHARGES. This is accomplished by the issuance of discharge permits to commercial and industrial sewer users. These discharge permits specify the level of pollutants that can be discharged in a facility's wastewater and may require a firm to conduct wastewater monitoring to verify compliance with discharge limits, to implement a Spill Control Plan and/or Toxic Organic/Solvent Management Plan, and to install pretreatment equipment. Various reporting and record keeping requirements may also be written into discharge permits. The firms listed in this public notice violated one or more of the significant non-compliance criteria specified above. The Commission is required by the RI DEM and the US EPA to annually publish the names of all firms violating any of these criteria. Therefore, firms must be sure to comply with all the terms specified in their discharge permit to ensure that the name of their firm is not listed in this annual public notice. The NBC offers FREE technical assistance to firms located in the NBC service area through its non-regulatory Office of Environmental, Safety & Technical Assistance. For information on how the NBC Environmental, Safety & Technical Assistance Program can help your firm achieve and maintain compliance, contact the Environmental, Safety & Technical Assistance Program Staff at 461-8848/TDD 461-6549.

Most businesses located in the NBC district are to be commended for the fine job they have done treating their process discharges to remove toxic pollutants. In 1981, local industries discharged 954,079 pounds of heavy metals such as copper, nickel and zinc and 80,440 pounds of cyanide to the Field's Point Wastewater Treatment Facility. Since 1981, the total metals and cyanide loadings to the Field's Point facility have been reduced by 97.3% and 98.3% respectively. Similar toxic loading reductions have been observed at the NBC Bucklin Point facility.

Bucklin Point Service Area

Lincoln		
Company Name	Violations Cited	Present Status
Michael Healy Design, Inc.	Failure to submit report on time (8)	Report has been received.
Purman Holdings, Inc.	Failure to submit reports on time (8)	Reports have not been received.
Pawtucket		
John H. Collins & Sons Company	TTO (2)	Firm is now in compliance.

Field's Point Service Area

Johnston		
Company Name	Violations Cited	Present Status
D/Franco Industries, Inc.	Failure to submit reports on time (8)	Reports have been received.
Providence		
Providence Specialty Products	OMG (1, 2)	Firm is still out of compliance.
JC Goshaw Co.	Failure to submit reports on time (8)	Reports have not been received.
Bella's Jewelry	Failure to submit report on time (8)	Report has been received.
The Providence Mail	Failure to submit report on time (8)	Report has been received.
Ximexica	Zn (2)	Firm is now in compliance.

The Narragansett Bay Commission will continue to lead in wastewater treatment, environmental protection, and environmental education to ensure a cleaner Narragansett Bay for all to enjoy.

Vincent J. Mesolella, Chairman • Raymond J. Marshall, P.E., Executive Director
 Narragansett Bay Commission • One Service Road • Providence, RI 02905 • 461-461-8848 • TDD 461-461-6548 • FAX 461-461-6540 • <http://www.nbcobp.com>
 Twitter: @narrabay • Facebook: www.facebook.com/narrabay • Instagram: @narrabay
 The rest of this public notice will be filed to the firms listed above that were in significant non-compliance.



June 4, 2018

MASS MAILING SUMMER
Summer Shutdown Letter
Both Districts - Categories 11 through 59
List Attached

Dear _____ :

Typically, many industries shutdown their operations for a period of time during the summer months. Past operating experiences in the Narragansett Bay Commission (NBC) Districts have shown that large quantities of toxic and hazardous wastes have been indiscriminately dumped in significant quantities into the sewer system as part of an industry's "clean-up" procedure prior to their summer shutdown. This usually occurs in the last two weeks of June and throughout the month of July.

The two NBC Wastewater Treatment Facilities are secondary treatment facilities which utilize microorganisms to treat sanitary wastewater. These microorganisms work to reduce the amount of conventional pollutants discharged to Narragansett Bay from our treatment facilities. Slug discharges containing industrial pollutants can kill or severely impair the effectiveness of these microorganisms, thus creating a situation that would counter the efforts of the NBC to provide a clean bay for all to enjoy.

We urge all firms to dispose of their spent solutions properly, since it will be far less costly than the fines and legal expenses incurred if caught improperly disposing of these wastes. The NBC will be actively monitoring the sewer system during the upcoming vacation period to detect any illegal discharges. Industries found to be in violation of the NBC Rules and Regulations may be subject to a fine of up to \$25,000 per violation and/or thirty (30) days of imprisonment for criminally negligent violations. Therefore, we ask for your cooperation and request that you contact your chemical supplier or a licensed hazardous waste hauler to properly dispose of your spent concentrated solutions during your upcoming vacation shutdown.

Over the next few weeks in advance of the summer shutdown, the Pretreatment staff will be conducting site visits to every manufacturing facility to remind the waste operators regarding waste disposal requirements and to assist operators regarding their waste treatment and disposal options. This will help to ensure that firms do not experience any compliance problems associated with the vacation facility clean up. For more information regarding the proper disposal of waste from your facility or to report illegal dumping, contact the Pretreatment Program staff at 461-8848, ext. 490. Thank you for your continued cooperation with regard to properly treating all waste and enjoy your summer vacation.

Sincerely

Kerry M. Britt
Pretreatment Manager

Enclosure



Narragansett Bay Commission

Electroplaters, Metal Finishers, Chemical Processing Firms and Other Industries:

Vacation Shutdown Prohibited Sewer Discharges

Typically many industries shut down their operation for a period of time during the holiday months. Past operating experiences in the Narragansett Bay Commission (NBC) District have shown that large quantities of toxic and hazardous wastes have been indiscriminately dumped in significant quantities into the sewer as part of an industry's "clean-up" procedure prior to their shutdown. This usually occurs in the last two weeks of June and throughout the month of July, as well as in December. Pursuant to Title 46 Chapter 25 of the Rhode Island General Laws, the NBC has adopted regulations which prohibit the discharge of wastes which could:

- create a fire or explosion (example: solvents such as trichloroethylene, xylene or gasoline);
- cause corrosive damage to our facilities (example: acids or bases);
- hinder the flow or causes obstructions to our facilities (example: fats, waxes, greases, oils, solids);
- result in an excessive hydraulic/pollutant flow rate (example: slug discharge from the dumping of plating or other baths);
- interfere with treatment facility operations (example: dumping cyanide or heavy metal containing solutions) and;
- cause pass through of the wastewater treatment facility (example: dumping of dyes or pigments).

Other wastes are also regulated specifically by type of waste and concentration by the NBC's Rules and Regulations. Copies of these regulations may be obtained at the NBC's Pretreatment office. In addition, it is illegal to discharge any non-sanitary wastewaters into the NBC sewer system prior to being issued a discharge permit. Please dispose of spent solutions properly. It is less costly than being caught illegally disposing of these wastes. Industries found to be in violation of the NBC's Rules and Regulations may be subject to a fine of up to \$25,000 per violation per day and/or up to thirty (30) days of imprisonment. In general, industries located in the NBC service area are to be commended for the fine job to date at reducing toxic discharges to the sewer. In 1981, local industries discharged 954,099 pounds of heavy metals such as copper, nickel, and zinc, and 80,440 pounds of cyanide to the Field's Point Treatment Facility. A portion of these toxics would eventually pass through the treatment plant and enter Narragansett Bay. There has been a 97.0% reduction in heavy metal discharges to the Field's Point Facility since 1981. The cyanide loadings to this treatment facility were also reduced by 97.6% over this same period. This impressive reduction in toxic discharges by industry has also been noted at the Bucklin Point Wastewater Treatment Facility. The level of toxics entering Narragansett Bay from the NBC facilities has been similarly reduced.

The NBC will continue to be a leader in the field of wastewater treatment and environmental protection to ensure a cleaner Narragansett Bay for all to enjoy. For more information on the proper disposal of wastes from your facility, contact the pretreatment program staff at 461-8848 ext. 490 / TDD 461-6549.

Vincent J. Mesolella, *Chairman*

Raymond J. Marshall, P.E., *Executive Director*



July 10, 2018

SEPTAGE HAULER REVISED FORM

**Mass Mailing - Septage Haulers
List Attached**

Dear _____ :

The Narragansett Bay Commission (NBC) has been reviewing the procedures that are used to accept septage at the Lincoln Septage Receiving Station in order to streamline the process. Based on this review you will no longer be required to provide the signature of your customers on manifests and copies of customer invoices prior to discharging at the station. The NBC Residential Septage Manifest Form has been revised to reflect these changes. Enclosed please find the revised manifest form for your use. The old manifest form can still be used but the customer signature line does not need to be completed. Please note all other terms and conditions of your NBC Septage Discharge Permit remain in effect.

It is important that the Septage Discharge Manifest Form be completed accurately and legibly for each load to be discharged at the Septage Receiving Station. The customer name, address, phone number, estimated volume and date of pump out must be provided for each portion of the load. The signature of the driver must be included on the form. Attached please find a sample of a properly completed manifest for your reference.

If you have any questions, please contact the Pretreatment Office at 401.461.8848 ext. 490.

Sincerely,

Kerry M. Britt
Pretreatment Manager

Enclosures

cc: Meg Goulet

The Narragansett Bay Commission
Main Office
One Service Road
Providence, RI 02905
401-461-8848
401-461-6540 Fax
401-461-6549 TDD
Pretreatment Office
2 Ernest Street
401-461-8848
401-461-0170 Fax



Rep. Vincent J. Mesolella
Chairman

Raymond J. Marshall, P.E.
Executive Director

LINCOLN SEPTAGE RECEIVING STATION RESIDENTIAL SEPTAGE MANIFEST FORM

Septage Hauler Information:

Company Name: ABC Septage Co. Card #: _____ Vehicle Lic. #: R11234
Print Driver's Name: John Smith Vehicle Capacity: 3200gal

I hereby certify that this septage load contains Residential Quality Septage only from the sources listed on this manifest. I further certify that this septage load does not contain hazardous materials or quantities of observable grease, other than the nominal amount of grease expected in normal residential septage. I certify that waste from other sources or loads was not blended or mixed with this load. I hereby certify that the information listed on this form is true and correct to the best of my knowledge.

Driver's Signature: John Smith

Septage Origin:

- 1) Customer Name: John Doe Estimated Volume: 1000gal
Address/City: 1 Main Street Lincoln, RI 02865 Phone: 401-555-4234
Date Pumped: 7/10/18
- 2) Customer Name: Peter Pan Estimated Volume: 1000gal
Address/City: 2 Maple Avenue Lincoln, RI 02865 Phone: 401-555-1235
Date Pumped: 7/10/18
- 3) Customer Name: Tony Jones Estimated Volume: 1000gal
Address/City: 3 South Street Lincoln, RI 02865 Phone: 401-555-1236
Date Pumped: 7/10/18
- 4) Customer Name: _____ Estimated Volume: _____
Address/City: _____ Phone: _____
Date Pumped: _____
- 5) Customer Name: _____ Estimated Volume: _____
Address/City: _____ Phone: _____
Date Pumped: _____

For Office Use Only

NBC Operator Signature: _____ pH: _____
Date of Delivery: _____ Time of Delivery: _____

Delivery No:

Verifications

Customer Contacted: _____
Customer Contacted: _____
Verifier's Signature: _____ Date: _____ Time: _____



August 21, 2018

**DENTAL POINT SOURCE CATEGORY -
DENTAL RULE
Mass Mailing - Permitted Dental Facilities - Both Districts
List Attached**

Dear _____ :

The United States Environmental Protection Agency (EPA) has promulgated the Dental Point Source Category (40CFR441) (Dental Rule). This federal regulation applies to all dental facilities that place or remove amalgam on a regular basis and discharge to a wastewater treatment facility. An amalgam separator that is ISO 11143 (or ANSI/ADA 108-2009) certified with a removal efficiency of 99% or an equivalent device. This regulation requires minimal oversight by the Industrial Pretreatment Program. However, the dental facility is required to operate and maintain the amalgam separator, keep maintenance records, properly dispose of waste amalgam. These requirements are incorporated in the Wastewater Discharge Permit you currently have with the Narragansett Bay Commission (NBC). In addition to the aforementioned requirements, the Dental Rule requires that dental facilities submit a one-time compliance report. Enclosed please find a One-Time Compliance Report that meets the requirements of the Dental Rule and the NBC Best Management Practices for the Management of Waste Dental Amalgam (BMP). The form can also be found on the NBC website using the following link:

<https://narrabay.com/ProgramsAndProjects/PretreatmentProgram/Pretreatment%20Forms.aspx>

The report must be completed and submitted to the NBC by September 30, 2018. It can be mailed to the Pretreatment Program at the following address:

Narragansett Bay Commission – Pretreatment Program
Two Ernest Street
Providence, RI 02905

It may be emailed to pretreat@narrabay.com.

If you have any questions, please contact the Pretreatment Office at 401.461.8848, ext. 490.

Sincerely,

Kerry M. Britt
Pretreatment Manager

Enclosure

cc: Engineer/Technician Assigned



Narragansett Bay Commission
One-Time Compliance Report for Dental Facilities
40CFR441.50 Dental Point Source Category

The United States Environmental Protection Agency (EPA) finalized the Dental Point Source Category (40CFR441) on July 14, 2017. This form must be completed under 40CFR441.50, which requires all dental facilities to complete and submit a one-time compliance report to the local Pretreatment Program.

Practice Name: _____

Premise Address: _____

Mailing Address: _____

List all dentists affiliated with this practice:

Name:	Email address:
_____	_____
_____	_____
_____	_____
_____	_____

Primary Contact for Practice: Name: _____
Email Address: _____
Phone Number: _____

Type(s) of Dentistry Performed:

General Dentistry	Yes _____	No _____
Orthodontics	Yes _____	No _____
Periodontics	Yes _____	No _____
Endodontics	Yes _____	No _____
Prosthodontics	Yes _____	No _____
Oral and Maxillofacial Surgery	Yes _____	No _____
Other (please detail)	_____	

This practice began operations prior to July 14, 2017 Yes _____ No _____

This practice places and/or removes dental amalgam on a regular or an infrequent basis:
Yes _____ No _____

An ISO 11143 (or ANSI/ADA 108-2009) certified amalgam separator (or equivalent device) has been installed to capture amalgam bearing waste streams. Yes No

Please provide the make and model of the amalgam separator:

Make: _____ Model: _____

Date the amalgam separator was installed: _____

An equivalent device has been installed at the facility: Yes No

Please provide the make and model of the equivalent device:

Make: _____ Model: _____

Date the device was installed: _____

How many chairs are at this facility? _____

How many chairs are connected to the amalgam separator or equivalent device? _____

How many sinks (used for instrument washing) are connected to the amalgam separator or equivalent device? _____

I certify the amalgam separator or equivalent device is designed and is being properly maintained and operated in accordance with NBC Best Management Practices. Yes No

Maintenance is performed by onsite personnel: Yes No

If yes, describe operation and maintenance procedures:

A vendor has been contracted to operate and maintain the amalgam separator or equivalent: Yes No

If yes, provide the contact person, company name, address and phone number of your vendor:

If the amalgam separator or equivalent device that is presently installed needs to be replaced, an amalgam separator or equivalent device meeting the requirements of the NBC Best Management Practices for the Management of Waste Dental Amalgam (NBC BMP) as well as 40CFR441.30(a)(1) or 40CFR441.30(a)(2) must be installed. The amalgam separator must be ISO 11143 certified with a 99% removal rate or equivalent device must be installed.

The dental practice complies with the best management practices outlined in the NBC BMP and 40CFR441.30(b) or 40CFR441.40. These best management practices include but are not limited to:

- Waste amalgam including but not limited to dental amalgam from chair side traps, screen, vacuum pumps, filters, dental tools, cuspidors, or collection devices is strictly prohibited from being discharged to the sewer system.
- Elemental mercury is strictly prohibited from being discharged to the sewer system.
- All equipment that comes in contact with amalgam must be operated and maintained in accordance with manufacturers specifications.
- Equipment coming in contact with amalgam, including piping, must not be cleaned with oxidizing or acidic cleaners, including but not limited to bleach, chlorine, iodine, and peroxide that have a pH lower than 6.0 standard units (su) or greater than 8.0 su. These types of cleaners may increase the dissolution of mercury.

Certification Statement

As per 40CFR441.50(a)(2) this one-time compliance report must be signed and certified by a responsible corporate officer, a general partner or proprietor if the dental practice is a partnership or sole proprietorship, or a duly authorized representative in accordance with 40CFR403.12(l).

I am a responsible corporate officer, a general partner or proprietor (if the dental practice is a partnership or sole proprietorship), or a duly authorized representative in accordance with 40CFR403.12(l) of the above named dental practice, and certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Authorized Agent:

Print Name

Signature

Phone Number

Email Address

Date: _____

This One-Time Compliance Report must be maintained onsite and be available for review, either in physical or electronic form, during inspections as long as this dental practice is in operation or until there is a change in ownership.



September 4, 2018

LITTER IMPACT MASS MAILING
SIUs - Both Districts
List Attached

Dear _____ :

The Rhode Island Department of Environmental Management (DEM) issued new discharge permits to the two Narragansett Bay Commission (NBC) wastewater treatment plants. One of the requirements DEM implemented is for the Pretreatment Program to educate permitted companies of the impacts of litter on the sewer and storm water systems.

As you may be aware, the NBC owns and operates combined systems which means wastewater and storm water flow through the same pipe. If litter enters the system, it could cause blockages in the system. This may result in untreated sewage discharging directly to the environment. It is important for industrial facilities to inspect the area outside of their facilities, including around dumpsters and chemical storage areas, to ensure litter from their property is cleaned up so it does not impact NBC facilities. During inspections of your facility, Pretreatment staff will provide further information on the impacts of litter on the NBC systems.

If you have any questions regarding this letter, please contact the Pretreatment office at 401.461.8848, ext. 490.

Sincerely,

Kerry M. Britt
Pretreatment Manager

KMB:smb



October 9, 2018

**MASS MAILING
Fuel Oil Users
List Attached**

Dear _____ :

As you know the heating season is here. Fuel oil that is discharged to the sewer can have a significant impact on the Narragansett Bay Commission (NBC) Wastewater Treatment Facilities. These impacts may include fouling equipment, interfering with normal treatment operations, and in severe cases can pass through the treatment facility and adversely impact Narragansett Bay. Below are two pictures of the impact a recent #6 fuel oil spill had on the Bucklin Point facility. Although the spill had no impact on the bay, the oil fouled equipment at the treatment facility, resulting in over \$100,000 in cleanup costs that were incurred by the company that inadvertently discharged the oil.



The company responsible for the spill was not aware that they were losing oil into the sewer. This is one of the main reasons for the NBC permitting boiler facilities and requiring firms to implement self-inspection programs. As you prepare your heating system, it is important to review the conditions set forth in your Wastewater Discharge Permit. These conditions are designed to help you discover and quickly stop an oil leak. Also, it is important to inspect the entire heating system including preheaters and piping and perform any necessary maintenance prior to starting up the boiler.

Please contact the Pretreatment Office at (401) 461-8848, ext. 490 if you have any questions.

Sincerely,

Kerry M. Britt
Pretreatment Manager

cc: PT Engineers/Technicians



October 24, 2018

BILLING FREQUENCY CHANGE MASS MAILING
All Users - Both Districts
List Attached

Dear _____ :

The Narragansett Bay Commission (NBC) is in the process of upgrading its billing system. As a part of the upgrade, the frequency of issuing invoices for your annual Wastewater Discharge Permit fee will change. You will no longer be billed for the upcoming quarter. Beginning in January 2019, you will receive an invoice for the current month. Please see attached a table detailing the approximate amount of the monthly invoice.

If you have any questions regarding the billing of your annual Wastewater Discharge Permit fee, please contact the NBC Customer Service Section at (401) 461-8848.

Sincerely,

Kerry M. Britt
Pretreatment Manager

cc: Clara Casimiro

Annual Permit Fee	Approximate Monthly Charge
\$217.00	\$18.08
\$290.00	\$24.17
\$362.00	\$30.17
\$435.00	\$36.25
\$580.00	\$48.33
\$725.00	\$60.42
\$870.00	\$72.50
\$1,087.00	\$90.58
\$1,449.00	\$120.75
\$1,811.00	\$150.92
\$2,898.00	\$241.50
\$3,623.00	\$301.92
\$3,768.00	\$314.00
\$4,348.00	\$362.33
\$5,072.00	\$422.67
\$5,797.00	\$483.08
\$5,797.00	\$483.08
\$7,246.00	\$603.83
\$10,144.00	\$845.33
\$10,869.00	\$905.75
\$14,492.00	\$1,207.67



November 19, 2018

**MASS MAILING
HOLIDAY SHUTDOWN LETTER
All IU and SIU (Categories 11 thru 59)
List Attached**

Dear _____ :

It is that time of year as the holiday season is here! Many companies close for vacation and maintenance activities during this time. We would like to take this opportunity to remind you that the Narragansett Bay Commission (NBC) is here to help industry maintain compliance. Pretreatment staff will be conducting brief inspections throughout this month to meet with our regulatory contacts, answer waste disposal questions, and provide general assistance. If you should have any questions regarding the proper disposal of any wastes generated from maintenance activities or would like to make modifications to your processes during the shutdown, please contact our office and we will be happy to assist you.

During and prior to the industry holiday shutdown, the NBC routinely monitors the sewer system to ensure that illegal dumping of waste does not occur and to catch illegal dumpers. Violators are subject to enforcement action which could result in civil and/or criminal penalties and termination of sewer use privileges. The attorney fees and fines associated with such an enforcement action will greatly outweigh the cost of proper disposal of waste. In general, industries within the NBC's service area are to be commended for their progress to date in reducing the toxic loadings to the NBC treatment facilities and Narragansett Bay. Please feel free to contact the NBC Pretreatment Office at 461-8848, ext. 490 should you need assistance.

Sincerely,

Kerry M. Britt
Pretreatment Manager

KMB:smb

Enclosure

cc: Pretreatment Engineers and Technicians



Narragansett Bay Commission

Electroplaters, Metal Finishers, Chemical Processing Firms and Other Industries:

Vacation Shutdown Prohibited Sewer Discharges

Typically many industries shut down their operation for a period of time during the holiday months. Past operating experiences in the Narragansett Bay Commission (NBC) District have shown that large quantities of toxic and hazardous wastes have been indiscriminately dumped in significant quantities into the sewer as part of an industry's "clean-up" procedure prior to their shutdown. This usually occurs in the last two weeks of June and throughout the month of July, as well as in December. Pursuant to Title 46 Chapter 25 of the Rhode Island General Laws, the NBC has adopted regulations which prohibit the discharge of wastes which could:

- create a fire or explosion (example: solvents such as trichloroethylene, xylene or gasoline);
- cause corrosive damage to our facilities (example: acids or bases);
- hinder the flow or causes obstructions to our facilities (example: fats, waxes, greases, oils, solids);
- result in an excessive hydraulic/pollutant flow rate (example: slug discharge from the dumping of plating or other baths);
- interfere with treatment facility operations (example: dumping cyanide or heavy metal containing solutions) and;
- cause pass through of the wastewater treatment facility (example: dumping of dyes or pigments).

Other wastes are also regulated specifically by type of waste and concentration by the NBC's Rules and Regulations. Copies of these regulations may be obtained at the NBC's Pretreatment office. In addition, it is illegal to discharge any non-sanitary wastewaters into the NBC sewer system prior to being issued a discharge permit. Please dispose of spent solutions properly. It is less costly than being caught illegally disposing of these wastes. Industries found to be in violation of the NBC's Rules and Regulations may be subject to a fine of up to \$25,000 per violation per day and/or up to thirty (30) days of imprisonment. In general, industries located in the NBC service area are to be commended for the fine job to date at reducing toxic discharges to the sewer. In 1981, local industries discharged 954,099 pounds of heavy metals such as copper, nickel, and zinc, and 80,440 pounds of cyanide to the Field's Point Treatment Facility. A portion of these toxics would eventually pass through the treatment plant and enter Narragansett Bay. There has been a 97.0% reduction in heavy metal discharges to the Field's Point Facility since 1981. The cyanide loadings to this treatment facility were also reduced by 97.6% over this same period. This impressive reduction in toxic discharges by industry has also been noted at the Bucklin Point Wastewater Treatment Facility. The level of toxics entering Narragansett Bay from the NBC facilities has been similarly reduced.

The NBC will continue to be a leader in the field of wastewater treatment and environmental protection to ensure a cleaner Narragansett Bay for all to enjoy. For more information on the proper disposal of wastes from your facility, contact the pretreatment program staff at 461-8848 ext. 490 / TDD 461-6549.

Vincent J. Mesolella, *Chairman*

Raymond J. Marshall, P.E., *Executive Director*

***NEWSPAPER AND MAGAZINE
ARTICLES***

PROVIDENCE Journal

Opinion

My Turn: Richard Burroughs: How much can R.I. ratepayers afford?

By Richard Burroughs

Posted Jan 10, 2018 at 6:11 PM

Updated Jan 10, 2018 at 6:11 PM

A Dec. 7 news story (“Fishermen: Bay cleanup might be doing harm”) and Jonathan Stone’s Dec. 14 Commentary response (“The Bay is far from too clean”) raise the nutrient levels of Narragansett Bay as an important issue. But, before settling on one fix, we should consider our water investments comprehensively. Without it, Rhode Island homeowners and businesses will pay far too much and get far too little.

Most of metro Providence is saddled with a system that combines street drainage with household and industrial waste, the combined sewer system. The combined system flows to the treatment plant but can be overwhelmed by heavy rains, allowing excess sewerage to flow to the Bay untreated.

Enter the first combined sewer overflow tunnel. By using the tunnel as storage, rains can be captured and then treated. By all accounts this has been a great success in limiting pathogens.

If one tunnel is good, surely two tunnels are better — perhaps. And that is just what the Narragansett Bay Commission is planning under the direction of the Department of Environmental Management. Planning continues for a second tunnel at a final cost that could run over \$1 billion.

This is where the story becomes complex. The improvement in water quality, per dollar spent, is greatest initially, as with the first tunnel. The same can be said of the effectiveness of nutrient removal technology. Homeowners and businesses get to pay for all of this by virtue of being connected to the sewer system. Quite simply, for them, the sewage rates go up while the bang for the buck goes down.

What if price is too high? The Environmental Protection Agency has provided guidance. It suggests that exceeding 2 percent of median household income per year for all water related expenses is unreasonable.

Thus, water supply, stormwater, nutrient removal and wastewater treatment costs should be considered together. With all these bills potentially due, comprehensively considering which to pay first becomes even more important.

In the absence of leadership at the state level, Rhode Island will never be effective at rightsizing its water investments. Some areas of urban Rhode Island have excessive costs now. Others will. Because Providence is a diverse community, increasing costs fall hardest on those least likely to be able to afford them.

Closely allied with affordability is the opportunity to use water investments for multiple purposes. Through EPA's integrated water management process, Rhode Island could assess its water portfolio, select initiatives that are most important, and fit them under the affordability guidance.

Sadly, we have not done this rightsizing. For example, a key to making the sewage treatment system work is protecting the Fields Point plant from sea-level rise and storm surge. After the spring floods of 2010, plants in Warwick were unable to meet permit requirements for three or four months.

Perhaps reducing vulnerability should take precedence over additional wastewater collection and treatment, for now. We will only know if leaders in Rhode Island mandate a comprehensive assessment so that the dollars spent deliver the most productive future.

Rethinking the challenge as one of integrated management opens the door for a portfolio that simultaneously improves living in the city. The EPA invites us to do just that through green solutions.

We can and must seek synergies in our investments. Rhode Island has a proven success with Water Place Park. In fact, a report for Sen. Sheldon Whitehouse, D-Rhode Island, shows how municipalities have taken advantage of green technologies. Innovative use of vegetation reduces surface water flows and changes the character of urban spaces from gray to green. Additionally, it serves to connect people through the more livable city they create.

Rightsizing requires leadership to build on assessments already completed and, most importantly, to look across them to determine what is right for Rhode Island. The homeowners and businesses who pay the bills should demand it.

Richard Burroughs is a professor in the Department of Marine Affairs at the University of Rhode Island. He is a former commissioner at the Narragansett Bay Commission and previously served on the board at Save the Bay.

PROVIDENCE Journal

R.I. green energy: The power of sludge

By Alex Kuffner

Journal Staff Writer

Posted Jan 25, 2018 at 7:43 PM

Updated Jan 25, 2018 at 10:31 PM

Waste from thousands of toilets will soon be transformed into the renewable energy biogas, the first of its kind in the Ocean State.

EAST PROVIDENCE — As a porous conveyor belt rolls forward, the murky soup it carries drains of water and leaves behind a thick sludge the consistency of wet cement.

There's no question about it. This is a foul mix of the contents of tens of thousands of toilets from East Providence and the Blackstone Valley that has made its way through the Bucklin Point Wastewater Treatment Facility. It's dirty, unsightly and only a little less smelly than you'd expect.

But don't dismiss it as merely waste. It's actually fuel.

All the sludge collected here is used to create biogas, a renewable energy source that will soon be harnessed to produce a quarter of the power for this sprawling sewage treatment plant on the Seekonk River.

When the Narragansett Bay Commission finishes testing this spring and brings it into operation by the summer, the 677-kilowatt biogas engine will be the first of its kind in Rhode Island.

Similar types of power generators have been built near the Central Landfill in Johnston — one that burns gas given off by the landfill itself and another that gets it from food waste — but none of the 18 other major wastewater treatment plants in the state has anything like it.

The bay commission, which also runs a larger plant at Fields Point on the Providence waterfront, installed the new system as part of a years-long plan to remake itself as an energy-neutral operation and reduce its carbon footprint.

With a trio of wind turbines in Providence, another three in Coventry, two proposed solar fields also in Coventry and the biogas facility, the largest wastewater system in Rhode Island, which serves a third of the state's population in an area stretching from Providence to Cumberland, could soon produce as much energy as it uses.

The nameplate capacity of the biogas piece of the portfolio is relatively small, but unlike weather-dependent wind and solar, it will run around the clock. After all, as long as people keep flushing, there's a guaranteed supply of fuel.

"When we're generating biogas, which is all the time, it will be producing electricity," said James C. McCaughey, environmental manager with the bay commission.

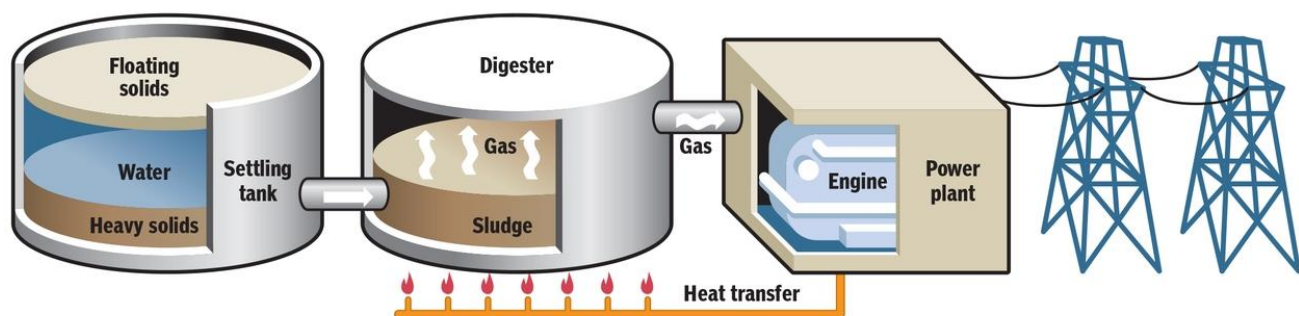
Waste not

1 Wastewater enters the settling tank. Most solids sink to the bottom but some float. The sludge, a mixture of organic matter and bacteria, is then pumped out or skimmed off and sent to the digester.

2 Inside the air tight, oxygen-free digester, the sludge is heated up to accelerate a natural process that breaks it down. This process, known as anaerobic digestion, produces biogas, which consists mainly of methane and carbon dioxide.

3 The methane fuels an engine that produces electricity for the treatment plant, and the heat from that engine is transferred back to the digester.

4 The power plant produces an equivalent amount of power used by 767 typical Rhode Island households and an equivalent amount of heat used by 233 households.



SOURCE: Narragansett Bay Commission

THE PROVIDENCE JOURNAL / TOM MURPHY

Biogas is produced when microorganisms break down organic material in the absence of oxygen. The process is known as anaerobic digestion.

The gas is naturally emitted by landfills as material trapped below the surface slowly biodegrades, but the process can be accelerated and intensified inside airtight tanks, called digesters, when heat is applied.

The main components of biogas are methane and carbon dioxide. Just like in natural gas that's formed over millions of years deep underground, it's the methane that makes biogas a combustible fuel. Biogas from landfills typically has a methane content of about 50 percent, but when it's produced in digesters the level can be much higher.

Recent attention has focused on companies that are developing facilities, like the Blue Sphere Corp. plant in Johnston, that produce biogas from rotting food remnants, a relatively new technology on this side of the Atlantic but one used widely in Europe.

Biogas from cow manure is also being tested in parts of the country — Vermont has dubbed its program “Cow Power” — and studies have found that manure has the potential to meet the energy needs of millions of homes in the United States.

In the wastewater industry, digesters are nothing new, but they're not common. Because of the cost of building them, only about a tenth of treatment plants across the country — generally the larger ones — have them, according to the U.S. Environmental Protection Agency. And less than a tenth of those actually produce electricity.

They include the Newtown Creek facility in New York City with its striking stainless-steel digester “eggs,” as well as plants in Boston, Chicago and Philadelphia.

It takes a staggering amount of power to run the aerators and pumps to clean up wastewater in the 16,000 or so treatment facilities across the country, consuming nearly one percent of the nation's total electric usage.

But the potential energy that can be harvested at the plants is huge. It's estimated that there's five times as much energy in wastewater as it takes to process it, according to the American Biogas Council.

The Bucklin Point plant has been producing biogas since it went into operation in 1954. Unlike the other treatment plants in Rhode Island, its original design included a “pancake”-style digester — a large, flat-roofed cylinder — and two more were added in subsequent years.

For decades, the plant has been using the digesters, but the aim wasn't to generate power. It was to break down the sludge produced by the plant. The digestion process is able to cut the volume in half, reducing the cost of trucking away the sludge, which in the past went to the landfill and more recently has gone to an incinerator in Woonsocket.

As for the resulting biogas, half is burned to heat the digesters while the rest is flared off.

The methane concentration at the Bucklin Point plant is about 60 percent, due in part to the large concentration of households that use the system, says McCaughey. With a higher ratio of human users than plants that have more industrial customers, the concentration of organics in its sludge is also higher.

It's collected in two stages. First, after the wastewater that enters the plant passes through debris and grit screens, it makes its way into a settling tank. Most of the solids fall to the bottom, where they get pumped out, while some float to the top, where they get skimmed off, and then it's all transferred underground to the digesters.

Then, the water gets filtered again inside the building marked by a sign reading "Gravity Belt Thickener." What passes through the thickener is a mixture of organic matter, bacteria and a polymer additive used to hold it all together. It goes into a basement storage tank and then "Sludge Master" sewage pumps send it too to the digesters.

They heat the material up to 95 degrees, slashing the time it takes to produce biogas.

"What takes years at a landfill takes 15 days in the digester," McCaughey said, as he stood beside one of them on a recent morning.

"We're trying to speed up nature," added Jamie Samons, public affairs manager for the bay commission.

The new cogeneration system will produce the equivalent amount of power used by 767 typical Rhode Island households and the equivalent amount of heat used by 233 households. All that energy will be used by the treatment plant.

Although it's not expected to reduce customer rates, it could ease the financial impacts of a series of massive infrastructure projects the bay commission has undertaken to store and treat contaminated stormwater before it enters Narragansett Bay.

“It is a way of mitigating the impacts of these huge federally-mandated projects,” Samons said.

The payback on the \$8.2-million project is projected to be 14 years. With regular maintenance, the biogas engine is expected to last about 15 years, but replacing it won’t cost nearly as much, because all the associated infrastructure will already be in place.

It’s hard to say whether it would be cost-effective to duplicate the system at other treatment plants, such as the one at Fields Point, where digesters would have to be built as part of any project. But the Bay commission isn’t ruling anything out.

“We’re on a much tighter footprint there,” Samons said.

“But you never know,” McCaughey said.

As they led a tour of the Bucklin Point plant, the flare next to the digesters steadily burned despite a steady drizzle, using up biogas with no real benefit.

When the new generator fires up sometime in the coming months, the flare will be extinguished, a tell-tale sign that the newest source of renewable energy in Rhode Island is in use.

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Objections heard on LNG project at Providence port

By **Alex Kuffner**

Journal Staff Writer

Posted Jan 31, 2018 at 9:58 PM

Updated Jan 31, 2018 at 9:58 PM

PROVIDENCE — It was probably the final opportunity for opponents to a liquefied natural gas processing plant proposed at Fields Point to voice their objections to the project, and the three dozen people who showed up at a public hearing Wednesday night made their feelings clear.

Each of the speakers at the hearing held by the state Department of Environmental Management came out against the \$180-million facility proposed by National Grid that would supercool natural gas to turn it into a liquid for easier storage.

"I just don't see a reason for it. We should be getting rid of fossil fuels," said Shanna Wells, of West Warwick.

The DEM held the hearing as part of the process to consider awarding a water quality permit that would allow the project to discharge stormwater into the Providence River.

Just like the state Coastal Resources Management Council, which held hearings on the project in November and December and raised no objections, the DEM is considering only one aspect of the application. The lead permitting authority is the Federal Energy Regulatory Commission.

National Grid argues that the project is necessary to ensure adequate supplies of natural gas for heating on cold winter days. The liquefaction facility would tap into a nearby pipeline and supply an existing storage tank that has stood on the site off Allens Avenue since the 1970s. The tank has operated safely over that period, according to the company.

But all of those who commented at the hearing said the project would harm the environment. Some focused on the narrow set of issues before the DEM.

"There's going to be negative impacts on Narragansett Bay during construction and afterwards," said Taylor Ellis, of South Kingstown.

Ellis, who described himself as a former employee of the University of Rhode Island's Graduate School of Oceanography and the Narragansett Bay Commission, said that water tainted with hydrocarbons will run off the site.

"It's going to end up in the Bay," he said. "It affects the Bay quality and all of the people of the state. I think we need to take a stand against fossil fuels and for Narragansett Bay."

Others said the DEM must consider the broader impact of a facility that would be built in an area in South Providence that has been contaminated for generations by heavy industrial use.

"All decisions are made in a context. What you may think is a narrow decision may have broad and far-reaching impacts," said Kenneth Payne, of the Civic Alliance for a Cooler Rhode Island.

"What we have in Rhode Island is a system of de facto segregation," said Payne, the former head of the state Office of Energy Resources. "Try to imagine siting this ... in Barrington, Bristol, other communities. You would find it impossible."

The area around the Port of Providence where the facility would be located is already home to 11 major polluters, said Claire Miller, of the Toxics Action Center.

"This is a clear case of environmental justice," said Timmons Roberts, the Ittleson professor of environmental studies at Brown University.

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Narragansett Bay Commission Earns Regional Wastewater Treatment Plant Excellence Award

Tuesday, February 20, 2018

GoLocalProv Business Team

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The **Narragansett Bay Commission's (NBC)** Field Point Wastewater Treatment Facility in Providence received a 2017 Regional Wastewater Treatment Plant Excellence Award from the U.S. Environmental Protection Agency.

The award recognizes the facility for "exceptional work in operating and maintaining the wastewater treatment plant."

"Narragansett Bay is cleaner today than it has been in 150 years, and that is due largely to the commitment and excellence of the staff at NBC's wastewater treatment facilities. I am extremely proud of their work and the great improvements we have made in protecting and enhancing Narragansett Bay and our urban rivers," said NBC Chairman Vincent Mesolella.

The EPA formally acknowledged the Providence facility for its work during the annual New England Water Environment Association Conference last month.

Field's Point Facility

The Field's Point facility is the largest wastewater treatment facility in Rhode Island and one of the oldest in the country, starting operations in 1901.

The facility serves the residents of Providence, Johnston, North Providence and a portion of Lincoln. It provides treatment for flows of up to 77 million gallons per day (MGD), and primary treatment and disinfection for an additional 123 MGD of wet weather flows.

The Award

The EPA Regional Wastewater Treatment Plant Excellence Award was established to recognize and honor the employees of publicly owned wastewater treatment plants for their commitment to improving water quality with outstanding plant operations and maintenance.



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Center L to R, Michael Spring (Maintenance Manager), Paul Desrosiers (Operations Manager), and Nathan Boiros (Assistant Operations Manager) accepted the award on behalf of the NBC.

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Narragansett Bay Commission's Wins National Environmental Education Award

Wednesday, March 14, 2018
GoLocalProv Business Team

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The **Narragansett Bay Commission's** (NBC) Mr. Can program received a National Environmental Achievement Award for public information and education from the National Association of Clean Water Agencies.

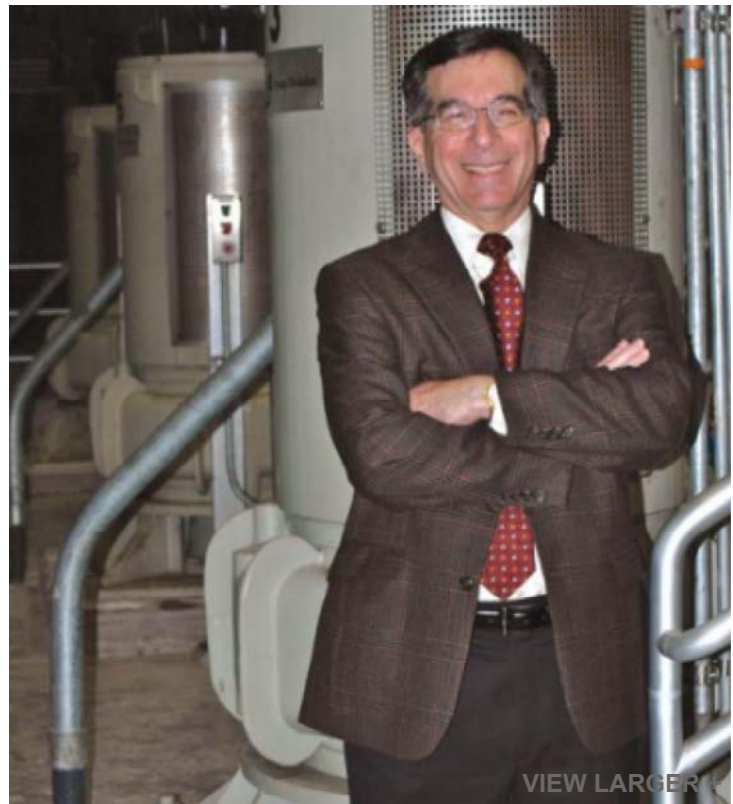
"The NACWA Public Information & Education Awards honor agencies for their inventive efforts to educate the public on the effects of wastewater treatment and pollution control on the environment, and we are honored to be recognized. We also encourage all Rhode Islanders to follow Mr. Can's lead: when you see a Grease Beast, cool it and can it," said NBC Executive Director Ray Marshall.

Mr. Can Program

The program was the concept of NBC staff and realized by Rhode Island native Rafael Cuello.

The campaign includes educational materials and an animated video in English and Spanish.

"Mr. Can is the NBC's grease-fighting superhero who vanquishes the evil Grease Beasts, villains made from a combination of grease, oils, and fats produced by cooking, and disposable wet wipes (like baby wipes, cleaning wipes, and sanitizing hand wipes)," said NBC in their press release.



Ray Marshall

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#17

Forbes Features RI's "Bangle Billionaire," Alex and Ani Founder Carolyn Rafaelian

It is not often a Rhode Island business leader scores the cover of Forbes may be never before that a Rhode woman took home the honor.

It is not a little blurb. Forbes ran a page feature in its June issue titled Alex And Ani Founder Carolyn Rafaelian Built An American Jewelry Empire

The Rafaelian feature was part of cover story, "The Richest Self-Made"

Solar-friendly bills send developers scrambling for big, open spaces

By **Alex Kuffner**

Journal Staff Writer

Posted Mar 16, 2018 at 12:01 AM

Updated Mar 16, 2018 at 12:54 PM

PROVIDENCE — Until recently, solar power was a bit-part player on Rhode Island's renewable energy scene. All the attention was focused first on land-based wind turbines, like the trio on the Fields Point waterfront in Providence, and then the offshore wind farm completed last year near Block Island, the first project of its kind in the United States.

Apart from an East Providence solar farm on a capped landfill, projects harnessing the sun's energy were generally less than one megawatt in size and largely confined to rooftops and commercial sites like the Quonset Business Park in North Kingstown.

But the passage of a series of solar-friendly bills by the General Assembly has sent developers scrambling to find big, open parcels of land in rural areas of Rhode Island for vast fields of sleek, shiny photovoltaic panels that can number in the tens of thousands.

"The overall cost of developing particularly large-scale projects has decreased dramatically over the last few years," says Rhode Island energy commissioner Carol Grant. "What might not have seemed attractive three years ago can now seem very attractive and very competitive."

In one sign of how attractive the industry has become in Rhode Island, the number of solar companies authorized to do business in the state has jumped from just six in 2014 to 48 today, according to Grant.

Driving solar's growth are a number of state laws governing local taxes, interconnection standards and permits, but there have been two main programs that are attracting developers to Rhode Island.

The first is net metering, a way of offsetting electric bills with renewable energy that is traditionally installed at the same location where usage occurs. The law was enacted in 2000 and has been expanded over the years.

The key change came in 2014 when the General Assembly approved "virtual" net metering, allowing the offset for renewable energy systems installed at a different location from where the power is used.

The amendment recognized the difficulty of building large solar or wind projects in densely-developed places like Providence. It made possible, for example, the Narragansett Bay Commission's use of power from wind turbines installed in Coventry.

The original amendment offered the option to state and quasi-state agencies, municipalities and public schools. It has since been expanded to nonprofits, hospitals, the federal government and private schools.

The second major initiative is the Renewable Energy Growth Program, which took effect in 2015 and in which developers can apply for long-term contracts to sell their power to National Grid, the state's main utility. Prices are set by a state board and adjusted for technologies and scale.

The program targeted 160 megawatts of installed capacity by 2020. Last year, it was extended to 2029 with an additional 400 megawatts.

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https://www.ricentral.com/narragansett_times/news/local_news/ocean-s-harvest-rhode-island-celebrates-quahog-week/article_775b6858-3426-11e8-b3a0-9fe65d2177ed.html

Ocean's harvest: Rhode Island celebrates Quahog Week

By KENDRA GRAVELLE Mar 30, 2018



MICHAEL L.STULTZ

PROVIDENCE—Gov. Gina Raimondo, Sen. Jack Reed, Congressman Jim Langevin, the Rhode Island Department of Environmental Management and several others from the restaurant and fishing industries gathered Monday at Save the Bay to celebrate a little mollusk with a big reputation.

"Like Rhode Island, the quahog may not be very big, but it packs a great big punch," Janet Coit, director of RIDEM, said during the kickoff event to the third annual Rhode Island Quahog Week.

The week-long event will celebrate the quahog as a staple of the local food economy and a symbol of the state's fishing heritage.

Quahogs have a rich history in the Ocean State, and their popularity continues to grow. Over 22 million quahogs were harvested last year in Narragansett Bay at a value of over \$5 million.

"But that \$5 million is leveraged and multiplied by our restaurants, by our local businesses, by our universities," Reed said Monday. "So we're creating, not just a commodity, we're creating a restaurant industry, a tourism industry—that's why it's so critical."

As the fishing industry—and by extension the restaurant and tourism industries—continue to flourish, the health of Narragansett Bay is crucial.

"It is extraordinary how much progress we have made cleaning up the bay," said Coit, the bay glittering outside the window behind her.

Due to cleaner water, areas of the bay that have been off-limits to shellfishing for some seven decades were reopened last year.

"We're continuing to contemplate increasing further up into the northern part of the bay areas for shellfishing," Coit continued, "and that is directly due to the tens of billions of federal dollars, state dollars, a strong clean water act and the work of DEM and others."

Reed echoed that. He explained that in the \$1.3 trillion federal omnibus spending package passed last week, over \$1.69 billion was included in the clean water state revolving fund.

"That means an increase of \$300 million from last year," he said. "That will give [Coit] and the governor and local officials more resources to keep the bay clean and make it cleaner."

Another \$5 million was added to the Southeast New England Estuary Program, which is doing targeted research in Narragansett Bay.

Langevin also credited the efforts of Save the Bay and the Narragansett Bay Commission for ensuring a clean bay.

"Over the years, through the leadership of many, many people, we've been able to make significant improvements in the water quality of the bay," Reed added. "But ultimately, we have to salute the fishing industry."

There are over 1,200 active commercial fishers in Rhode Island, and around \$200 million is generated in annual sales through the commercial fishing industry.

"It's important that we support fishers in Rhode Island," Raimondo added, just before officially declaring Quahog Week. "It's important that we make this a success."

Twenty-two restaurants this week will offer special menu items featuring native clams, including Coast Guard House, George's of Galilee, Proof, Trio and Matunuck Oyster Bar.

"[Quahog Week] continues to grow every year," Raimondo said, "but I think it's because it brings together so many things that are just core to who we are as Rhode Islanders."

All around Save the Bay Monday, restaurants from across the state dished out helpings of chowder and various quahog preparations. For Perry Raso, the kickoff event was an opportunity to champion the booming shellfishing industry.

"What I'm doing here is I'm connecting with other people that support the shellfish industry, talking about progresses that we've made and progresses that we can aim for," added Raso, owner of Matunuck Oyster Bar.

In between doling out servings of sautéed littlenecks and chourico to visitors, Raso paused briefly to consider the role quahogs play in the state.

"Quahogs symbolize Rhode Island's coastal community," Raso said as hungry Rhode Islanders lined up by the table. "And the coastal community pretty much symbolizes Rhode Island."

DEM issues non-contact advisory for Seekonk River after sewage overflow

By:

- [Jacob Spencer](#)

○

Posted: Apr 24, 2018 03:19 PM EDT **Updated:** Apr 24, 2018 03:20 PM EDT



PROVIDENCE, R.I. (WPRI) -- The Rhode Island Department of Environmental Management (DEM) is urging the public to avoid contact with the Seekonk River after a sewage overflow.

According to an advisory from the DEM, officials recommend that anyone who was in contact with the Seekonk River should wash their hands before drinking or eating. The advisory is in effect until the end of the day on Thursday.

Officials learned about the sewage overflow after the Narragansett Bay Commission learned that approximately 215,000 gallons of sewage entered the Blackstone River over a 15-hour time frame due to an apparent blockage.

Commission crews were able to disinfect a portion of the discharge with chlorine and stopped the overflow at noon on Monday. The Pawtucket Water Supply board conducted a water line flushing which increased the amount of overflow.

On Tuesday, the Commission notified the DEM staff a second, 4-hour, sewage overflow which was estimated to be about 65,000 gallons. This time, the overflow entered the Blackstone River in Central Falls and ended at about 1 a.m. Tuesday morning.

Tuesday's overflow was also caused by a water line flushing by the Pawtucket Water Supply Board which exceeded the capacity of the Commission's combined sewer system.

The DEM is currently investigating the incidents and believes that both spills have been flushed from the Blackstone River. The DEM added that shellfishing in the Narragansett Bay will not be impacted by the incidents.

R.I. urges caution after sewage flows into Seekonk River

By **Alex Kuffner**
Journal Staff Writer

Posted Apr 24, 2018 at 2:19 PM
Updated Apr 24, 2018 at 6:07 PM

PROVIDENCE, R.I. -- The state Department of Environmental Management is cautioning people to avoid contact with the Seekonk River after untreated sewage flowed into the river Monday and early Tuesday.

Anyone that does come into contact with the river should wash their hands before eating or drinking, the DEM recommended in an advisory released Tuesday afternoon. The advisory will remain in effect until Thursday, April 26.

The sewage was released in two incidents in Central Falls from the Narragansett Bay Commission's treatment system into the Blackstone River. As it flows down river, the Blackstone turns into the Seekonk, which in turn enters the Providence River and Narragansett Bay.

The first overflow incident was due to a blockage and happened over 15 hours ending at noon on Monday and resulted in about 215,000 gallons of sewage entering the river system. Crews with the Bay commission were able to disinfect some of the discharge with chlorine.

The amount of overflow was high because of water-line flushing conducted by the Pawtucket Water Supply Board, according to the DEM.

A spokeswoman for the Bay commission said that the flushing dislodged a clump of rags that may have been stuck to a side of a pipe or some other part of the system. The clump blocked the pipe and caused sewage to overflow.

"It was an out-of-the-ordinary occurrence," said Jamie Samons. "It wasn't the result of a system failure."

Line-flushing by the water supply board was also the cause of the second overflow incident, the DEM said. That one occurred over four hours ending at 1 a.m. Tuesday. It resulted in 65,000 gallons of sewage entering the Blackstone in Central Falls. The water used in flushing the lines exceeded the capacity of the Bay commission's combined sewer system.

The Bay commission sampled water in the vicinity of the first incident on Monday, finding elevated levels of fecal coliform and enterococci downstream. More sampling was conducted around the area of both overflows on Tuesday, but results had not yet come in by the late afternoon.

The DEM is investigating both incidents. The agency said that based on previous flow studies, both spills have already been flushed from the Blackstone.

The spills will not impact shellfishing in Narragansett Bay, according to the DEM.

DEM: Avoid contact with water in Seekonk River

by THE ASSOCIATED PRESS

Wednesday, April 25th 2018



PROVIDENCE, R.I. (AP) — A Rhode Island environmental agency is recommending caution around a local river following a sewage overflow.

The Rhode Island Department of Environmental Management is advising the public refrain from water contact with the Seekonk River because more than 250,000 gallons of raw sewage spilled into the Blackstone River. The Seekonk River is downstream of the Blackstone River.

The first sewage overflow happened Monday in Central Falls as a result of a blockage. A second overflow of 65,000 gallons was reported on Tuesday by the Narragansett Bay Commission and lasted four hours.

The department is investigating both overflows and is advising hand-washing to anyone who comes in contact with the river's water until sundown Thursday.

Crews have disinfected portions of the Blackstone with chlorine.

The spills will not impact shellfishing in Narragansett Bay.

An open letter to Providence Mayor Jorge Elorza on privatizing our water supply

[April 25, 2018](#) [Mikaila Mariel Lemonik Arthur](#) [Uncategorized](#) [0](#)



Dear Mayor Elorza,

On Monday night, April 23, 2018, you were a guest at my neighborhood association’s annual meeting, where you spent a few minutes summarizing your priorities for our wonderful city and shared home. One of the priorities you spent a lot of time on was the idea of **privatizing** (I believe you called it “**monetizing**”) our water supply. You said this was needed not only to bring in revenue, but also to serve as a bargaining chip in conversations with the city’s pensioners. I am writing to outline my views, widely shared by my neighbors in attendance at the meeting, about why this is the wrong approach on all fronts: it is a plan that does not make sense economically, does not make sense morally, and does not even make sense logistically.

Water is the most essential stuff of life. Without water, the average person cannot survive more than three or four days, or less if it is particularly hot. Dirty or polluted water, as the case of **Flint** demonstrates so clearly, causes extreme peril to human health. We in **Providence** are blessed with an abundant, clean source of water in the **Scituate Reservoir**—a source created only through imposing suffering and displacement on Scituate residents a century ago. Nearly 1,200 buildings were destroyed and several people killed themselves from the trauma of losing their homes. They went through this suffering in service of the public good. It dishonors their memory to profit from the consequences of their trauma.

In the present day, cities that have privatized or monetized their suffering have come to regret it, as private enterprises take advantage of the opportunity to seek profit on a necessity of life. In **Oxford**,

Massachusetts, for example, town members raised millions of dollars to buy their water supply back from the private company **Aquarion**, and their lobbyist went as far as to pull the fire alarm at a town meeting ([according to the Worcester Telegram](#)) to disrupt voting on the repurchase.

While you claim that such a move could raise money for the city without increasing water rates, this is untrue. National data compiled by [Food and Water Watch](#) found that privately owned water companies charge 58 percent more, on average, than public utilities do, and rates at privately owned companies have increased on average at three times the speed of inflation. This is in part because privately owned companies must make a profit for their shareholders or owners, and in part because privately owned companies have—by definition—higher costs, such as corporate taxes and higher borrowing rates. Perhaps a contract could keep costs down here in Providence while increasing them even more on water customers beyond the city limits, but if that's the solution why not seek it without adding a private intermediary? Privatization also tends to lower water quality and maintenance, even when good accountability measures are built into contracts. This is in part because it is much more difficult for a city to enforce contractual provisions than it is for that city to simply supervise a component of its own municipal government. (Notwithstanding your reference at the meeting to **Providence Water** as a quasi-governmental agency, it is nothing of the sort.) Indeed, even a transfer to the **Narragansett Bay Commission** would present such problems, given NBC's status as an actual quasi-governmental agency with no additional oversight beyond the 19 members of its board, of whom only two are appointed by Providence.

Like all cities, Providence has its financial challenges, and you, Mayor Elorza, are justifiably proud of the balanced budget and lack of tax increases you've maintained. But many people in our city could afford to pay more. A Providence homeowner with an owner-occupied home assessed at \$1 million would pay \$18,800; a home assessed for the same value in **East Greenwich** would result in a payment of \$23,660. As a Providence resident, I would rather see those of us who can afford it pay our fair share—not for our most vital resource to be pulled out from under us. And it is that much more upsetting to see you suggest that this path must be taken as part of a process of demanding concessions from retired people. I say this as a Providence resident whose only personal or family connection to the pension fund is as a taxpayer.

Your forebears as mayor made mistakes in underfunding our city's pension liability. Those mistakes were mistakes on the part of the city government—pensioners held up their end of the bargain, working hard their whole lives at lower pay than they would have received in the private sector in return for the promise that they would have enough to live on in the twilight of their lives. They should not suffer because of the mistakes made in the past. And our children should not face a future of suffering because of the mistake you plan to make by “monetizing” (privatizing) our precious water. Selling off our water is the same kind of short-term thinking that caused the pension crisis. It can only be solved with a long-term perspective that emphasizes the health and future of our amazing city. Keep the future in mind, and don't let your legacy be the destruction of our water supply.

Opinion

My Turn: Steve Laffey: Don't let them steal your water system

By Steve Laffey

Posted May 8, 2018 at 6:06 PM

They never stop. Politicians, I mean. They always try to steal from taxpayers, especially if 1) the taxpayers aren't *their* taxpayers 2) those "other" taxpayers aren't paying attention and 3) the politicians can gain a lot of money while each taxpayer only loses a "little."

Nothing shows the scheming nature of these wicked people more than the attempt by Providence Mayor Jorge Elorza and his comrades to steal the assets of the Providence Water Supply District (PW) from the residents of the 13 surrounding cities and towns.

I thought we had put an end to this. I alerted residents when I was mayor of Cranston and wrote a definitive Commentary piece ("R.I. about to get hosed by Providence pols," April 13, 2008). But it seems to be time for a refresher.

Ten years ago, Providence could have fixed its pension system. Yes, some city workers and retirees would have taken a hit. But Providence has always avoided the truth, especially on its giveaway pensions, which have enriched a few at the expense of the many. Those pensions will force Providence to declare bankruptcy in the near future.

Mayor Elorza, instead of facing the truth, suggests stealing money from the taxpayers of other cities to help pay for unsustainable Providence pensions, through the sale of PW.

Let me review why such a sale would be both illegal and immoral.

For starters, the City of Providence does not own PW. It is owned by the ratepayers of Cranston, Johnston, North Providence and other Rhode Island communities (60 percent of the state's taxpayers). This has been decided in court.

The 1983 case, *Roberts v. Providence Water Supply Board*, resulted in a ruling that the City of Providence ripped off the Water Board by transferring about \$26 million in today's dollars to the city's general fund.

In 1988, in Order 12796 Public Utilities Commission Docket No. 1900, we find that Providence hadn't issued general obligation bonds to fund Providence Water since 1971! The PUC ended with this: "Thus it appears from the state of the evidence that the ratepayers, as distinct from the taxpayers of the city of Providence, have made the principal contribution to acquire the Board's system."

So, 30 years ago, it was decided that Providence did not legally own PW! After 30 more years of depreciation, 30 more years of ratepayers putting in all of the money for the system, 30 more years of the City of Providence not issuing general obligation bonds to pay for the system, what is Mayor Elorza's legal case today?

Rhode Island's evil politicians never stop trying, though. And today, they still use a bald-faced lie — "water rates would not have to increase" — to promote their case.

Let's assume some entity was stupid enough to deal with Rhode Island's corrupt political system and pay, say, \$500 million to buy the water system. It would certainly need a return for its investors. A low 10 percent rate of return would be \$50 million. Even with a cost saving around 20 percent (which seems very high) — say, \$11 million of savings — rates would have to go up \$39 million, or 84 percent!

Those who suggest otherwise are: A) stupid or B) in on the con game, hoping ratepayers will not pay attention.

Gov. Gina Raimondo appears to be B, in on the con game, as shown by her recent appointment of the son of the state Senate President Dominick Ruggerio (also B) to a seat on the Narragansett Bay Commission. The commission is trying to steal the assets of 60 percent of Rhode Islanders by buying the PW.

It is up to the 60 percent of Rhode Islanders who are the ratepayers to decide whether they want to be duped or not.

Steve Laffey (stevelaffey.com) served as mayor of Cranston from 2003 to 2007.

Raimondo picks Ruggerio's son to commission mulling purchase of Providence water system

By Katherine Gregg
Journal Political Writer

Posted May 1, 2018 at 12:04 PM
Updated May 1, 2018 at 10:59 PM

PROVIDENCE, R.I. — Gov. Gina Raimondo has landed in the center of the revived debate about the potential sale of the Providence water system to bail out the city's teetering pension system by appointing the Senate president's lawyer-son to a key position.

On Wednesday night, the Senate Committee on Environment and Agriculture has a two-part agenda.

Item one: a confirmation hearing for Senate President Dominick Ruggerio's son, Charles Ruggerio, to a seat on the 19-member Narragansett Bay Commission to which Raimondo appointed him.

Item two: a hearing on this year's version of a controversial bill to allow the Narragansett Bay Commission to acquire the Providence water system, without scrutiny by the state's Public Utilities Commission of the potential cost and the resulting impact, if any, on rates paid by customers of the city-run water system.

The Providence Water Supply Board, mostly from its Scituate Reservoir, supplies water to about 60 percent of the population of Rhode Island, either by direct sales to customers or via wholesale agreements. Mayors are already screaming.

"Here we go again," said Rhode Island Republican Chairman Brandon Bell. "Another ridiculous scheme to bail out the City of Providence by increasing the water bills of customers across Rhode Island. To make the idea more appealing to State House politicians, Narragansett Bay Commission is now involved.

"Providence and State House politicians will love this idea. Providence politicians get bailed out of the mess they have created in their own city and State House politicians will have an even bigger pot of money from which to scoop at the Narragansett Bay Commission at budget time. Unfortunately, the average consumer will get stuck paying higher bills."

NBC chairman — and former House power-broker Vincent Mesolella — told WPRO radio talkshow host Gene Valicenti on Tuesday that he thinks the commission could produce \$300 million for this long-sought acquisition "without causing a rate increase."

"I don't think our board would be averse to paying more if it would not impact rates," Mesolella added. (PUC Chairwoman Margaret Curran has now sent Mesolella a letter asking him to "identify the source of funds" to which he alluded, noting the PUC has an obligation to ensure NBC's rates are not already "excessive.")

(Commission spokeswoman Jamie Samons later said all minutes of NBC discussions about this potential purchase — and the legislation — are sealed under an Open Meetings Law exemption for discussions about "the disposition of publicly held property wherein advanced public information would be detrimental to the interest of the public.")

Mesolella told Valicenti he has no direct conversations with House leaders, but "I do believe there is strong support in the Senate for the transaction. I've had numerous discussions with the Senate president and [his] staff."

Asked why Raimondo chose Ruggerio's son for this appointment, Raimondo spokesman Josh Block said: "Charles cares deeply about our state. He is a dedicated public servant and accomplished attorney with extensive experience working with Rhode Island municipalities and small businesses. He will be a strong addition to the NBC."

Her stance on the legislation: "The Governor is open to the concept and looks forward to seeing further details of any potential proposals as they continue to be worked out," Block said.

Charles Ruggerio, a one-time field representative and legal counsel for a Providence arm of the Laborers' International Union known as Public Employees Local Union 1033, doubles as Providence's \$123,414-a-year deputy city solicitor, and the labor and employment counsel for the city School Department.

His appointment to the Narragansett Bay Commission comes as Providence Mayor Jorge O. Elorza is once again advocating the sale of the Providence Water Supply Board's assets as a way of raising hundreds of millions of dollars that could go toward paying down the city's billion-dollar-plus retirement fund deficit.

Emily Crowell, Elorza's acting chief of staff, told The Journal that "preliminary conversations" are ongoing between the city and the Narragansett Bay Commission.

The Senate bill up for a hearing on Wednesday enables the Narragansett Bay Commission to acquire water districts, meaning it could be used for other water districts besides the Providence Water Supply Board. It would also exempt costs related to the acquisition from PUC review, though rate changes after the acquisition would require PUC approval.

Last year's city-backed bid to create a "regional water authority" was denounced by Democratic House Speaker Nicholas Mattiello who said: "This legislation is not in the best interests of ratepayers. It does not have my support." He has taken no position on this year's legislation.

Cranston Republican Mayor Allan W. Fung, who is running for governor, was among the city officials raising alarms.

"It's no secret that the intent is to give Providence a one-time windfall to pad its failing pension plan," Fung told The Journal. "Just because Providence can't manage its own financial problems doesn't mean that the rest of its customers should have to bail them out."

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Riley: I Would Endorse a Sale of Providence Water Supply with Strict State Oversight

Tuesday, May 15, 2018

Michael G. Riley, GoLocalProv MINDSETTER™

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Selling municipal assets to fund needed projects can make perfect sense. In the case of Providence Rhode Island, the need to address and fund massively underfunded past obligations soon is critical to city survival. Here's why the sale makes sense.

PWS (Providence Water Supply Board) is a long-lived asset providing services to 75,000 ratepayers in and around Providence. There are several public and private sources of water around the state. This long-lived asset is well matched to provide upfront and continuous funding to shore up the Providence pension plans. It is logical to reduce annual funding costs of the pension system to allow Providence more flexibility in budgeting.

The best way to approach this solution is for the State of Rhode Island, through oversight laws, take control over Providence and then negotiate an asset sale deal with the Narragansett Bay Commission.

The State would require substantial city pension reform far beyond the minor reform that took place under Taveras in 2013. Elorza would be placed on the bench for a few years while the State negotiated these terms. Elorza and his current team are clearly not capable or worthy of handling this. Elorza has made zero



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progress in negotiating any reforms, despite several reports that he funded suggesting this “grand bargain” was critical.

Alternatively, under state oversight (re-org) overseers will have much more leverage to impose needed reforms such as requiring all future workers participating in hybrid or 401k type plans or reducing the current caps on retirement compensation. There are numerous ways to reduce future pension costs that don't hurt current workers and retirees.

There is ample evidence that an asset sale can work if the money raised is used judiciously. Obviously, the money must go toward paying off Providence pension debt. I would consider some pre-funding of the huge OPEB obligations. This asset sale will work if Providence can receive more than \$300 million. The likelihood of receiving that amount is well argued in the Elorza funded [MRV Valuation here](#).

And also counter-argued in this fabulous blog by [Johanna Harris](#).

Assuming \$300 million can be raised, and reforms are made after completing an independent forensic audit and restricting the money raised to reducing Providence's pension liability, then every Rhode Islander will benefit. The State revenue director can impose his will without an official bankruptcy and be in a superior bargaining position with the unions. The goal would be to make the city more financially viable and sustainable. The overseers could more efficiently address problems while avoiding the messy delays of union/mayor politics. It would be a big mistake to approve this sale for implementation by the Mayor and/or Council.

As Reason Foundation put it in 2015, combining asset sales with comprehensive, prospective pension reform are complementary strategies. Asset sales alone are an insufficient solution to long-term pension debt. Rather, they should be paired with prospective, structural reforms to pension systems—primarily shifting new hires away from defined-benefit pensions to defined-contribution, 401(k)-style plans that are more sustainable financially and reduce or eliminate the prospect for new unfunded pension liabilities. Otherwise, without structural reforms to unsustainable pension systems, at some future point pensions debts could easily rise again, and taxpayers would have nothing to show for the [asset sales/leases](#).

Who can argue with improving our state capital's finances not only temporarily with one-time fixes but rather combined with reforms that can only be only achieved through state oversight. It's time for our Governor to do whats right and avoid a hasty one time fix implemented by a fairly incompetent Mayor flush with new cash to do whatever he wants with it.



Michael G. Riley is vice chair at Rhode Island Center for Freedom and Prosperity and is managing member and founder of Coastal Management Group, LLC. Riley has 35 years of experience in the financial industry, having managed divisions of PaineWebber, LETCO, and TD Securities (TD Bank). He has been quoted in Barron's, Wall Street Transcript, NY Post, and various other print media and also appeared on NBC News, Yahoo TV, and CNBC.

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LIVE: Narragansett Bay Commission's Mesoella on Pursuing Providence Water Sale

Tuesday, May 15, 2018

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Vin Mesoella, Narragansett Bay Commission -- Providence Water Supply Legi...

Narragansett Bay Commission Chairman Vincent Mesolella appeared on GoLocal LIVE where he spoke to legislation pending at the General Assembly that would allow for the lease -- or sale -- of the Providence Water Supply.

Mesolella spoke to the conversation about the potential transaction having gone on for decades -- and what it would take for Providence and the legislature to move forward, and why he believes NBC would be well-suited to be the purchasing party.

Mesolella also addressed the issue of any potential costs for both non-Providence ratepayers as well as Providence ratepayers, and how as structured the actual purchase would not be passed along to the ratepayer, according to Mesolella.



Vin Mesolella

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#17

10 Babies Dead in RI in 26 Months, 2 New Near Deaths & Little Outrage

Twenty children were recently killed in Syria in a deadly gas attack. The images of the dead children sparked President Donald Trump to launch 59 Tomahawk missiles at a key military airport in response to the killings. Nearly 90 percent of Americans supported the American military response.

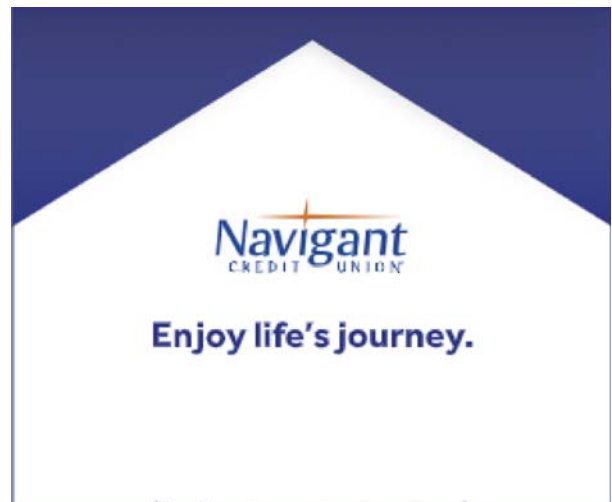
In Rhode Island, ten babies all under 18-months old, have died in the past 26 months, and at a recent State House hearing, it was disclosed by the state's Child Advocate that two new "near deaths" are now under investigation. The disclosure was made during a House Finance sub-committee meeting in which most of the subcommittee's

members were missing for the majority of the meeting.

For long segments during the sub-committee hearing, only Chair Teresa Tanzi was in attendance. This hearing was just the latest in a series that reviewed the deaths.

For those who have seen the recent legislative hearings reviewing the Child Advocate's report, emotion and outrage have been void in the discussion. The dialogue between legislators reviewing the deaths with state bureaucrats often sounded more like the narrative between cartoon characters Chip 'n' Dale — "after you, no-no, after you."

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Ratepayer protection key in sale of system

By **John Hill**

Journal Staff Writer

Posted May 2, 2018 at 9:30 PM

Updated May 3, 2018 at 10:48 AM

PROVIDENCE — A series of speakers from environmental, business and government groups told a state Senate committee Wednesday that though they weren't against the Narragansett Bay Commission taking over the Providence Water Supply Board, they had strong concerns over how a proposed Senate bill would let that happen.

The Environment and Agriculture Committee heard testimony on a bill submitted by the bay commission that would let it acquire or merge with water supply utilities. Though it wasn't mentioned in the bill, the main target is the Providence Water Supply Board, which provides drinking water for about 60 percent of the state.

Virtually every witness said an NBC takeover of the PWSB made policy sense. But they were similarly united in their worries about part of the bill that would forbid Public Utilities Commission review of how the purchase price would hit ratepayers.

Providence Mayor Jorge O. Elorza has said leasing or selling the PWSB could bring in between \$300 million and \$700 million that could help pay down the city's \$1 billion-plus retirement fund debt.

Those numbers concerned the PUC.

PUC Deputy Chief of Legal Services Cynthia G. Wilson-Frias noted that NBC Chairman Vincent Mesoletta has said the commission would structure a deal that wouldn't require a water-rate increase.

"The PUC is unsure how NBC could reasonably expect to purchase a \$300-million asset absent a rate increase of some kind," she wrote in a letter to the committee.

She also questioned whether Providence could legally profit from such a sale. Though it owns the PWSB, she said ratepayers financed it.

"Where ratepayers have already paid for the assets of the system, the effect of this legislation would be to make them pay twice for the same assets," she wrote.

After the hearing, Mesoletta said the no-PUC review of the purchase was not a deal breaker for the commission. He said \$300 million was the city's number, not the commission's, and discussions were in a very preliminary stage.

Both agencies are similar, he said. Both run plants that handle water and have pipelines under the streets of the cities where they operate. He said the commission's hope was to take three years to work it into the commission's existing operations to see where duplication could be eliminated.

"You've got a bad pipe in the ground. We've got a bad pipe in the ground," he said. "Why dig it up twice."

After that integration period was over, he said the savings would be determined and passed on to Providence.

Scituate Town Council President John F. Mahoney noted that the PWSB owns about 42 percent of the land in his town and payments from the board account for 21 percent of his town's revenue. He told the committee the town wanted to be sure a new owner would live up to those agreements.

State Rep. Robert Quattrocchi, R-Scituate, said he was against the bill as written, calling for clearer protections for Scituate.

"If it can be sold once," he said of the PWSB, "it can be sold again."

The legislation would also enable the commission to acquire other smaller water systems in the state, Sen. William J. Conley Jr., D-East Providence, noted, saying the issues of those instances needed to be considered, too.

The Rhode Island Public Expenditures Council and the Rhode Island Business Coalition echoed the PUC concerns.

Environmental groups said the bill needed clearer protections for the watershed land around the Scituate Reservoir.

Sheila Dormody, of the Nature Conservancy, said the concept of an NBC takeover the PWSB "is a good one," but added that didn't mean land protection should be overlooked.

The NBC bill essentially took a law that lets the commission acquire sewer systems and added water treatment facilities to it. Amy Moses of the Conservation Law Foundation said the bill as drafted was vague, lacking definitions of key terms.

"There are a lot of open questions," she said.

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Monday, May 07, 2018

Robert Whitcomb, Columnist

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*The time that hints the coming leaf,
When buds are dropping chaff and scale,
And, wafted from the greening vale,
Are pungent odors, keen as grief.*

--"Early May," by John Burroughs

The leaves explode on a day when it hits 80 for the first time in spring.

xxx

Providence should sell or lease the Providence Water Supply Board, assuming that the city has the legal right to do so. It would presumably get hundreds of millions of dollars with which to properly fund a municipal pension fund that's woefully underfunded because of outrageous giveaways to city workers by the outstandingly corrupt late Mayor Vincent Cianci. Republicans are, of course, blaming current Mayor Jorge Elorza for problems created by "Buddy" Cianci.



Robert Whitcomb, columnist

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Scituate Reservoir

A sale of the water utility could put Providence on its most stable financial footing in decades. That would be good for all Rhode Islanders. After all, the place is something of a city-state. Of course, we'd need assurances that water ratepayers would not be stuck with big increases in the process.

The fact is that the Water Supply Board supplies 60 percent of Rhode Island's population, mostly from the Scituate Reservoir. It's really a regional utility.

The big idea now is to sell or lease it to the Narragansett Bay Commission, which makes sense. The NBC, like the Water Supply Board, is in the pipe business. It has many of the same engineering concerns as does the Water Supply Board. Indeed, other regional water agencies in the state should eventually be wrapped into such a statewide authority to reduce duplication and cuts costs in such a tiny

jurisdiction, which has too many agencies, which slows decision-making and raises the cost of doing business.

For example, the powers of the Coastal Resources Management Council should be transferred to the Department of Environmental Management. And the state should cut, not add to, its list of licensing entities. An example of unneeded regulation and licensing is a bill in the General Assembly that would mandate licensing pet groomers, with annual licensing fees, of course.

To save money and increase efficiency, Rhode Island needs more regionalization and fewer layers of approval. Regulation must be rigorous but it should be clearly understood, expeditious and streamlined.

xxx

I have no problem with those speed-measurement cameras, and the fines that they spawn, that seem to outrage so many people. Why is it so irritating to have to obey laws meant to prevent deaths and injuries? So what if so many people are going dangerously over the speed limit (often while texting)? But a new friend of mine suggests that a better approach is not cameras but more speed bumps, in speeding-prone areas, especially near schools. But, he suggests, have the bumps not go the full width of the road, so that wide-bodied fire trucks can negotiate them smoothly.

For an example of what he's talking about, check out the road behind the big, 24-hour post office in Providence. It has a couple of the special speed bumps I'm referring to, presumably to let postal trucks, as well as fire trucks, drive down the street smoothly.

xxx

Lawmakers revive debate on Providence water supply sale

by ASSOCIATED PRESS

Wednesday, May 2nd 2018



Rhode Island lawmakers have revived a debate on selling the Providence water system to help the city's struggling pension system.

Providence's water supply, which mostly comes from the Scituate Reservoir, serves about 60 percent of Rhode Island residents.

One bill in the Senate would allow the Narragansett Bay Commission to acquire the Providence water system. Another bill in the House would allow the transfer to happen without scrutiny from state regulators.

State Republican Chairman Brandon Bell criticized the legislation Tuesday, calling it a "ridiculous scheme" to bail out the city of Providence by increasing people's water bills.

Democratic Providence Mayor Jorge Elorza says they plan to keep rate increases below past levels.

A Narragansett Bay Commission spokeswoman has backed up Elorza's statements.

Senate committee approves Charles Ruggiero for Narragansett Bay Commission

[May 2, 2018 Steve Ahlquist](#) Uncategorized [0](#)



Michael McCaffrey and Charles Ruggiero

“Any suspicion that this is a conspiracy that has something to do with the potential acquisition of the **Providence Water Supply Board** and our discussions as such, is a complete fabrication,” said former state Representative **Vincent Mesoella**, who serves as the chair of the **Narragansett Bay Commission (NBC)**. “It is strictly coincidental that this matter is being heard simultaneously to this legislation.”

Mesoella said he had never before appeared before a Senate committee to speak in favor of an appointment, but he felt it “appropriate because of an article that appeared in the **Providence Journal** front page.”

That [article](#) was written by Providence Journal political writer **Katherine Gregg**. She noted that on the same day the [Senate Committee on Environment and Agriculture](#) was hearing a bill to allow the Narragansett Bay Commission to acquire water systems such as the **Scituate Reservoir**, the committee was voting to confirm Governor **Gina Raimondo**’s appointment of Attorney **Charles Ruggiero**, son of Senate President **Dominick Ruggiero**, to the NBC.

Charges of nepotism are hard to refute when Mesoella says thing like, “I have known Charles since he was a young boy. I know his entire family,” but the bigger charge is that Charles Ruggiero’s new position

on the Narragansett Bay Commission will help the City of Providence to sell its water to prevent bankruptcy.

Charles Ruggiero told the Senate Committee that he was “particularly interested” in working at the Narragansett Bay Commission because representing employees at the there from 2006 to 2012 gave him “an enormous amount of respect for the organization, the people that work there and the vital work that they do.”

Central Falls Police Chief Colonel **James Mendoca** and Attorney **Aubrey Lombardo** spoke on behalf of Charles Ruggiero.

In what seemed an unusual event, Senate Majority Leader **Michael McCaffrey** (Democrat, District 29, Warwick) and Senate Majority Whip **Maryellen Goodwin** (Democrat, District 1, Providence), who sit on all Senate Committees *ex officio*, participated in the vote to confirm Charles Ruggiero. They left before the committee took up discussion of the bill.

The vote to confirm Ruggiero was unanimous.

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5/22/2018

Lombardi: Water supply sale should not bail out pensions

As mayor of the Town of North Providence, I have several reservations and concerns regarding the privatization of our water supply system. North Providence currently has 8,100 Providence Water and Narragansett Bay Commission rate payers. The Narragansett Bay Commission has an additional 75,000 rate payers utilizing their services throughout the State of Rhode Island. The citizens and business owners of my community, in addition to others, are directly responsible for the growth of assets and infrastructure owned by Providence Water. Any effort to sell those assets in attempt to bail out a severely underfunded City of Providence pension system is incredibly short-sighted and detrimental to the taxpayers of the State of Rhode Island.

To be clear, our community has not had any issues with Providence Water and its operations. I do not believe any other individual or commission could do a better job managing Providence Water. What is called into question is the notion of Narragansett Bay Commission borrowing hundreds of millions of dollars to purchase Providence Water under the guise that zero costs would be passed down to the taxpayers. Narragansett Bay Commission already has existing infrastructure issues, one being in the Town of North Providence. These issues will not disappear on their own, especially after the addition of this staggering acquisition debt. Regardless of what assets are being purchased, the only way this will be accomplished is via financing through water and sewer utility rates for all existing users. By selling off assets like Providence Water, the City of Providence is attempting to finance their poor management decisions on the backs of everyone else. What is the next proposal, the sale of Roger Williams Park?

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As an elected representative of residential and business taxpayers for North Providence, I will never support legislation that results in higher utility rates being passed on to those who contribute so much already. This proposal does nothing to benefit our town and will only result in future problems as we continue to seek financial support for our own education and infrastructure systems. Over the past few years the State of Rhode Island has worked extremely hard to grow its economy and decrease its unemployment rate. There has been an uptick in business growth and Rhode Island is starting to realize the creation of many new jobs. As someone who has worked in local, family-run businesses for my entire life, I am certain that this proposal will drastically increase the cost of doing

business in Rhode Island. I will not let the problems of another municipality lead us to grave financial consequences. My question is, if Providence Water is profitable, why sell? If it is not, why would Narragansett Bay Commission purchase it?

Until someone can clearly demonstrate how this acquisition benefits the Town of North Providence and other communities across the state that aren't tied to Providence's failing pension system, I adamantly oppose the acquisition of Providence Water by Narragansett Bay Commission and urge all elected officials, business owners and tax payers to do the same.

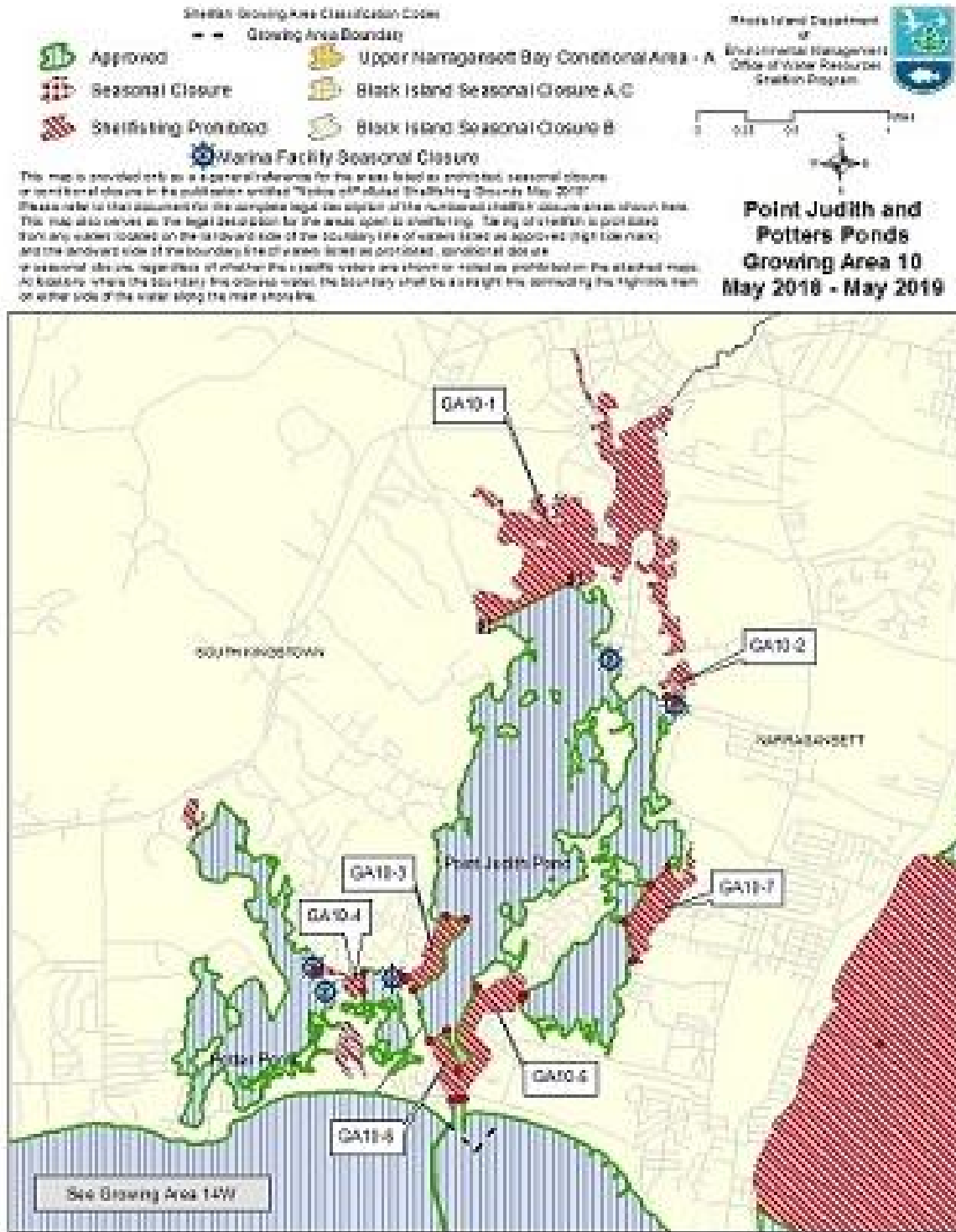
Mayor Charles Lombardi

North Providence

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DEM announces season closures of shellfishing areas

By **Ryan Belmore** - May 26, 2018



The Rhode Island Department of Environmental Management (DEM) announced yesterday that about 46 acres of Bluff Hill Cove on the eastern side of Point Judith Pond between Great Island and the Narragansett

shoreline are closed to shellfishing based on recent water quality monitoring results. This area must be closed because of unacceptably high bacteria levels. DEM is working with the Town of Narragansett to identify and resolve the causes of this closure.

Also announced yesterday are seasonal shellfish area closures – due to potential water quality impacts associated with marinas and mooring fields. The closures take effect at sunrise on Saturday, May 26, and will remain in place until Tuesday, October 10. The areas are within:

- o Bristol Harbor
- o Dutch Harbor Area, Jamestown
- o Fishing Cove, Wickford Harbor
- o Great Salt Pond and Trims Pond, Block Island
- o Potter Cove, Prudence Island
- o Sakonnet Harbor, Little Compton

Also, DEM is announcing that smaller marina closures in the southern coastal ponds, Fort Wetherill, and the Kickemuit River in Warren will also go into effect.

A year ago, [DEM announced that it was lifting rainfall related shellfishing restrictions](#) for parts of Upper Narragansett Bay for the first time in 70 years. Similarly, based on water quality evidence and shellfish tissue data it has collected, DEM is hopeful about being able to reopen the lower Providence River as a new conditional area within a year. DEM continues to work alongside partners to finalize the details of a conditional area and shellfish management plan to make that hope a reality. Such an action – which would allow for the harvest of shellfish from the River for the first time in more than 70 years – shows water quality improvements resulting from decades of intense effort to clean up Providence River and Narragansett Bay, most notably improvements by the Narragansett Bay Commission to reduce the discharge of combined sewer overflows.

“The effort to clean up Narragansett Bay has been monumental,” said DEM Director Janet Coit. “It’s taken longer than any of us would have liked, but it’s been undeniably steady. It’s required federal, state, and local government cooperation. And we should acknowledge and celebrate that the work we’re all doing is resulting in a cleaner Bay.”

Coit credited Governor Gina M. Raimondo's "coherent and progressive food strategy" – part of which was the creation of the Rhode Island Shellfish Initiative – as "being instrumental toward creating, sustaining, and growing markets for Rhode Island shellfish; retaining and expanding shellfish-related businesses; and prioritizing sustainable practices."

Launched in 2017, the [Rhode Island Shellfish Initiative](#) promotes the importance of shellfish to Rhode Island and as part of continuing state efforts to support a strong local food economy. Through it, state agencies, industry, academia, and community partners will further efforts to sustainably manage local shellfish stock, promote economic growth and jobs, and celebrate Rhode Island's unique food cultures. The Initiative consists of three focus areas and related actions:

1. FOOD: Create, sustain and grow markets for RI shellfish
2. JOBS: Retain and expand shellfish-related businesses
3. MANAGEMENT: Prioritize sustainable practices and continued research

Rhode Island is known for its food and diverse food cultures. The state's booming local food sector supports more than 60,000 jobs, and the local fishing industry has been, and continues to be, a vital part of the equation. Last year, more than 100 million pounds of seafood arrived at local ports – with an export value over \$1 billion. A significant contributor to Rhode Island's commercial fishing industry, wild harvest shellfish support the livelihoods of hundreds of fishers year-round and provide nourishment and enjoyment to Rhode Islanders and tourists. More than 28 million quahogs were harvested from Narragansett Bay and local coastal waters last year, contributing some \$5.5 million to the economy; a value that increases significantly as the product hits the market.

For more information on the shellfish harvesting reclassification, review the [annual notice](#) available at www.dem.ri.gov.

Have a thought on this? Comment below...

Privatizing Providence Water will hurt Rhode Island ratepayers, imperil crucial resource

May 29, 2018 Gillian Kiley Uncategorized 1



To protect ratepayers, safeguard a critical public resource and maintain public accountability, the **Rhode Island General Assembly** should reject two related bills that would allow the **City of Providence** to sell or lease the **Providence Water Supply Board (PWSB)** in order to infuse cash into the city's pension fund.

The bills, House bill **H8123** and Senate bill **S2838**, are moving through the General Assembly. S2838 is getting a hearing Tuesday, May 29, 2018, at 4:30 or later in the **Senate Judiciary Committee**, Room 313 of the State House. The House bill is before the Finance Committee and does not yet have a hearing.

Selling Providence Water, which supplies clean water to about 60 percent of Rhode Islanders, has come up repeatedly over the past 30 years. In that time frame, many municipalities worldwide have experimented with water utility privatization. Private or public-private partnerships typically cause water rates to rise by 59 percent, according to **Food and Water Watch**, and often leads to mismanagement, lower water quality, poor service and a loss of public control over a resource we cannot live without.

When municipalities in **Georgia, North Carolina, Indiana, Texas and Florida** privatized their water, corruption, environmental problems and a flood of customer complaints followed. Private water utilities set huge rate increases, failed to comply with federal laws regarding water contamination and used haphazard billing practices.

One of the companies interested in running PWSB, the French-owned **Suez**, ran the **Atlanta** system, where residents got brown tap water but the mayor got a Suez-funded \$12,000 vacation in **Paris**. Atlanta later reclaimed public control over its water, as did **Indianapolis** and dozens of other cities. That can be expensive. Indianapolis paid \$29 million to end its contract with **Veolia**. **Fort Wayne** paid \$67 million to buy out its contract from the firm **Aqua**. **Paris, France, saved \$46 million in the first year** after terminating its contract with private water companies Veolia and Suez.

If these two bills pass Rhode Islanders can expect higher bills. After privatization, water rates typically increase at about three times the rate of inflation. Market forces, not the public good, will drive decisions made by any entity controlling PWSB. Looking at water as a commodity rather than a critical public resource allows companies to justify higher rates, diversion – selling water for export, for example – or cost-cutting measures that could damage our water infrastructure and service. In **Dillon Beach, California**, where the private, investor-owned **Cal Water** owns the water system and sets the rates, residents ration water and pay more than municipalities with publicly managed water. Cal Water's CEO, on the other hand, was making \$2,759,796 in annual compensation by 2015.

Those interested in the deal have publicly acknowledged that rates are likely to increase. **Vincent Mesolella**, chairman of the quasi-public **Narragansett Bay Commission (NBC)**, which runs two water treatment facilities and manages sewers, wants the NBC to buy the PWSB. He said in a **GoLocalPro** interview on May 15 that water rates would likely rise after 3 or 5 years. Providence Mayor **Jorge Elorza**, who wants to fix the pension problem in an election year, has said there would be below-average rate hikes. It is unlikely legislation can enshrine that promise.

Ceding control of Providence Water via public-private partnership or to a private firm means there will be a lack of public oversight. It would be difficult to monitor how the system is maintained, or what corners are cut to ensure profitability.

Already, a lack of transparency is on display. Mesolella, in his interview, said the sale or lease had “nothing to do with the pension” problem and that the proposed sale or lease was “not a bailout.”

But the recommendation to sell or lease PWSB came from a 2016 analysis from the **National Resource Network (NRN)**, commissioned by Providence, that was designed specifically to help address Providence's financial problems. Page 83 of the report reads “**Revenue Initiative: Monetize PWSB, Proceeds to Retire Liabilities.**”

Mesolella's framing of the sale as disconnected from the pension problem is disingenuous at best and at worst an effort to mislead the public. According to a **Providence Journal** article, NBC spokeswoman **Jamie Samons** said merging NBC's operation and the water supply board has been a 25-year dream for Mesolella. What is at the root of that dream? Will it be a nightmare for Rhode Islanders?

We cannot solve decades of financial mismanagement and political pandering by putting water, critical to our health, economy and future, at risk. We cannot trust that a private entity will protect Rhode Islanders' interests, but we know there is a market incentive to raise rates and cut management costs. Research indicates that privatizing water increases inequality and hits low-income and marginalized communities especially hard. And we know that once the PWSB is sold or leased to a private utility, we will have no control over it.

And now, there are market incentives for private entities to take control of water, or to encourage weak water laws. By 2025, water scarcity is predicted to be a widespread problem. A private entity stands to profit from exporting clean water like that supplied by the **Scituate Reservoir**, that feeds PWSB. In **Maine, Michigan** and **California**, weak laws allow multinational corporations like **Nestlé** to mine water — to take billions of gallons, sometimes via expired permits, for just a couple of hundred dollars a year.

Rather than joining the scores of cities worldwide that have experimented with privatizing water and then paid millions to reclaim it as a public resource, Providence should abandon the idea of treating water like a commodity and keep its water public.

Here's a link to a petition to sign if you are opposed to losing this valuable resource:

https://petitions.moveon.org/sign/keep-the-providence-water.fb47?source=c.fb&r_by=592799

Former Indy mayor among Providence's advisors on water supply deal

By:

- [Dan McGowan](#)

○

Posted: May 31, 2018 01:48 PM EDT

Updated: May 31, 2018 02:48 PM EDT



PROVIDENCE, R.I. (WPRI) – The former mayor of Indianapolis and deputy mayor of New York City is one of several individuals advising the Elorza administration on its attempt to monetize Providence’s water supply.

Stephen Goldsmith, a Republican who served two terms leading Indiana’s capital city, testified before the Senate Judiciary Committee Tuesday in favor of a bill that would restrict the R.I. Public Utilities Commission or the Division of Public Utilities and Carriers from having “any jurisdiction, authority, or other power to approve, reject, review, or in any way affect” transactions involving water systems.

The goal of the bill is to create a cleaner process for Providence or other communities to enter into a sale or lease agreement for their water supply systems. A separate bill introduced in the Senate would allow the quasi-public Narragansett Bay Commission to purchase water systems.

“The possible value to both Providence ratepayers, Providence taxpayers and Rhode Island ratepayers is a more effective operation of an integrated system,” Goldsmith told the committee, referring to a transaction’s potential to improve efficiency with the water supply. “And when these systems come together, the savings, I’ve never seen one less than 10% on annual basis and I’ve seen some that are up to 40%.”

The website UpriseRI [was first to report](#) that Goldsmith is advising the city.

Goldsmith, who serves as director of the Innovations in American Government program at the Harvard Kennedy School of Government, is considered one of the nation's leading experts on operations within municipal government. He served as a deputy mayor of New York City under then-Mayor Michael Bloomberg in 2010 and 2011, and has been labeled a "pioneering privatizer of city services" by The Wall Street Journal.

The city is not directly paying Goldsmith, but it has hired Faegre Baker Daniels LLP, a prestigious international law firm with an expertise in utility transactions. Goldsmith is a former partner at the firm and is working as an advisor. City records show the firm was paid \$29,000 between last August and March.

The city has also hired Partridge Snow & Hahn LLP as an advisor on a potential water transaction. The Providence-based firm was first hired when former Mayor Angel Taveras was exploring a water deal and then retained by the Elorza administration. The city has paid the firm \$85,000 since last April.

Elorza has repeatedly said any proceeds generated from a water transaction would be directly deposited into the city's ailing pension system, which was just 25.28% funded as of June 30, 2017. The mayor has said the water supply is worth between \$400 million and \$700 million.

But the city has faced pushback from Democratic and Republican lawmakers, environmental activists and financial experts on its proposal. Some have labeled a transaction a bailout for Providence that would increase rates. Others have raised concerns about water quality. And even Elorza acknowledges the question of who actually owns the water system – Providence or Rhode Island ratepayers – is unclear.

But Elorza maintains the current bill, sponsored by Sen. Maryellen Goodwin and Rep. Scott Slater, would include many of the protections critics seek. The legislation stipulates that any rate increases in the first five years of a transaction could be no more than the average increase in the previous five years and the PUC oversight of the water system would be restored in year six.

Elorza has also said he has no interest in privatizing the city's water supply, and city officials acknowledge they've been in talks with Narragansett Bay Commission regarding a transaction.

The bill is not expected to come up for a vote in the House or Senate this year.

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Quality

M A G A Z I N E

Two Companies Share Their Secrets to Energy Efficiency, Sustainability

It's a green new world.



Taking a systems approach to drive sustainability in aviation provides synergies that enable less weight, less drag, and less waste. Source: United Technologies

May 7, 2018

Leah Pickett

Last year, the U.S. Department of Energy (DOE) introduced the Better Practice and Better Project awards to honor exceptional energy-efficiency solutions.

Charter Steel, Saint-Gobain, Johnson Controls, United Technologies, Nissan, and Harley-Davidson each received the Better Practice Award, which recognizes outstanding accomplishments in implementing and promoting the practices, principles, and procedures of energy management in industry. The Better Project Award, which highlights achievements in implementing energy-efficiency projects at individual facilities, went to C.F. Martin & Company, Eastman Chemical Company, Ingersoll Rand, the Narragansett Bay Commission, and the Victor Valley Wastewater Reclamation Authority.

All of the winners participate in the DOE Better Buildings' Better Practice Program and Challenge, which partners with American manufacturers and water utilities to improve energy efficiency and competitiveness in the industrial sector.

This year, *Quality* reached out to two of the awardees, Johnson Controls and United Technologies, to see how their multifaceted energy and sustainability initiatives are shaping up.

According to the DOE, Johnson Controls merited their Better Practice Award for establishing a company-wide Energy Hunt program, which resulted in a threefold increase in identified energy savings projects and helped the company meet its Better Plants Challenge goal two years early. United Technologies earned the same honor for creating the Natural Leader energy efficiency improvement program, which has saved millions in cumulative energy costs.



Absorbent Glass Mat batteries (AGM) are ideal for Start Stop systems due to their cycling performance. With \$550 million in investments between 2011 and 2020, Johnson Controls is implementing plans to expand AGM production capacity worldwide. Source: Johnson Controls

Johnson Controls

Since Warren Johnson invented the electric thermostat in 1885, Johnson Controls International Plc, currently headquartered in Cork, Ireland, has been committed to improving energy efficiency in buildings, including in their own manufacturing facilities.

As a longtime producer of automotive parts such as batteries and HVAC equipment for buildings, the company also is part of the U.S. Environmental Agency (EPA)'s Green Power Partnership program, which encourages organizations to use green power as a way to reduce the environmental impacts associated with conventional electricity use.

According to Clay Nesler, vice president of energy and sustainability at Johnson Controls, the company is increasingly purchasing green power, either directly from utilities or through renewable energy certificates (RECs), and installing solar panels in their manufacturing facilities. Nesler also views power purchase agreements (PPAs) as “very innovative models for being able to increase investment.”

But job number one for Johnson Controls in terms of energy, Nesler says, is the combination of energy productivity improvements and reducing waste—and then, based on reduced energy footprint, being able to more cost-effectively use renewable energy to balance the scale.



Johnson Controls' 12-volt Lithium-ion technology helps automakers to meet fuel efficiency and emissions regulations. Here, a worker assembles a li-ion battery pack at Johnson Controls' Holland, MI facility. Source: Johnson Controls

Reducing Energy Intensity (EI)

Upon joining the EPA Climate Leaders program in 2002, Johnson Controls set a 10-year goal to reduce greenhouse gas emissions by 25 percent. Six years later, they'd already reached their goal, reducing both carbon and energy, Nesler says.

With the Better Plants Challenge, which began in 2009, Johnson Controls made another 10-year commitment, this time to 25 percent reduction in energy intensity (EI), or energy consumption. This time, they reached their goal in seven years.

“A lot of people are concerned about making that second commitment, that they would have harvested all of the low-hanging fruit—lighting upgrades, fixing leaks and compressors—and that it will become increasingly expensive and more difficult to achieve,” Nesler says. “And that hasn't been our experience. We like to say that the low-hanging fruit grows very quickly.”

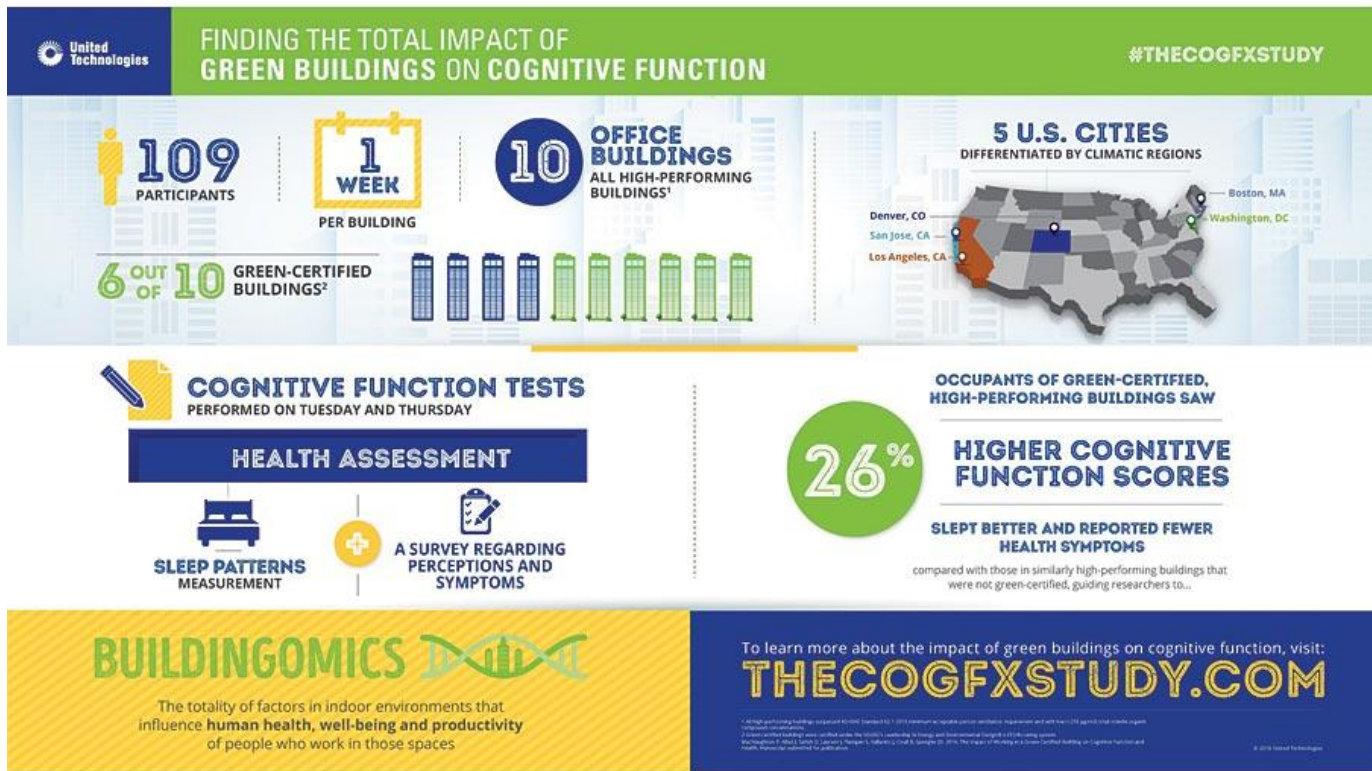
“Every couple years there's a new technology change,” Nesler continues. “We went from T12s to T8s, from T8s to T5s, and then to LED lighting in our plants; and there have been similar improvements for controls in manufacturing facilities and technologies for monitoring compressed air. We've really been able to maintain our savings.”

Improving Energy Productivity (EP)

Johnson Controls' current energy commitment, launched in 2016, is the EP100 (short for Energy Productivity 100). Headed by the company's Climate Group and the Alliance to Save Energy in the U.S., the EP100 includes a global portfolio of businesses that have agreed to double their energy productivity within 25 years, or increase it by 2.5 percent annually, by investing in power-saving equipment and technology. Johnson Controls was the first U.S. business to sign the EP100 pledge, Nesler says, and the company committed to double its EP by 2030.

As Nesler explains, EP is the inverse of EI: your revenue divided by your energy use, in gigajoules or BTUs or whatever unit you want to use.

“In 21 years, we're going to hit 50 percent energy intensity improvement, which is equivalent to 100 percent energy productivity improvement,” Nesler continues. “And this time, we're including our entire global footprint in the commitment.”



Researchers at Harvard University’s T.H. Chan School of Public Health and SUNY Upstate Medical University found that working in green-certified buildings was associated with higher cognitive function scores, fewer sick building symptoms, and higher sleep quality scores. Source: United Technologies

Focusing on Quality, Community

One of the company’s implementation models is the Energy Hunt program, which Nesler calls a “light version” of ISO 50001, the energy management standard. He adds that the process came in part from what Johnson Controls learned from one of its previous suppliers, Toyota, and from the best business practices already employed by Johnson Controls’ quality team.

“The tool we use for logging projects and tracking savings is the same tool we use within our quality teams for continuous improvement, and we use Kaizan processes to identify opportunities,” Nesler says. “We’ve been able to find a tremendous synergy between the quality practices we’ve applied in our plants and the energy and sustainability practices.”

At the same time, Johnson Controls is dedicated to helping smaller suppliers—particularly small and medium-sized enterprises that are women and minority-owned, Nesler says—achieve their energy goals.

“If you look at the environmental footprint of our operations—energy, water, waste, carbon—our upstream supply chain uses five times as much energy as our own internal operations,” Nesler says. “So we have 5-1 leverage in taking our best practices to our suppliers and helping them.”

“We’re doing exactly what Toyota did for us a decade ago,” he continues. “We go to our suppliers and offer them technical assistance, because we want them to be as efficient as possible. It puts them in a better cost position, makes them more competitive, and it stimulates jobs in their local communities, which are often

very close to our local communities.”

Leveraging Digitalization

That Johnson Controls manufactures computerized energy management systems and advanced HVAC building control systems also gives the company leg-up, as its own technologies power its facilities worldwide.

With Johnson Controls’ own energy metering and monitoring systems, Nesler explains, “we can collect all of the data and analyze it: we can compare energy use shift by shift, by day of the week, and across different parts of the plant; and we’re able to benchmark our energy use performance and compare to different plants in different regions.”

Nesler believes that the combination of a structured process with goals, accountability, key performance indicators, and the ability to report—essentially, the whole Plan, Do, Check, Act (PDCA) quality process from American engineer W. Edwards Deming—is essential to reaping the benefits of digitalization.

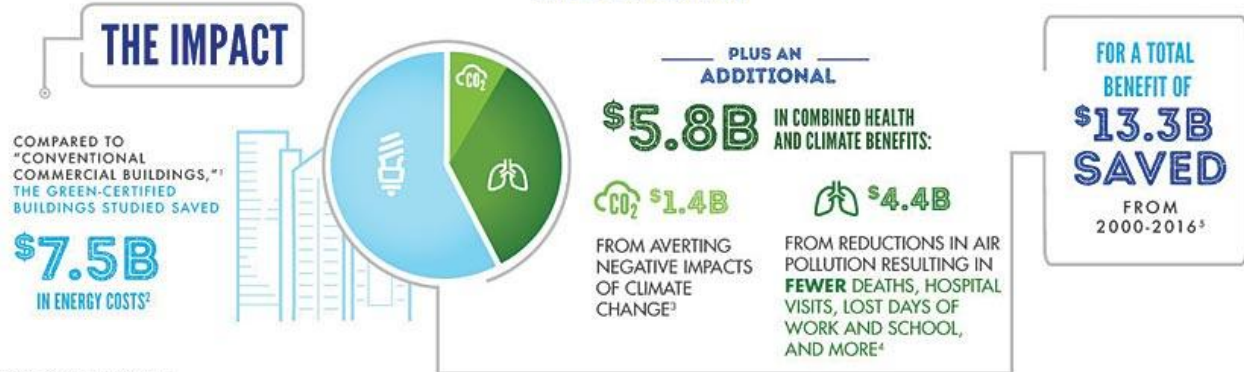
“Just collecting the data and putting it on a pretty dashboard and displaying it in the lobby of the plant will not result in energy savings,” Nesler insists. “You need to build it into a process—just like you build quality metrics into a quality process, or environmental metrics into an environmental management system.”

“Building data analytics and energy metering into an energy management system is the best way to maximize performance,” he continues, “and we’ve proven that to be the case across our global enterprise.”

United Technologies

In 1988, United Technologies Corporation (UTC) was among the first companies in the U.S. to set energy reduction goals in factories and to publicly declare tracked progress on those goals. According to John Mandyck, chief sustainability officer at UTC, tracking progress eventually led to more formal goal-setting, in order to reduce the environmental health and safety impacts of UTC’s manufacturing operations.

“The latest goal set on which we’re operating we can measure back to 1997; since that time, we’ve tripled the size of our business,” says Mandyck. “Over that same period, we reduced our water consumption by 62 percent and our greenhouse gas emissions by 33 percent. And given that track record, we can see that we’re on the trajectory to reduce our greenhouse gas emissions by 80 percent by 2050.”


HEALTHfx
 HEALTH CO-BENEFITS OF
GREEN BUILDINGS


1 2016 USD, LEED® buildings 2000-2016.
 2 Energy cost savings were calculated based on the prices for each energy type.
 3 Includes carbon dioxide, methane and nitrous oxide and their associated climate damages. These are economic benefits associated with avoiding the negative consequences of climate change – such as the spread of disease and coastal damage.
 4 Includes public health impacts from exposure to ozone and PM_{2.5}, including deaths, hospitalizations and asthma attacks avoided.
 5 The study analyzed LEED-certified buildings in the United States, Brazil, China, Germany, India and Turkey. This accounts for 82% of LEED buildings, and 30% of all green-certified buildings.
 MaxNaughton P, Cao X, Buonocore J, Cedeno-Laurent J, Spengler J, Bernstein A, and Allen J. *Energy Savings, Emission Reductions, and Health Co-Benefits of the Green Building Movement*.
 30 January 2018. *Journal of Exposure Science and Environmental Epidemiology*.
 Primary support for the study came from United Technologies and its UTC Climate, Controls & Security business.
 © 2018 United Technologies.

Over a 16-year period, Harvard researchers studied a subset of green-certified buildings in six countries: the U.S., China, India, Brazil, Germany and Turkey. Known as HEALTHfx, the study found nearly \$6 billion in combined health and climate benefits. Source: United Technologies

Making Business Sense

Headquartered in Farmington, CT with facilities worldwide, UTC researches, develops, and manufactures aerospace systems, aircraft engines, elevators, escalators, HVAC, and building systems, among other products. According to Mandyck, one of the keys to the company’s success is setting big, bold energy goals at the central, corporate level, and then allowing factory managers at the decentralized, local levels to develop their own strategies to achieve them.

“A couple of years ago, when announcing our goals for 2020, we declared that we would reduce our greenhouse gas emission by 15 percent over five years, or 3 percent a year,” Mandyck says. “We hold our factory managers accountable for this 3 percent per year reduction over a five-year period, but we don’t tell them how to do it. That leads to creativity and market conditions on what makes sense at the right place.”

“In some places we have factories employing renewable energy strategies that are cost-effective; in other places, we have factories changing out lighting and air compressors for more energy efficient devices within the factories,” Mandyck continues. “There’s no strategy we’ve found that works across all of our global operations. But the secret sauce that has worked for us is setting these big goals and allowing local management to find the best, most cost-effective ways to meet them.”

In addition, Mandyck says that UTC embraces renewable forms of energy where it makes sense at the local level and where it's cost-effective. For example, one of UTC's Carrier factories in France became the first in that country to sign a contract for 100 percent renewable power.

"In other places, we've tried to do solar and the paybacks haven't been so good," Mandyck explains, "So it's really on a case-by-case basis with what makes sense with the local geography."

"The money we use or the investments we use to lower our greenhouse gases comes from the same pot of money that we use for research and development, and for acquisitions," he continues. "So, it has to make business sense; and this is why we're really optimistic about the future of sustainability. We've seen that we can significantly grow our business while at the same time significantly reducing our greenhouse gas emissions, and in a cost-effective way."

Propelling Green Aviation

A big trend that UTC is reacting to and developing technologies for, Mandyck says, is a historic ramp in the aviation industry.

"We think we're in a big, connected world, but the fact of the matter is that less than 18 percent of the world's population has stepped foot on an airplane," Mandyck says. "And because of urbanization and rising global incomes, the forecast is that aviation will double in the next 20 years. And we look at that and we say, as one of the world's largest providers of aviation technologies, 'How can we provide technologies to accommodate that ramp in a more sustainable way?'"

According to Mandyck, UTC defines green aviation as comprising three essential components. The first starts on the ground by improving the energy efficiency of airports

"A large airport will use as much energy as a city of 100,000 people; they're very energy intensive operations" Mandyck explains, "So we look at ways to reduce energy intensity at airports through very high efficiency HVAC systems, or through very energy efficient elevator and escalator systems from our Building Systems groups that can help airports meet lower carbon goals."

The second component is reducing the aviation factory footprint, Mandyck says, and the third is greening aviation in the air. For the latter, UTC employs a three-pronged approach.

"First, what are the breakthrough technologies needed to accommodate this historic growth in aviation in a more sustainable way?" Mandyck says. "Our answer to that is new jet engine technology."

UTC has invested more than \$10 million to develop and bring to market the new Geared Turbofan jet engine, which reduces fuel burn by 16 percent, NOx emissions by 50 percent, and noise footprint by 75 percent. And Mandyck predicts that by 2050, "our jet engine onboard our customers' airplanes will save 15 billion gallons of fuel, which is enough fuel to go to Mars and back."

Second, the UTC Aerospace Systems Group holistically examines how it can reduce the weight of the components in its systems. "Because we know it's a simple equation less weight equals less fuel burn," Mandyck says. He gives the example of wing actuators: the mechanical devices that move the wing flaps on

an airplane. Previous technologies for wing actuators were pneumatically driven, but UTC made them electronically driven, thus eliminating the need for hundreds of pounds of cables, tubes, hoses, and oil on the aircraft.

Third, UTC investigates how it can make aircraft more intelligent, such as providing sensors that give pilots real-time data on what's going on with the plane outside of the cockpit.

One of those sensors, for example, senses headwinds. "So, if the aircraft moves into a flight pattern that has stronger headwinds than expected, the pilot has the ability to plot a different route—and use less fuel by literally finding a path of lower resistance." Mandyck says. "That's what intelligent aircraft are doing today, and what they'll do in the future."

Accelerating Green Buildings, Cities

Green aviation is one of three sustainability platforms at UTC. The others focus on green buildings and the future of food, though all three fit each of the technology platforms of the company itself and align with the company's overall goal of helping the world to urbanize in a more sustainable way.

"What we're seeing around the world—and that we don't often see or hear or feel in the United States—are two global megatrends that are fundamentally reshaping societies and economies in real time: population growth and urbanization," Mandyck says. "In the next 35 years, we're going to grow our global population 35 percent. By 2050, there will be more than 9 billion people on the planet, and nearly 70 percent of those people will live in cities. So, these trends have big implications for environmental sustainability and the ways that we can meet urbanization in a more sustainable way."

UTC was the first company to join the U.S. Green Building Council in 1993. Back then, that was the only national green building in the world, Mandyck says. Today, there are nearly 100.

"This is a global movement that is transforming real estate," Mandyck continues. "[UTC has] been in it and supporting it since the beginning and we continue to do so today, because we know green buildings are a big answer for how we can urbanize more sustainably."

Take UTC's Otis elevator brand. "Otis moves the equivalent of the world's population every three days, Mandyck says. "You need energy to send an elevator up, but it's going to come down by itself; we also know that gravity can be a source of free energy. [UTC was] one of the first companies to put regenerative drives on our elevators to capture the energy creating through gravity on the ride down and repurpose it to send the elevator back up—and in doing that, reduce elevator energy consumption by 75 percent."

UTC's focus on green buildings also extends to green cities, and thus, to the future of food. As the co-author of *Food Foolish: The Hidden Connection between Food Waste, Hunger, and Climate Change*, Mandyck is well-versed in this issue, and believes that UTC has a significant role to play in answering what he calls "one of biggest questions of our time," which is how to feed a growing population.

With increasing urbanization, people are moving farther away from their food sources; . But since UTC is a world leader in refrigeration technologies, Mandyck says that the company is exploring ways to make sure that more food gets from the farm to our forks—since less than 10 percent of the world’s perishable foods are refrigerated today.

“I believe the most sustainable way to feed the planet is to avoid the tremendous amount of food waste that we have around the world,” Mandyck says. “We grow and produce enough food to feed 10 billion people on the planet. We live on a planet of 7 billion, and only about 6 billion get enough food. So that 40 percent inefficiency is the food that is lost or wasted every day, and refrigeration technologies are a key way that we can extend the world’s food supply to feed more people.” **Q**

Recent Articles By Leah Pickett

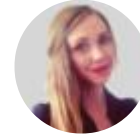
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5/9/2018

Blackstone Heritage Corridor to host guided bike rides

WHITINSVILLE, Mass. – The Blackstone Heritage Corridor’s Bikeway Ambassadors program will host several guided bicycle rides around the Blackstone Valley in May.

On Wednesday, May 16, volunteer Joe Nadeau will lead a ride from the River’s Edge Recreation Complex at 20 Davison Ave., Woonsocket, to the canoe and kayak launch at Sycamore Landing in Manville. The ride will also visit the Blackstone River Watershed Council/Friends of the Blackstone Environmental Education Center and meet the organization’s president, John Marsland, and learn more about accessing new bike trailers made possible by a grant from the Narragansett Bay Commission. This ride is 6.5 miles round trip.

On Wednesday, May 23, Volunteer Coordinator Suzanne Buchanan will lead a ride along the Burrillville Pedestrian Path, a 1.2-mile bike path that runs along the former New York, New Haven and Hartford Railway and connects the villages of Harrisville and Pascoag. The ride leaves from the Jesse M. Smith Memorial Library at 100 Tinkham Lane, Harrisville, and will also explore Duck Pond. This ride is 5.5 miles round trip.

All rides depart promptly at 6:30 p.m. Helmets are required.

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Bill to Privatize Providence Water Raises Objections

 ecori.org/government/2018/6/11/money-for-providence-water-raises-objections

June 11, 2018 June 11, 2018/ Tim Faulkner

Mayor says money needed to pay down pension liability

By TIM FAULKNER/ecoRI News staff

PROVIDENCE — Drawing comparisons to Flint, Mich., and other cities that have suffered from privatizing public water systems, environmentalists oppose the latest legislative effort to monetize the Providence Water Supply Board and its source, the Scituate Reservoir.

The Conservation Law Foundation, The Nature Conservancy, the Rhode Island Land Trust Council and Audubon Society of Rhode Island all raised doubts about changing ownership of the state's largest public water source. Without protection, the move threatens open-space land buffers and risks polluting the watershed and public drinking water, according to opponents of the idea.

Mayor Jorge Elorza recently made the annual mayoral Statehouse plea to monetize the city's public water system and real estate worth some \$400 million — all to pay down Providence's unfunded pension liability.

“What is clear, Providence owns a significant asset here,” Elorza said during a May 29 Senate hearing.

But opponents say the bill ([S2838](#)) doesn't prevent the sale of land that buffers the reservoir. The loss of the natural filter system could mean polluted water for the public, like what has happened in Flint, Indianapolis, Pittsburgh and Atlanta.

“The legislation doesn't contain protection for the land or the watershed,” said Amy Moses, director of Conservation Law Foundation Rhode Island.

Sheila Dormody of The Nature Conservancy suggested that the General Assembly hold off on any decisions until the Rhode Island Water Resources Board releases recommendations from a municipal water study commission.

Otherwise, Dormody liked that the legislation offers the potential to merge operations of drinking water, stormwater and sewage treatment, called integrated water management. In Rhode Island that single entity might be the Narragansett Bay Commission, the largest storm and wastewater treatment operator in the state.

“There are significant opportunities for cost savings but also for more substantial environmental benefits by doing all of those things together,” Dormody said.

Others objected to removing the state Public Utilities Commission from oversight of the transaction and future rate increases.

Sen. Paul Jabour, D-Providence, and other senators expressed favoritism toward the concept. Jabour called the Providence Water Supply Board “one of the few remaining assets that the city has” to pay down the city’s pension shortfall.

Elorza estimated that the \$1 billion pension obligation is about 30 percent funded. He insisted that the bill doesn't privatize the Scituate Reservoir.

“It simply authorizes a transaction,” Elorza said.

Opponents of the legislation fear that ratepayers would be forced to pay the cost Providence received for relinquishing the water system. Elorza noted that the bill capped a rate hike to no more than the total of increases during the past five years.

Elorza insisted that only management of the system would change, not the ownership of land. That management would have public oversight and be run by a fully regulated public utility to assure water quality and rate stability.

“None of this would be happening if Providence were not teetering on the edge of bankruptcy,” Elorza said.

The Senate bill was held for further study. A House bill was heard by the Finance Committee on June 6 and was held for study.

Featured

[Barrington Council Bans Several Single-Use
Plastics](#)



Lawmakers debate Rhode Island's \$9.5B budget

by BILL RAPPLEYE, NBC 10 NEWS

Tuesday, June 12th 2018

Lawmakers debate Rhode Island's \$9.5B budget. (WJAR)

AA

PROVIDENCE, R.I., (WJAR) — Rhode Island's \$9.5 billion budget is now up for debate among lawmakers, and scheduled for a vote on Friday. Leaders briefed members of both chambers on Tuesday about the budget, which became much healthier after revenue projections in May increased the amount of money lawmakers have to spend.

House Speaker Nick Mattiello told his members "no broad based tax increases and yet, we were able to restore a litany of things. "

He ticked off items such as restoring funds to the developmentally Disabled and hospitals. The budget increases the rate of pay for home healthcare workers by 10 percent, he said. And it extends the age for children under DCYF care from 18 to age 21. The budget saves money by eliminating 160 fulltime state jobs, that are currently unfilled.

It reverses the scoops from quasi-public agencies, making whole the Resource Recovery Corporation, Rhode Island Housing, and the Narragansett bay Commission.

The budget anticipates \$23.5-million from sports betting, even before a formula for the operation is put together.

Critics say the state will spend whatever it can get from taxpayers, regardless of the worth.

Mike Stenhouse of the Center for Freedom and Prosperity tells NBC10, "I call government the Beast. It just wants to grow and grow and grow."

He says looking at the budget from 16 years ago, and adjusting for inflation and population, "We're spending 37.7% more than we did over that baseline of 2001. Or two and a half billion dollars more than we should be spending.

The full House is scheduled to debate and vote on the budget plan this Friday, and then immediately send it to the Senate.

(<https://www.rimonthly.com>)

IS NARRAGANSETT BAY TOO CLEAN?

Fishermen complain that fussy bureaucrats have over-treated the bay and damaged their livelihood. Scientists say it's healthier than ever. Who's right?

June 21, 2018 by [Todd McLeish](https://www.rimonthly.com/author/toddmcleish/) (<https://www.rimonthly.com/author/toddmcleish/>)



(<https://images.rimonthly.com/wp-content/uploads/2018/06/narr-bay.jpg>)

Fishermen on day boats fishing for scup, the most dominant species in the bay during the summer. Facing page: an algae bloom in the bay. Photography by Michael Cevoli

Whenever lobsterman Al Eagles finishes fishing for the day, he scoops up a bucket of water from Narragansett Bay to wash down his boat. And every time he does so, he glances into the bucket to see what's in the water. In the past, he saw an abundance of tiny marine plants called

2/5/2019 Is Narragansett Bay Too Clean? - Rhode Island Monthly
phytoplankton, equally tiny animals called zooplankton, and occasionally something a little larger.

Lately, however, when he glances in that bucket of water, he sees nothing but water.

“There’s nothing swimming in it; there’s no life at all,” he says. “We’ve turned Narragansett Bay into a swimming pool, which is good for swimming but not good for the marine environment. It’s become a dead environment. It’s supposed to be murky with marine life.”

Eagles, a sixty-eight-year-old resident of Newport, and fellow lobsterman Lanny Dellinger of North Kingstown, are two of many fishermen concerned with how Rhode Island has changed the way it treats wastewater before sending it into the bay.

“It’s Chernobyl out there,” says Eagles, referring to the Russian nuclear plant that melted down in 1986 and left a wide area around it devoid of life. “It’s the same thing in Narragansett Bay.”

The idea that the bay could be — let alone is — too clean is highly controversial. Most people would agree that the decades of work and investment to reduce the volume of pollutants in the bay has been worthwhile and should continue. While the scientists who study the bay and its inhabitants disagree with many of the fishermen’s conclusions, the scientists acknowledge that they don’t have all the answers to explain what Eagles, Dellinger and their colleagues have observed.

The main culprit in what the fishermen see as a decline in marine life in Narragansett Bay is nitrogen. They say the wastewater treatment plants aren’t discharging enough of it.

Nitrogen is a naturally occurring element that makes up about 79 percent of the Earth’s atmosphere. Most fertilizers are made of nitrogen, and humans excrete several grams of it in their waste every day. In water bodies, nitrogen causes algae to bloom, much like it stimulates fertilized grass to grow. And when discharged in large quantities into Narragansett Bay from wastewater treatment plants, it can cause widespread algae blooms in the summer that often result in poor water quality that can suffocate marine life.

But algae is also the first step in the marine food chain. The larval stages of lobsters and other commercially important fish and shellfish eat these tiny plants. Without enough nitrogen being delivered into the bay to stimulate their growth, however, the microscopic marine creatures feeding on them will starve, and other aquatic life may avoid coming into the bay. That's what Eagles and Dellinger believe has happened as a result of what they consider an overreaction by state officials to a fish kill that occurred in Greenwich Bay.

When approximately a million fish, mostly menhaden, washed up dead on beaches in Warwick and East Greenwich in August 2003, it caused a public uproar. The governor and the General Assembly responded by establishing commissions to study what caused it, and scientists concluded that it was the result of a unique set of circumstances that included stagnant water, a neap tide, excess nitrogen and other factors. The only one of the causal factors that environmental managers could control was nitrogen levels, so the Environmental Protection Agency directed the state to impose regulations to reduce discharges of nitrogen from the state's wastewater treatment plants by 50 percent. Most of the reductions were mandated for treatment plants where effluent flowed directly into the bay, especially the Fields Point and Bucklin Point wastewater facilities operated by the Narragansett Bay Commission.

According to Thomas Uva, the commission's director of environmental science and compliance, the Narragansett Bay Commission spent \$44 million to modify its facilities to reduce the discharge of nitrogen from its two treatment plants by 80 percent, the target established by the Rhode Island Department of Environmental Management. The facilities use bacteria to break down the nitrogen and convert it to a gas that is released into the atmosphere. "We're basically taking the nitrogen out of the water," Uva says. "It's expensive to build and run, and it's very sensitive, so the process doesn't run well under some conditions. But we met our permit level goal and we're maintaining it."

Human Waste Continues to Impair Rhode Island Waters

[ecori.org/pollution-contamination/2018/6/20/human-waste-leaves-many-ri-waters-impaired](https://www.ecori.org/pollution-contamination/2018/6/20/human-waste-leaves-many-ri-waters-impaired)

June 21, 2018 June 21, 2018/ Jo Detz

Table 2 - Waters listed as impaired on the 2014 List with a new impairment added in 2016		
<u>Water Body Name</u>	<u>Water Segment ID #</u>	<u>Cause of Impairment Added</u>
Abbott Run Brook South & Tribs Unnamed Trib #3 to South Branch	RI0001006R-01B	Enterococcus
Pawtuxet River	RI0006014R-08	Enterococcus
Chipuxet River & Tribs, segment B	RI0008039R-06B	Enterococcus
Perry Healy Brook & Tribs	RI0008039R-19	Enterococcus
Queens Fort Brook & Tribs, segment B	RI0008039R-31B	Enterococcus
Canonchet Brook & Tribs, segment A	RI0008040R-04A	Enterococcus
Canob Brook	RI0008040R-23	Enterococcus
Lily Pond	RI0010047L-02	Enterococcus
Dundery Brook	RI0010048R-02	Enterococcus
Blackstone River, segment A	RI0001003R-01A	Iron
Blackstone River, segment B	RI0001003R-01B	Iron
Lake Washington	RI0005047L-04	Mercury in Fish Tissue
Silver Spring Lake	RI0010044L-02	Mercury in Fish Tissue
Silver Lake	RI0010045L-05	Oxygen, Dissolved
Bailey's Brook & Tribs	RI0007035R-01	Phosphorus (Total)
Maidford River, segment A	RI0007035R-02A	Phosphorus (Total), Turbidity

The 16 water bodies identified in this chart remain on the list from 2014 and have had one or more new impairments added in 2016. (EPA)

By FRANK CARINI/ecoRI News staff

In the latest report documenting Rhode Island's impaired fresh waters, 67 water bodies that weren't previously listed have been added, including Herring Brook, Mill Pond, and part of the Pawcatuck River.

The cause of impairment in 50 of those water bodies is enterococcus. Mercury in fish tissue was the impairment in the 17 other newly listed waterways, including Echo Lake (Pascoag Reservoir), Burlingame Reservoir, and Deep Pond.

However, bacterial contamination from enterococci, rod-shaped bacteria found in the human intestine and a good indicator of the presence of human waste, is the leading contaminant in Rhode Island's impaired fresh waters.

Of the 24 water bodies that remain on the updated list from 2014, 10 are impaired by the presence of enterococci. The impairments for the other 14 water bodies include iron, mercury in fish tissue, dissolved oxygen, phosphorus and copper.

Contamination from human waste — via cesspools, failing septic systems, overrun wastewater treatment facilities, and malfunctioning sewer infrastructure — animal waste, and other sources has defiled 60 of the state's 91 impaired waters and rendered them unable to meet federal

water-quality standards, according to the [latest report](#) from the Environmental Protection Agency (EPA).

Enterococci and fecal coliform levels are used as indicators of the presence of fecal material — human or animal — in drinking and recreational waters. Both indicate the possible presence of disease-causing bacteria and viruses. Such pathogens may pose health risks to people swimming or fishing.

Infections caused by pathogen-contaminated waters include gastrointestinal, respiratory, eye, ear, nose, throat and skin diseases, according to the EPA.

Besides possibly impacting public health, such contamination can degrade aquatic ecosystems and result in the closure of [shellfish beds and beaches](#). Drinking-water supplies can become impaired.

Documenting problems, improvements

To help remediate the state's impaired waters, Rhode Island's Department of Environmental Management (DEM) relies on something called the [Total Maximum Daily Load \(TMDL\)](#) — an enforceable document approved by the EPA every two years. This working document establishes the allowable bacterial contributions for Rhode Island's surface waters, provides documentation of impairment, and specifies the actions needed to reduce contamination.

The purpose of the TMDL is the “attainment of water quality standards” by the establishment of regulatory requirements and recommendations for municipalities and other stakeholders to address pollutant sources contributing to impairment. It encourages community-based approaches.

DEM has also updated its mapping tools to reflect the 2016 Impaired Waters Report, including the [Environmental Resource Map](#) and the [Stormwater Impacted Waters Map](#).

Rhode Island's [latest report](#) also has identified water bodies that can be removed from the list of impaired waters, because available monitoring data show that water-quality criteria are now being met.

Among the [25 water bodies](#) showing improved water quality after investments in pollution abatement infrastructure and practices are: Mount Hope Bay, Greenwich Cove in East Greenwich, Cedar Swamp Brook in Johnston, and the lower Woonasquatucket River in Providence, North Providence and Johnston.

Thermal discharges from the Brayton Point Station in Somerset, Mass., once the largest fossil-fuel burning power plant in New England, led to elevated water temperatures and reduced fish abundance in Mount Hope Bay, and inclusion on the [state's impaired list in 2000](#).

To address the thermal impacts, the power plant converted to closed-cycle cooling in May 2012. Available data from June 2012 to December 2015 following the plant's conversion document compliance with water-quality standards for temperature in the Rhode Island portion of Mount Hope Bay. Brayton Point Station ceased operation in June 2017.

For Greenwich Cove, water-quality data reveal that the cove's bacteria concentrations now meet safe swimming levels, according to DEM. Water-quality improvements here are attributed to the installation of 23 infiltrating catch basins in the Harbor District, stormwater management improvements, the elimination of wastewater discharges caused by failing onsite wastewater systems at a local marina and senior living facility, and the removal of a sanitary sewer connection to a storm drain at a mill property.

Water-quality improvements in Cedar Swamp Brook, a stream that flows next to the Central Landfill, are attributed to operational improvements at the landfill, such as improved erosion controls, the installation of a treatment system to remove ammonia and iron, and the permanent relocation of the stream. Cedar Swamp Brook flows to the Pawtuxet River.

In the lower Woonasquatucket River, water-quality improvements are evident from the improved condition of aquatic organism communities living in and on the bottom of the river, according to DEM. Infrastructure investments that contributed to the observed improvement in the river's ecological health are treatment upgrades at the Smithfield wastewater treatment facility, stormwater improvements at Metals Recycling in Johnston, and completion of the Narragansett Bay Commission's Phase II combined sewer overflow (CSO) abatement project. This phase included elimination of seven CSO outfalls and a significant reduction in the discharge of combined sewage and stormwater at seven other CSO outfalls that discharge to the Woonasquatucket River.

Causes and solutions

In water bodies, both marine and fresh, the acceptable level of enterococci contamination is low. Suitable levels for enterococci in fresh water, from a single sample reading, should be between 61 and 151 colony-forming units (cfu) per 100 milliliters of water, according to the EPA. The Rhode Island standard is the low end of that range, and readings can fluctuate depending on many variables.

Enterococci, fecal coliform, and other potentially harmful bacteria may enter surface waters because of:

Malfunctioning wastewater treatment plant. In Rhode Island, in addition to the 19 major and two minor municipal wastewater treatment plants, there are three major and three minor industrial wastewater treatment plants that have the potential to discharge untreated or partially treated wastewater.

Development. Stormwater runoff is water from rain or snowmelt that flows over impervious surfaces, such as roofs, asphalt, and concrete, isn't absorbed into the ground and thus isn't naturally filtered. As this runoff moves, it picks up and carries away natural and anthropogenic pollutants and eventually deposits them into surface waters. Stormwater runoff is one of the leading sources of impairment to the nation's waters.

Sanitary sewer overflows. These discharges of untreated wastewater from sewer systems are caused by clogged or cracked sewer pipes, by excess infiltration and inflow, by undersized piping and/or by equipment failure.

Illicit discharges to stormwater systems. Examples of illicit discharges commonly seen in urban communities in Rhode Island include direct discharges, such as sanitary wastewater pipes connected from a home to a storm drain, and indirect illicit discharges, such as a damaged sanitary sewer line that is leaking wastewater into a cracked storm sewer line.

Boats. They have the potential to discharge harmful bacteria in sewage from installed toilets and greywater — drainage from sinks, showers and laundry. Sewage and greywater illegally discharged from boats can contain pathogens, nutrients, and chemical products that can lead to water-quality violations.

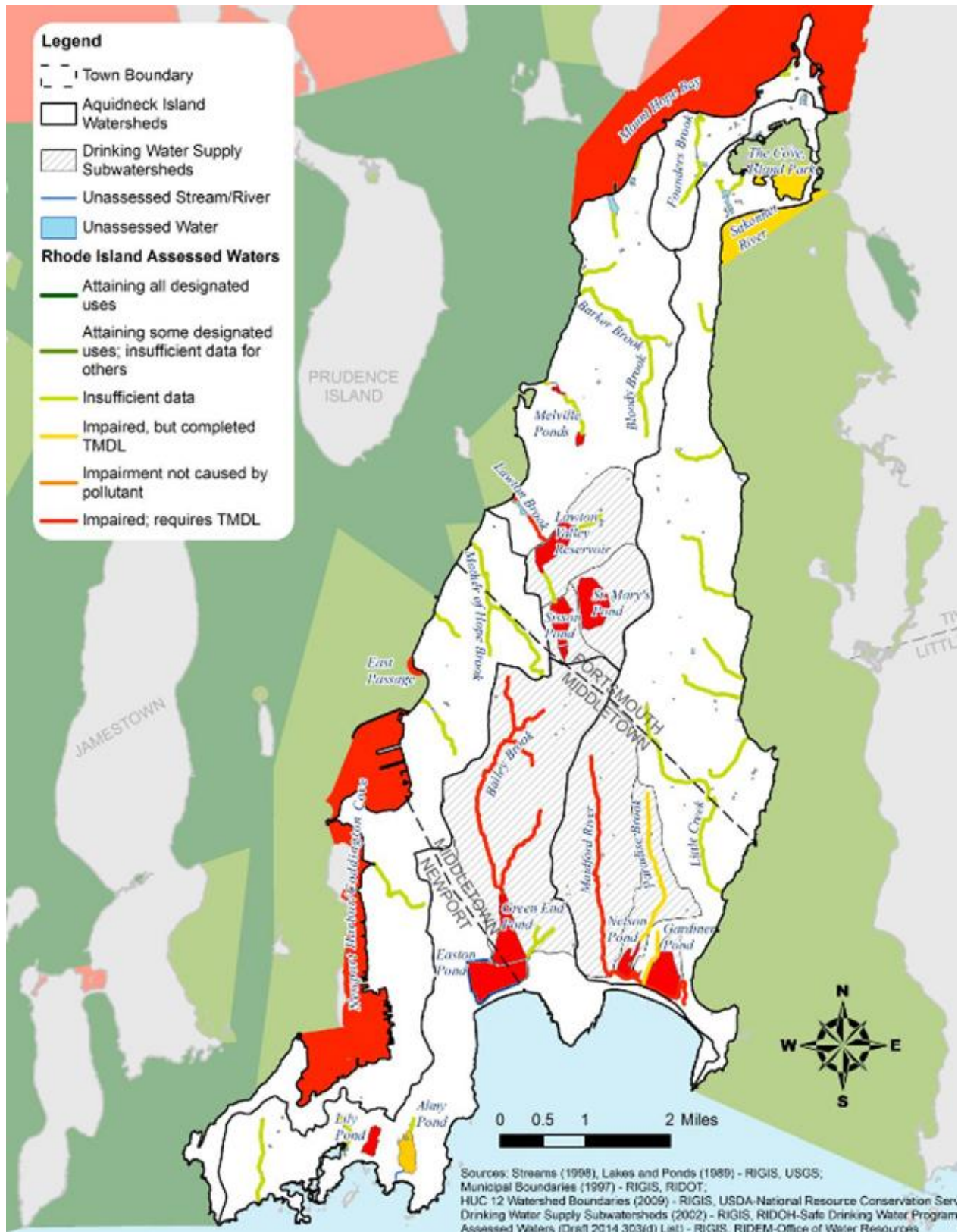
Onsite wastewater treatment systems. When properly installed, operated, and maintained, such systems — i.e., septic systems — effectively reduce bacteria concentrations in sewage. However, poor maintenance, overloading, improper design and/or construction, and age can result in system failure and the release of bacteria and other pollutants into surface waters.

Wildlife and pets. Fecal matter from wildlife can be a significant source of bacteria in some watersheds, especially when human activities, such as the feeding of wildlife and habitat modification, result in the congregation of wildlife. Concentrations of geese, gulls, and ducks are of particular concern because they often deposit their waste directly into surface waters. In fact, it's illegal to feed waterfowl.

Pet waste also can be a significant contributor. For example, each dog is estimated to produce 200 grams of feces daily, and pet feces can contain up to 23 million fecal coliform colonies per gram. If pet waste isn't properly disposed, these bacteria can be washed off the land and transported to surface waters by stormwater runoff.

Agriculture. Agricultural land includes dairy farming, raising livestock and poultry, growing crops, and keeping horses and other animals for pleasure and/or profit. Activities and facilities associated with agricultural land use can be sources of bacteria impairment. Communities, farmers, horse owners, and others who confine animals are largely responsible for mitigating bacteria pollution. Direct deposition of fecal matter from farm animals standing or swimming in surface waters, and the runoff of farm animal waste are considered the primary mechanisms for agricultural bacteria pollution in surface waters.

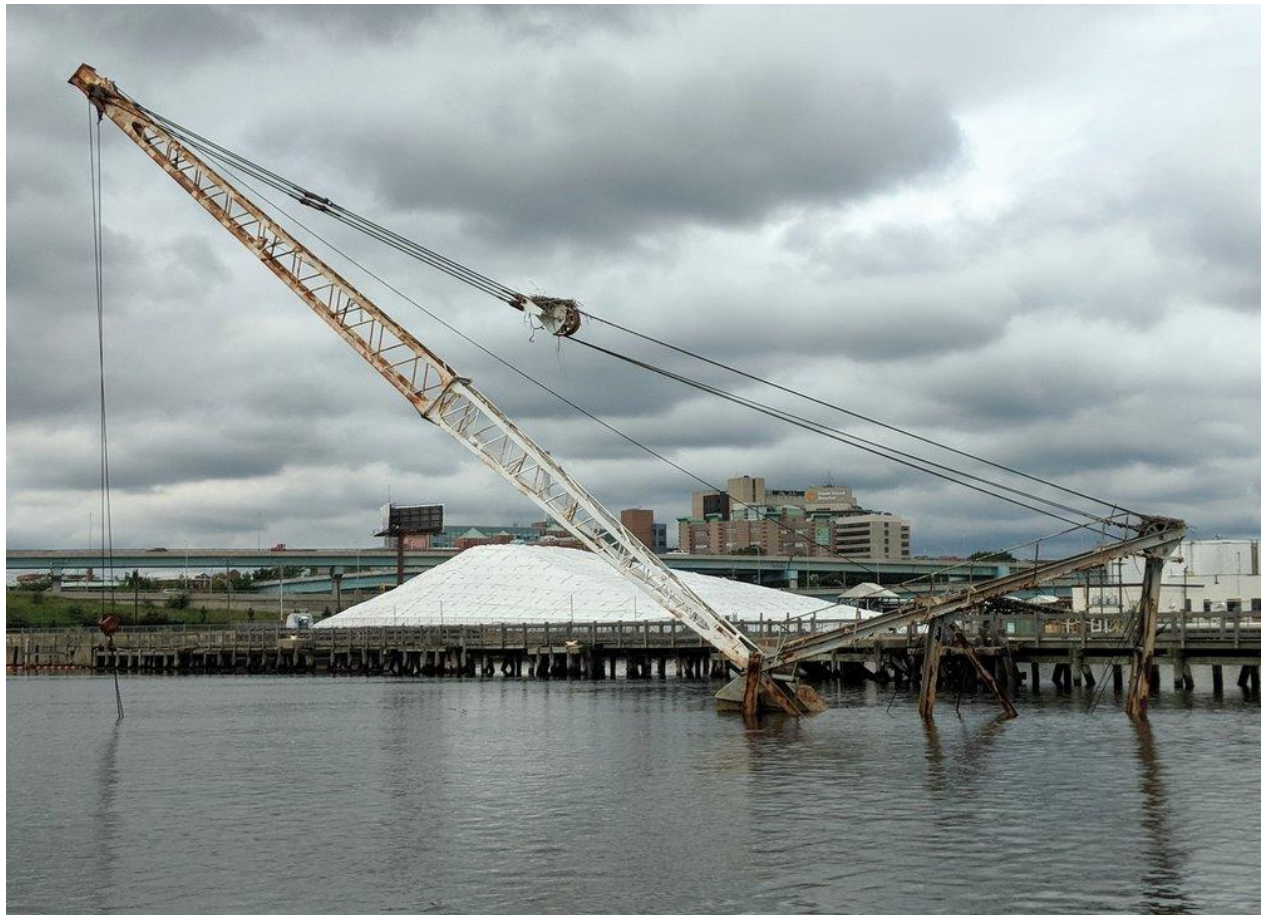
Featured



Aquidneck Island's Water Resources Impaired by Runoff
Improvement Plan Needed for Hundred Acre Cove



DEM Says Little Harm Caused by Thousands of Gallons of Spilled Gasoline
New Plastic Pollution Task Force Downplays Recycling



Crane Barge Remains Stuck in Providence River



Aquidneck Island Embraces Simple Actions to Help Curb Stormwater Pollution



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[Dan McGowan](#)

East Side councilors divided on proposed Providence Water transaction

By:

- [Dan McGowan](#)

Posted: Jun 22, 2018 02:52 PM EDT

Updated: Jun 22, 2018 03:00 PM EDT



PROVIDENCE, R.I. (WPRI) – If Providence Mayor Jorge Elorza really wants to monetize the city’s water supply, he might want to get the City Council on the same page before next year’s General Assembly session.

A resolution [opposing a potential water transaction](#) led to a rare public disagreement Thursday evening between City Councilors Seth Yurdin and Sam Zurier, two East Side Democrats who are typically aligned on city issues.

Yurdin, who represents Ward 1 (Fox Point, downtown), introduced the resolution opposing a bill in the General Assembly that would pave the way for Providence to sell or lease its water supply, a plan Mayor Jorge Elorza has said could bring in \$300 million to \$400 million to support the city’s beleaguered pension fund.

“I understand the concerns about the pension system,” Yurdin told his colleagues. “Those are very real and serious concerns. But attempting to sell off city assets in order to solve that problem is a shortsighted solution with really big consequences.”

The legislation, which city officials have acknowledged will not win passage in the House or Senate this year, would allow municipal water systems like the Providence Water Supply Board to enter into transactions with other water systems “as well as any public or private operator” of water systems. The bill would also block the R.I. Public Utilities Commission from having oversight over the transaction.

The City Council has previously passed a resolution opposing the privatization of the water system and Elorza has said he would not support privatization, but Yurdin noted that the bill would allow for a private company to buy or sell the system.

Zurier, from Ward 2 (College Hill and Wayland), has been [a leading advocate on the council](#) for addressing the city’s pension system, which was just 25.28% funded as of June 30, 2017, meaning the city had only \$348 million in assets available to cover \$1.35 billion in promised retirement benefits.

Before writing off a water transaction, Zurier urged his colleagues to think about a “realistic alternative” for addressing the city’s pension system. He said strengthening the fund will require “unpopular decisions” from the city’s elected officials. In the fiscal year that begins July 1, the city will contribute \$83 million to the pension fund, which will eat up 11% of the entire budget.

Zurier, who is not seeking re-election this year, said the city’s goal is to enter [into a transaction with the Narragansett Bay Commission](#), a quasi-public agency with a “very good environmental record.” City officials have previously said the commission is the only agency they have discussed a water deal with. A separate bill introduced in the Senate would allow the commission to purchase water systems, but it is also unlikely to win support from lawmakers before the end of the legislative session.

“All of this rhetoric about private operators is designed to scare people,” Zurier said.

But Yurdin noted the proposal is opposed by watch dogs, environmental groups and the R.I. Public Expenditure Council. He also raised concern that a water transaction would lead to the sale of other city assets.

“I mean are we going to talk about turning City Hall into condominiums?” Yurdin said. “Are we going to sell Roger Williams Park? This asset, the water supply board, is an incredibly vital component to our constituents.”

The resolution was sent to the Special Committee on State Legislative Affairs.

[Continue the discussion on Facebook](#)

Dan McGowan (dmcgowan@wpri.com) covers politics, education and the city of Providence for WPRI.com. Follow him on [Facebook](#) and Twitter: [@danmcgowan](#)

[On Air](#)

Newsmakers 7/20/2018: Providence Councilman Sam Zurier; Prov. firefighters union Pres. Paul Doughty

By:

- [Tim White](#)

Posted: Jul 20, 2018 01:44 PM EDT

Updated: Jul 20, 2018 01:44 PM EDT

EAST PROVIDENCE, R.I. (WPRI) - This week on the first half of Newsmakers: Providence City Councilman Sam Zurier. Earlier this month the city council released a report raising major concerns about the city's pension plan despite reform six years ago. Zurier discusses the report and why he decided not to run for reelection.

On the second half: Providence Firefighters Union President Paul Doughty. In response to the city council report, Doughty disputes some of the claims and explains how the city can refinance the pension debt down the road. He also talks about why he will likely not seek reelection as union president.

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WaterFire to feature Festival Ballet students

By Journal Staff

Posted Jul 25, 2018 at 9:30 PM

Saturday's theme is "C is for Cure: Rhode Island Defeats Hepatitis C," and will recognize those living with it, as well as doctors working to increase awareness and toward a cure.

Students with Festival Ballet Providence's Summer Dance Intensive will be part of the opening ceremonies for Saturday's full WaterFire lighting.

The performance, which will conclude with an excerpt from "A Midsummer Night's Dream," will take place at 8:10 p.m. at the Basin Stage. The Gendo Taiko drummers will also perform.

The WaterFire braziers will be lit shortly afterward and burn until midnight.

The theme of the evening is "C is for Cure: Rhode Island Defeats Hepatitis C." A resource fair, with support from the state Department of Health, will be set up on the College Street Bridge. Free, confidential screenings for hepatitis C will be offered.

The torch procession that leads up to the WaterFire lighting will recognize people living with hepatitis C, as well as doctors and other medical professionals who have worked to increase awareness about it and to find a cure.

Saturday's WaterFire will also feature the Steeple Street Music Stage, from 7 to 11 p.m., and the Arts Festival Plaza, on Washington Street, from 6 to 11:30 p.m.

The lighting is sponsored by Gilead, a biopharmaceuticals company, and Clear Currents, a nighttime arts experience sponsored by the Narragansett Bay Commission.

Citizens Bank Opens New Johnston, RI Corporate Campus

By

Published: Aug 14, 2018 10:30 a.m. ET

State-of-the-art facility will house more than 3,000 colleagues

Citizens Bank today officially opened its new corporate campus in Johnston, RI, bringing together more than 3,000 colleagues in a state-of-the-art facility designed to foster greater collaboration while bringing significant benefits to the local community.

The campus, built on a previously undeveloped parcel of land on the west side of Interstate 295, comprises approximately 424,000 square feet of office and meeting space, including a call center, as well as ball fields, tennis and basketball courts, and trails that will be available for colleague and local community use.

“This beautiful, modern campus provides a foundation for greater teamwork, innovation and efficiency in an environmentally sustainable setting,” said Bruce Van Saun, Chairman and CEO, Citizens Financial Group. “We believe that this dynamic work environment will help further connect our colleagues to the bank’s mission and values in meaningful ways.”

Added Van Saun: “We are grateful for the partnership of our state and local officials in making this project possible, and proud to be able to offer so many amenities to the local community.”

“Citizens Bank is a Rhode Island success story, with roots in our state for almost 200 years,” said Gov. Gina M. Raimondo. “This beautiful new campus in Johnston is the result of years of collaborative, innovative efforts and is a tangible sign of Citizens’ commitment to our state.”

“I am very excited about Citizens Bank making Johnston their new home. This project is living proof of what happens when the town, the state and a private corporation work together for good, sound economic development,” said Joseph M. Polisena, Mayor of Johnston.

The property was designed to preserve more than 60 acres of trees and wetlands -- nearly 50 percent of the 123-acre site. As part of the project, Citizens remediated a decades-old landfill and integrated wildlife paths for habitat circulation. The bank has also incorporated an extensive storm water system for protection of wetlands and sensitive areas, as well as rainwater harvesting for irrigation of the landscape.

Citizens colleagues will be able to take advantage of amenities including an onsite fitness and wellness center, a cafeteria offering a wide range of healthy food options, and scenic walking trails and sports fields that help promote an active lifestyle. Workstations within the campus were designed to foster teamwork while maximizing natural light.

The project also includes infrastructure improvements along Greenville Ave., including the extension of sewer lines into the area by the Narragansett Bay Commission and the construction of a new exit for Interstate 295, the cost of which was split by the Rhode Island Department of Transportation and Citizens. Colleagues working in the facility are primarily being relocated from a leased facility in Cranston, RI. The Citizens headquarters will remain in Providence. Citizens employs nearly 5,300 colleagues in the state of Rhode Island.

About Citizens Financial Group, Inc.

Citizens Financial Group, Inc. is one of the nation's oldest and largest financial institutions, with \$155.4 billion in assets as of June 30, 2018. Headquartered in Providence, Rhode Island, Citizens offers a broad range of retail and commercial banking products and services to individuals, small businesses, middle-market companies, large corporations and institutions. Citizens helps its customers reach their potential by listening to them and by understanding their needs in order to offer tailored advice, ideas and solutions. In Consumer Banking, Citizens provides an integrated experience that includes mobile and online banking, a 24/7 customer contact center and the convenience of approximately 3,200 ATMs and approximately 1,150 branches in 11 states in the New England, Mid-Atlantic and Midwest regions. Consumer Banking products and services include a full range of banking, lending, savings, wealth management and small business offerings. In Commercial Banking, Citizens offers corporate, institutional and not-for-profit clients a full range of wholesale banking products and services, including lending and deposits, capital markets, treasury services, foreign exchange and interest rate products and asset finance. More information is available at www.citizensbank.com or visit us on Twitter, LinkedIn or Facebook.

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Citizens Bank Opens New Campus in Johnston

Wednesday, August 15, 2018

GoLocalProv Business Team

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Citizens Bank opened its new corporate campus in Johnston on Tuesday.

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Johnston Mayor Joseph Polisena added, “I am very excited about Citizens Bank making Johnston their new home. This project is living proof of what happens when the town, the state, and a private corporation work together for good, sound economic development.”

The New Campus

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Citizens Bank opens new campus in Johnston

VIEW LARGER +

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**Buying a home? Don't lose \$10,000s or \$100,000s
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8/29/2018

Lincoln Ridge hotel OK'd for construction



Seen from the Lincoln Mall property, site clearing has begun at Lincoln Ridge to make way for a four-story Marriott hotel. (Breeze photo by Nicole Dotzenrod)

By **NICOLE DOTZENROD**, [Valley Breeze Staff Writer](#)

LINCOLN – No one from the public spoke out against the proposed Lincoln Ridge hotel project at last Wednesday's Planning Board meeting, leading to preliminary plan approval of the 107-unit hotel planned for the land between the Lincoln Mall and Sunoco gas station on Route 116.

Conditions for approval mandate that the project acquire permits from the Rhode Island Department of Environmental Management and Narragansett Bay Commission, that a fence be installed along the perimeter of the property line of an abutting neighbor, and that site blasting be conducted within school hours to the greatest extent possible.

The final condition came at the request of Frederick Entwistle, owner of an abutting property, over concerns on the impact of the blasting on his autistic grandchild, who is sensitive to any loud noise. Entwistle also asked for an eight-foot, solid wall to be installed for privacy.

"I can see all the way down to the highway, and vice versa," he told the Technical Review Committee at a recent meeting. "We've come to a point where we just want to see it done."



200 Woonsocket Hill Rd., North Smithfield, RI
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Entwistle added that everyone has been very cooperative through the planning process, accommodating his family's needs.

"You've answered all of my questions ... I'm happy," he told the TRC.

There were no concerns raised by abutters at the public hearing, after the town has helped the developer, Washington Highway LLC, to work through potential traffic-related concerns for the past several months.

The major concern with the development was the high probability of accidents occurring when vehicles turn left onto Route 116 from Sunoco. To avoid making the problem

worse, the hotel will have a gate system preventing traffic from exiting the property via the Sunoco, instead forcing cars to exit by a new intersection at the Lincoln Mall.

In addition, two stoplights at the bottom of the Lincoln Mall property will be reconfigured to offer drivers a protected turn. Town Planner Albert Ranaldi said the "split-phased" light will be comparable to the one at the intersection of River Road and Route 116 at Lincoln High School.

With the Planning Board's stamp of approval, site construction can now begin on the four-story hotel, which will be a Marriott Residence Inn.

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Vincent Mesoletta, Chairman of the Narragansett Bay Commission



A major new initiative between the Narragansett Bay Commission (NBC) and Southside Community Land Trust to bring community gardening and farming to Olneyville was announced on GoLocal LIVE on Monday.

The effort spearheaded by Councilwoman Sabina Matos and NBC Chairman Vincent Mesolella will help to transform a key parcel into a community farm. The initiative is being developed in conjunction with the Southside Community Land Trust, who provides technical assistance to urban farmers and community gardens across Rhode Island.

The partnership transforms the land — best known in the community as the former George’s Tire location on Valley Street into a significant community farm which is being organized by residents in the community.



Councilwoman Matos and Southside Community Land Trusts' DeVos

Sabina Matos & Margaret DeVos



Margaret DeVos, Executive Director, Southside Community Land Trust joined GoLocal LIVE in making the announcement. DeVos discussed how her organization is working in communities like Pawtucket and Central Falls and providing technical service across the state.

The parcel is on the banks of the Woonasquatucket River; to protect the water quality in the river, it’s best to avoid impervious surfaces, like asphalt that will cause run-off. Traditional farming would also introduce fertilizers, etc., but because urban farms and community gardens are built in raised beds, there is not the risk of fertilizing the river. Also, the raised beds mean that no great disturbance will be necessary to the existing ground.

According to NBC, “In 2014, the NBC completed construction of Phase II of the Combined Sewer Overflow (CSO) project, which is designed to prevent storm-related sewage overflows from polluting the Woonasquatucket and

Seekonk Rivers. The project involved constructing new large sewer pipes along the rivers to capture the dirty water and send it into the huge CSO tunnel built in 2008." The tunnel system carries the dirty water to the Field's Point Wastewater Treatment Facility to be cleaned. The project has been a significant success: the Woonasquatucket is healthier than ever and Narragansett Bay is the cleanest it has been in over 100 years.



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Irish Prime Minister Enda Kenny

Enda Kenny, former Prime Minister - the Taoiseach - of Ireland, joined GoLocal LIVE to discuss the growing trade opportunities sparked by the new direct air travel between Rhode Island's T.F. Green via Norwegian Air.

[WATCH THE INTERVIEW HERE](#)

Kenny has been instrumental with his support for the Ireland West International Trade Center in Rhode Island and the RI Trade Center in Mayo.

At the time of the interview, a Rhode Island trade mission was visiting Ireland led in part by Warwick Mayor Scott Avedisian, who also appeared on LIVE.

Kenny served as Prime Minister from 2011 until earlier 2017.

Unsung Infrastructure Protects Nature from Humanity's Squeeze

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September 27, 2018 September 27, 2018/ Jo Detz



Rhode Island's 19 major wastewater treatment facilities, including the one in Warwick, treat 120 million gallons of waste daily. (Frank Carini/ecoRI News)

Ocean State's wastewater treatment faces pressures both big (climate) and small (baby wipes)

By FRANK CARINI/ecoRI News staff

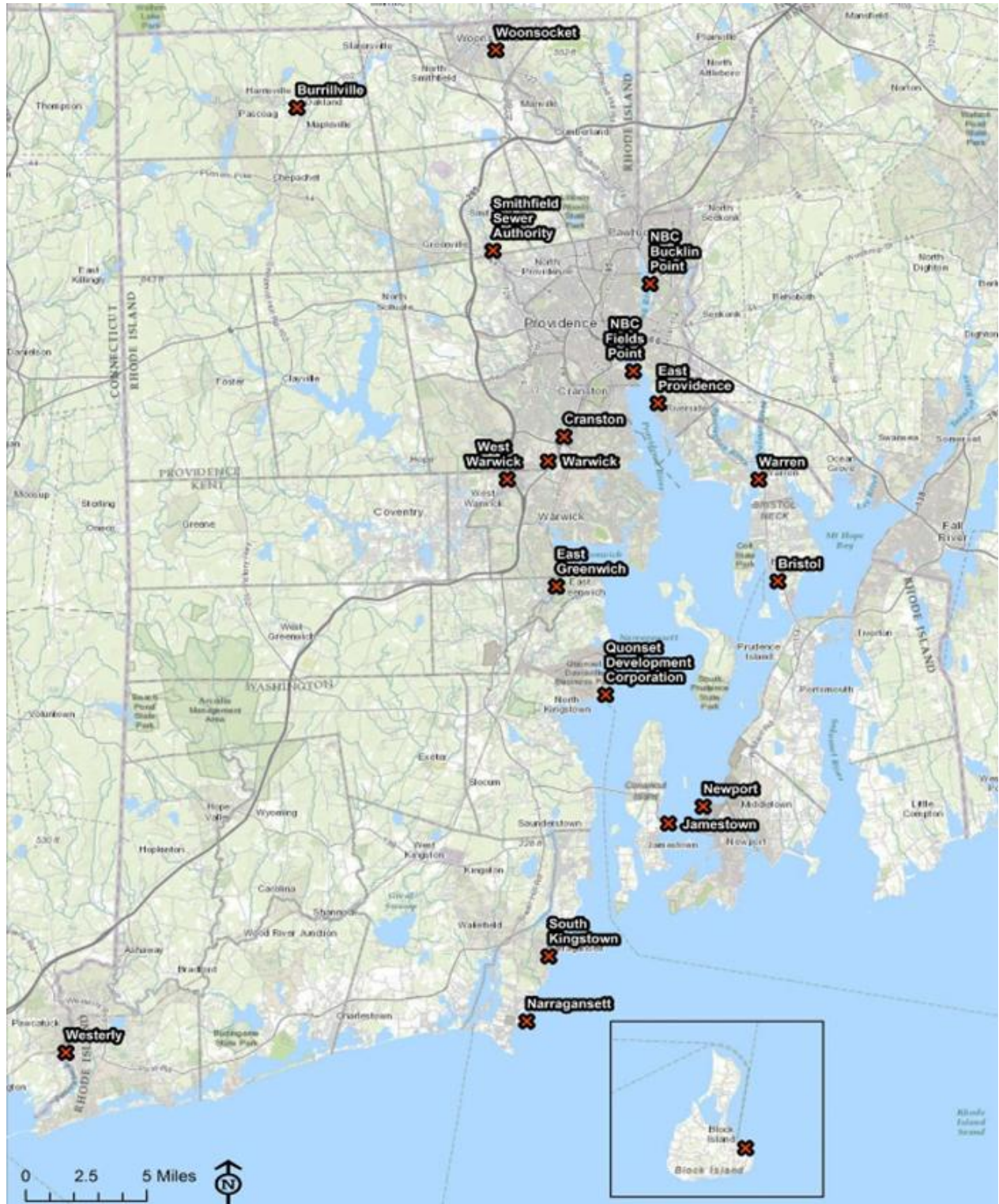
Rhode Island's rapidly aging wastewater infrastructure is facing growing manmade pressures that go well beyond Nos. 1 and 2. More intense and severe weather, thanks to a changing climate, and wrongly labeled consumer products called "flushables" are causing problems of various sizes.

"It's the most important infrastructure no one ever sees," said Bill Patenaude, principal engineer for the Rhode Island Department of Environmental Management's Office of Water Resources. "It's civilization 101 — the greatest boon to public health. This infrastructure got waste away from where you live and the water you drink."

Nationwide there are some 15,000 facilities that treat about 32 billion gallons of wastewater daily. In Rhode Island, there are 19 major wastewater treatment facilities, with 240 pumping stations and hundreds of miles of sewer lines, from a few inches to 9 feet in diameter, that treat 120 million gallons of waste every day. This flow — from residential, commercial, industrial, and septic haulers — never stops, even as system pressures mount.

The state's collection of wastewater infrastructure also includes smaller facilities and private onsite systems, such as septic systems, both working and failing, and useless cesspools that do nothing to treat waste.

Most of this wastewater infrastructure is underground, making maintenance and repairs difficult and expensive. Much of this infrastructure, which defends the perimeter of Narragansett Bay, is also old.



This map shows the locations of the discharge points for each of Rhode Island's 19 major municipal wastewater treatment plants. (DEM)

Here is a brief look at the state's 19 major wastewater treatment facilities, courtesy of a [2016 DEM document](#):

Bristol: Built in 1935, serves population of 20,700, and discharges into Bristol Harbor.
Burrillville: 1980, 9,700, Clear River.
Cranston: 1942, 73,200, Pawtuxet River.
East Greenwich: 1927, 6,000, Greenwich Cove.
East Providence: 1952, 46,100, Providence River.
Jamestown: 1980, 2,100, East Passages of Narragansett Bay.
Narragansett: 1965, 7,300, Rhode Island Sound.
Bucklin Point (Narragansett Bay Commission): 1954, 120,000, Seekonk River.
Fields Point (Narragansett Bay Commission): 1901, 226,000, Providence River.
New Shoreham (Block Island): 1977, 300-700 in winter/4,000 in summer, Rhode Island Sound.
Newport: 1955, 41,600, East Passage of Narragansett Bay.
Quonset: 1941, 10,000, West Passage of Narragansett Bay.
Smithfield: 1978, 14,000, Woonasquatucket River.
South Kingstown: 1978, 29,400, West Passage of Narragansett Bay.
Warren: 1951, 8,000, Warren River.
Warwick: 1965, 60,200, Pawtuxet River.
West Warwick: 1942, 31,600, Pawtuxet River.
Westerly: 1927, 16,500, Pawtuxet River.
Woonsocket: 1897, 51,400, Blackstone River.

The [Rhode Island Infrastructure Bank](#) invests significantly in wastewater treatment projects, and municipal bonds also pay for vital upgrades. However, maintenance, repairs, and upgrades are becoming more costly and necessary as the climate changes and consumption intensifies. Sewer bills alone can't fund all of the necessary upgrades and repairs.

The American Society of Civil Engineers' [2017 Infrastructure Report Card](#) estimates that Rhode Island needs to spend \$1.92 billion during the next 20 years on repairs and upgrades to the state's wastewater infrastructure.

Three years before the historic floods of March 2010 revealed weaknesses in the state's wastewater infrastructure, the Environmental Protection Agency (EPA) expressed concerns about Rhode Island's water quality. The federal agency was particularly focused on eliminating sanitary sewer overflows (SSOs).

"There are numerous reported discharges of untreated sewage from SSOs in New England states, including Rhode Island. Sanitary systems are designed to collect and transport all of a community's wastewater to a publicly-owned wastewater facility for appropriate treatment before discharge to our nation's waters," according to a [2007 EPA letter](#) to municipalities. "Sanitary sewer systems that are not properly designed, financed, operated and maintained, or that lack adequate capacity, result in discharges of raw sewage and industrial wastewater into the environment. EPA has reviewed DEM's records and determined that SSOs in Rhode Island have resulted in beach and shellfish bed closures, and other risks to public health and the environment."

The state has since invested in repairing problem areas, but it's an ongoing battle. For instance, 37 wastewater treatment facilities, including 16 of the state's major plants, discharge more than 200 million gallons of wastewater into the Narragansett Bay watershed daily. All of this effluent ends up in the Ocean State's most important natural resource.

Wastewater infrastructure is expensive to build and maintain and difficult to relocate. Costs associated with infrastructure operation increase significantly when managers are forced — typically because of a lack of money — to be reactive rather than proactive when it comes to addressing problems.

Janine Burke-Wells, the executive director of the Warwick Sewer Authority, recently had to deal with the collapse of a concrete sewer line that unleashed an estimated 300,000 gallons of raw sewage into Buckeye Brook. It took four weeks and cost \$350,000 to replace 700 feet of sewer line.

She noted that the replacement of 700 feet of sewer line for a recently planned project cost only \$64,000.

The Warwick Sewer Authority is collecting and recording data regarding the condition of system sections, such as age, materials used, and risk of failure, as it creates an inventory in hopes of fixing problems before they become emergencies.

“We want a master plan in place instead of rushing from one emergency to another,” said Burke-Wells, the authority's executive director for the past 10 years. “We're creating a plan for how to fix our infrastructure before emergencies arise.”

DEM's Patenaude said decisions about building new infrastructure, or adapting what exists now, must be strategic and often incremental. He also said designing with future conditions in mind will improve public safety and avoid costly repairs caused by increasingly harsher weather.

“How much more money do we spend to protect this infrastructure is a question that continuously needs to be answered,” Patenaude said. “There's millions of dollars of equipment in these plants, but it might make sense to let the system flood and repair it for twenty million as opposed to building a fifty million dollar wall to protect it.”

“This infrastructure is in constant need of repair, maintenance, and replacement, like a car. You need to understand what you own and how to keep it working.”



Warwick's wastewater treatment plant is valued at \$250 million. (Frank Carini/ecoRI News)

Climate stress

By their very nature, wastewater treatment plants are sited in flood-prone areas, to use gravity to help lessen pumping and electricity costs. But in Rhode Island, as elsewhere, more intense storms are damaging these low-lying plants and pump stations, according to a [2017 study](#).

The floods of March 2010 are a prime example of climate-related damage, and it wasn't the Ocean State's 400-mile coastline that felt the effects. The planet's changing climate is impacting more than sea levels and Greenland's melting ice sheet.

The flooding that occurred eight years ago wasn't coastal, as might happen during the storm surge of a hurricane, but rather it was riverine, as heavy rains caused rivers to rise above their banks and flow across floodplains. This happened along several of Rhode Island's major rivers, and many areas of the state experienced severe flooding twice: first on March 15, which broke previous flood records, and again March 30-31, an unprecedented weather event that exceeded the record set two weeks earlier.

After the floods, which severely damaged Warwick's wastewater treatment plant — valued at \$250 million — to a tune of \$21 million, the sewer authority elevated the levee around its pump station 6 feet to withstand a 500-year flood event. The facility also had to reintroduce its waste-eating bacteria after the flood waters receded.

As part of broader state efforts to build climate resilience, last year's study also includes recommendations to help mitigate the risk of flooding, storm surge, and other severe-weather impacts to Rhode Island's wastewater treatment facilities. It's expected that continued climate change will accelerate this risk, according to state officials.

Of the state's 19 major treatment facilities, seven are predicted to become predominantly inundated in a catastrophic event, according to the \$222,900 study.

The Rhode Island Department of Environmental Management (DEM), in cooperation with the state's Executive Climate Change Coordinating Council (EC4) and municipalities, commissioned the study to help the state and local communities better understand the threats posed by climate change and take action to protect wastewater infrastructure.

Adaptive strategies recommended in the study include: hardening, such as building walls and dikes; relocating and/or elevating equipment and systems; standardizing equipment and/or stocking spare parts; redundancy, such as providing means to convey wastewater to two pump stations or using portable, temporary pumps; and wet-weather bypasses that control flow to surface waters to avoid flooding public ways.

Patenaude said about half of the report's recommendations can be done for \$50,000 or less. He noted that a \$10,000 hatch installed at the Cranston wastewater treatment facility a year and half before the March 2010 floods prevented "millions of dollars in damage."

Based on an analysis of recent storms and new and existing flood mapping, the 246-page study includes individual risk assessments for each plant, with a series of suggested improvements to help protect the facility from future flooding.

For example, the Bristol facility, at 2 Plant Ave., experiences localized flooding from Tanyard Brook to the north and west, and from adjacent wetlands to the south. This flooding, combined with limited plant capacity, leads to sewage overflows during wet weather, which have negative impacts on Bristol Harbor, Narragansett Bay, the Kickemuit River, and Mount Hope Bay.

Improvement recommendations include protecting the facility with flood barriers and elevating critical equipment, and elevating the pump station building above flood elevation or relocating the pump station inland.

In East Providence, extensive infiltration and inflow issues are being addressed in a number of ways, including raising manhole covers and epoxy lining collection system piping.

Some of Westerly's pump stations are subject to inundation from both coastal and inland flooding. Recommendations include protecting facility's entrances with flood barriers and elevating the backup generator systems.

"We are already confronting rising seas, warmer weather, and more intense rainstorms," DEM director Janet Coit said when the report was released. "The vibrancy of our economy and health of our communities depend on us taking practical actions now to prepare for climate change. That means identifying and addressing areas where our infrastructure is at risk."

Since the floods, Patenaude said DEM and wastewater treatment plant managers have begun working closely with the National Weather Service and staff are being trained to deal with climate-change impacts.



Stuff that shouldn't be flushed down the toilet, such as sanitary wipes, foul up wastewater infrastructure. (Frank Carini/ecoRI News)

The three Ps

Wet-Naps, baby wipes, adult wipes, and other consumer hygiene products are often marketed as “flushable.” They aren't. These products create blockages in residential and municipal sewer systems, as the pipes, pumps, and other equipment aren't capable of handling wipes that remove makeup or treat hemorrhoids.

Burke-Wells said it's easy to remember what can be flushed: “pee, poop, and paper (toilet only). That's it.”

Several recent studies have provided evidence to suggest that wipes branded as “flushable” are clogging wastewater systems and getting caught up in pumps. These problems are costing U.S. utilities up to \$1 billion annually, according to the National Association of Clean Water Agencies.

Since 2014, several communities have filed class action lawsuits against flushable wipe companies and retailers.

“This is somewhat of a new problem — flushable consumer products that aren’t,” said Patenaude, who has spent the past 30 years working in DEM’s Office of Water Resources as an inspector and supervisor. “These items aren’t degrading in the sewers. When we try to prohibit or regulate them, the industry fights back.”

Hygiene and cleaning wipes, however, aren’t the only obstructions that gum up wastewater infrastructure. During a recent ecoRI News tour of Warwick’s wastewater treatment plant, Burke-Wells listed off a number of other problem items that get flushed often: tampons, condoms, beepers, cell phones, sanitary napkins, rags, and toys.

The plant’s preliminary treatment system removes about 200 wet tons of debris annually. This debris, which also includes grit and other screened materials, is sent to the Central Landfill.

Keeping Rhode Island’s wastewater treatment plants running efficiently — a charge that is “part science and part art,” said Burke-Wells — is no easy task, especially when funding doesn’t necessarily keep pace with manmade pressures.

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Guest MINDSETTER™ Mesolella: Imagine a Day Without Water

Wednesday, October 10, 2018

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Guest MINDSETTER™ Vincent Mesolella

In our increasingly contentious society, it can be easy to forget that some issues we all care about cut across political and geographic lines. When it comes to our keeping our families and our environment healthy, we in Rhode Island have a lot in common. We get up in the morning and brush our teeth, use the bathroom, and make coffee. We shower, do the laundry, and wash the dishes. But none of this would be possible without safe and reliable water infrastructure.

If you've never experienced it before, it's hard to imagine a day without water. Most citizens recognize that water is essential to our quality of life. In fact, **the vast majority of Americans**, across parties and regions, want the government to invest in our water infrastructure. The data shows 88 percent of Americans support increasing federal investment to rebuild water infrastructure, and 75 percent of Americans want Congress to be proactive and invest in our nation's water infrastructure before our systems fail.



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Renewed investment in our water infrastructure isn't only about avoiding a day without water for personal use. A day without water would mean havoc for businesses and our economy too. Basically, every business relies on water in one way or another.

According to the Value of Water Campaign's report on **The Economic Benefits of Investing in Water Infrastructure**, a one-day disruption in water services at a national level would result in a \$43.5 billion daily sales loss to businesses.

Unfortunately, federal investment in water infrastructure has not been a priority for decades. The federal government's investment has declined precipitously, leaving states, localities, water utilities, and people who pay water and sewer bills to make up the difference. Meanwhile, in many parts of our country, our systems are crumbling. The US government is currently funding \$82 billion less than what is needed to maintain our water infrastructure, putting our health, safety, economy, and environment at risk.

So, what can we do about it?

Today is Imagine a Day Without Water, a national day of action to raise awareness about the value of water. We have the opportunity to leverage our collective power, educate our decision-makers, and inspire our communities to put water infrastructure on the agenda. There is a groundswell of communities and partners coming together to promote safe and reliable water systems on Imagine a Day Without Water. Together, on this fourth annual day of action, we can make a difference.

Here in Rhode Island, we have made fantastic strides in improving the health of Narragansett Bay, with very little federal contribution to the effort. But, in order to maintain and enhance those improvements, we need federal involvement. Water knows no boundaries: it crosses city, county and state lines. What happens upstream affects those downstream.

Rhode Island's Congressional leaders have long been supporters of an integrated funding plan for clean and safe water that includes contributions from the federal, state, and local levels. In this election year, we encourage all candidates for office to address clean water issues with their constituents.

No matter what the cause, a day without water is a public health and environmental crisis. That's why we are joining with hundreds of groups across the country for Imagine a Day Without Water to educate our communities on the value of water. No community can thrive without water, and every American deserves a safe, reliable, accessible water services. Let's invest in our water systems now, so no American ever has to imagine a day – or live a day – without water again.

How much water do we take for granted each day? Watch the Narragansett Bay Commission's one-minute video to find out!

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Narragansett Bay Commission's Ocean State Alliance Team Wins Nationals

Thursday, October 18, 2018

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The **Narragansett Bay Commission (NBC)** announced that RI's Wastewater Operations Challenge team "Ocean State Alliance" finished top ten in three out of five categories and first place in the Lab and Process categories at the Water Environment Federation's Technical Exhibition and Conference (WEFTEC) in New Orleans.

"This is a real testament to the intense professionalism our clean water professionals have. The proof of their expertise, of course, is in the good health of the bay and our rivers. And at a time when so much conversation is happening about the importance of reliable infrastructure, we understand and appreciate that the human element is critical, too. We applaud these true environmentalists on this great achievement," said NBC Chairman Vincent Mesolella.

The Competition

WEFTEC is the world's largest annual water quality research and technology event. The National Operations Challenge, also known as the "Wastewater Olympics," features teams of four members representing all regions of the United States (and occasionally international regions) competing in five separate events: operations, maintenance, laboratory, safety, and collection systems.



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Narragansett Bay's Ocean State Alliance team

All of the events are timed and judged, and designed to test the diverse skills required for the operation and maintenance of wastewater treatment facilities, their collection systems, and laboratories.

Teams respond in real-time to challenges such as water treatment facility flooding, sewer collapses, process failures and other critical environmental and public health emergencies.

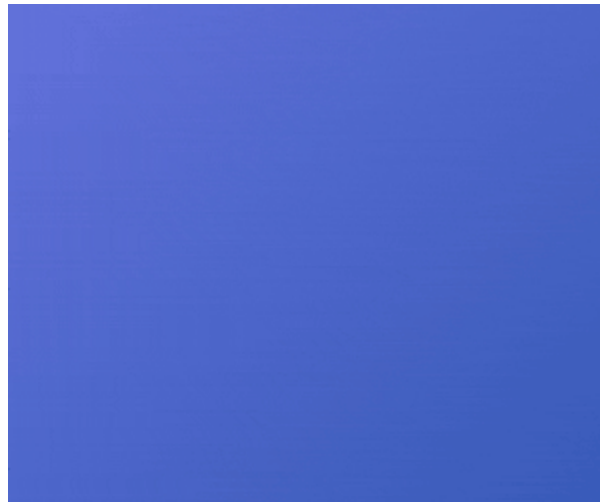
Ocean State Alliance Team

The Ocean State Alliance team began preparation in early March under the coaching of the NBC's Maintenance Manager Mike Spring, and won first place overall in the New England regional competition in June.

The team continued drills at the NBC wastewater treatment facility, laboratory, and collections at the NBC tunnel pump station throughout the summer months to prepare for New Orleans.

"The support, encouragement, purchasing of training equipment, flexibility of work schedules, and use of facilities for training allowed us to strengthen our wastewater skills and directly contributed to our overall success. We have a great support system here at NBC," said team captain Ed Davies, Process Monitor at NBC's Bucklin Point Wastewater treatment Facility.

Davies was joined by Environmental Chemist Kim Sandbach and Maintenance Supervisor Ryan Patnode of the NBC, and Peter Rojas of the City of Cranston WWTF. NBC's Lab Biologist Nora Lough participated as a judge for other teams throughout the country.



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Rhode Island scored big earlier this month during an event called the "Wastewater Olympics."

The event, which happens during the annual Water Environment Federation's Technical Expo and Conference, tests the skills of wastewater treatment professionals from around the world.

Teams compete during five different challenges that mimic scenarios operators could face on a daily basis at a wastewater treatment facility.

Rhode Island's team, the Ocean State Alliance, won first place in two of the challenges: one that tested their general knowledge and ability to fix a facility



that's not operating properly and another where team members raced to test the quality of wastewater samples.

These wins are Rhode Island's first-ever victories at the competition.

"(The Narragansett Bay Commission is) great at allowing us the opportunity to let us train, but we also do a lot of this on our own time as well. So to show that commitment and passion for the environment, I think people will respect the fact that we care about it," Ed Davies, operations supervisor at the Narragansett Bay Commission, a wastewater treatment facility in Providence, said.

Davies added placing first is significant.

"Public safety is ultimately in the hands of the operators. So to know that you have operators in Rhode Island that care about what they do and care about protecting the people, I think it shows through our skillset and what we've accomplished," Davies said.



Campaign 2018: Environment is the point of Question 3, by land and by sea

By **Alex Kuffner**

Journal Staff Writer

Posted Oct 22, 2018 at 10:18 PM

Updated Oct 22, 2018 at 10:18 PM

PROVIDENCE — Many Rhode Islanders can remember that the Warwick and West Warwick wastewater-treatment plants flooded in the historic rains of the spring of 2010. Some will recall that the treatment plant in Narragansett was threatened by floodwaters when Superstorm Sandy washed through the state two years later.

But Bill Patenaude, principal engineer with the state Department of Environmental Management, will tell you that as recently as last March, heavy rainfall caused problems for plants in East Providence and elsewhere in the East Bay because of the amount of water rushing into their systems.

“You don’t have to harken back to 2010,” Patenaude said.

With sea levels rising and scientists predicting more severe rain events and coastal storms caused by climate change, the operators of the 19 major treatment plants in Rhode Island are looking at ways to protect their facilities.

Question 3 on the Nov. 6 ballot aims to fund the first steps to make the plants more resilient. The \$47.3-million bond issue includes \$5 million for wastewater-treatment plants.

“Both coastal and inland communities learned important lessons from the floods of 2010 and the impacts of Superstorm Sandy,” Patenaude said. “And so now these communities — like Warwick and Narragansett, as well as Smithfield and Woonsocket, the [Narragansett] Bay Commission, and others — are in various stages of protecting wastewater investments made by the public. Given the dollar value and the importance of this infrastructure, we’ll all be better off when we protect it from the wetter storms we’re observing, as well as the rising sea levels.”

The effort to shore up the state’s treatment plants is one new environmental program that the bond issue would fund. But there are nine other initiatives that it would benefit. If approved, the money would be divided in the following ways:

\$5 million to the local recreation grant program, which is allocated to cities and towns to improve parks and recreation facilities. Applications for these grants have historically far exceeded the money available.

\$5 million to improve and expand the state’s 60-mile network of bike paths that’s used by nearly two million people every year. The system includes the East Bay Bike Path and the South County Bike Path.

\$2 million for open space grants that will be available to cities and towns to protect conservation land as part of a program that since 1985 has preserved more than 10,000 acres in Rhode Island. Like the recreation grant program, demand for money through this initiative has been high.

\$2 million to protect farmland from development as part of a program that has so far preserved more than 100 farms covering 7,000 acres in Rhode Island.

\$4 million to clean up former industrial sites so they can be redeveloped for future economic activity or as recreation sites. Since 1995, some 800 so-called brownfield sites have been remediated, and past bond issues have channeled \$7.4 million in 33 projects that leveraged \$630 million in private investment and created nearly 5,000 jobs.

\$5 million to a new program that would help protect coastal habitats, as well as river and stream floodplains, from the effects of climate change, including increased flooding and more extreme storms.

\$7.9 million to the Clean and Drinking Water State Revolving Funds, money that would be used to match nearly \$40 million in federal funds over two years and an additional \$200 million to \$300 million in private investment. The money would go to a variety of drinking water, stormwater and wastewater-treatment projects around the state.

\$7 million to dredge the Providence River, the Woonasquatucket River and the Moshassuck River in downtown Providence near Waterplace Park. The rivers have been progressively silted, making boating difficult in places and contributing to tidal flooding in the area.

\$4.4 million to repair and remove state-owned dams that are in poor condition and are threatened by extreme storms that are becoming more frequent, and by an increase in annual precipitation in the region.

“Clean water to drink, sandy beaches to visit, green spaces to share, playgrounds, bikeways and soccer fields — these assets enrich all Rhode Islanders,” said DEM director Janet Coit. “Supporting Question 3 will continue our positive trajectory toward cleaning up our waterways and contaminated sites, preserving farmland and open space, and ensuring our state remains a healthy and wonderful place to live, work, visit and raise a family.”

The money that would go to wastewater-treatment plants aims to address some of the needs identified by the DEM in a vulnerability report that was released last year.

Of the state’s 19 major treatment plants, seven would be mostly flooded in the event of a 100-year storm — one that has a 1-percent chance of occurring in any year — according to the report. Another eight would be partially flooded.

Although there were big-ticket items listed in the report, more than half the actions recommended by the DEM would cost less than \$50,000 each. They are things as simple as installing submarine doors to seal off passageways from floodwaters or elevating electrical and mechanical components.

The bond money could also go toward cost-benefit analyses, said Patenaude, who works with treatment plants through the DEM's Office of Water Resources. Sometimes it may be cheaper to rebuild than to spend money on protections.

But no matter what, the state needs to start planning ahead, he said.

"It's the new normal," Patenaude said. "Infrastructure that may not have been impacted in the past will be impacted now."

— akuffner@providencejournal.com

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Providence

RI gov candidates have mixed views on Providence's finances

By:

- Dan McGowan

Posted: Oct 29, 2018 01:31 PM EDT

Updated: Nov 02, 2018 01:59 PM EDT



PROVIDENCE, R.I. (WPRI) – There’s at least one thing the three leading candidates for Rhode Island governor can agree on: Providence officials have more work to do to get the city’s financial house in order.

But with the city’s unfunded pension liability hovering around \$1 billion and Mayor Jorge Elorza projecting massive school budget shortfalls in the coming years, Democratic Gov. Gina Raimondo, Republican challenger Allan Fung and independent Joe Trillo have different views on whether the state will need to intervene in the coming years.

“The governor will support the mayor and council next year as they work toward solutions to their pension challenges,” Mike Raia, a spokesperson for the Raimondo campaign, told Eyewitness News. “Actions that originate at the local level with local buy-in will be most effective. She's encouraging them to get to work as soon as possible after they are sworn in.”

Fung, who as mayor of Cranston has built a large rainy day fund while attempting to tackle to the city’s long-term financial challenges, said the city “needs sound leadership that is willing to tackle financial

problems head on.” As governor, he said he would take a “methodical approach” to reviewing Providence books before deciding if state oversight is needed.

Trillo, a former Republican state lawmaker who left the party to run for governor, sounded a louder alarm, warning that Providence may require a state takeover similar to the one in Central Falls several years ago. Central Falls ended up filing for Chapter 11 bankruptcy in 2011.

“That result is not desirable, but with the mayor's incompetence, that may actually be the only solution to the problem,” Trillo said, referring to Providence going into bankruptcy. Raimondo and Fung said they don't believe the city is nearing bankruptcy.

Elorza, a Democrat who is facing an independent challenge from Dianne “Dee Dee” Witman has offered a more optimistic view of the city's finances this year.

The mayor announced last week that Providence is projecting a \$9.1-million surplus for the fiscal year that ended June 30, the third consecutive year the city spent less than it took in. The leftover funds will be used to replenish the city's rainy day fund, a decision that has earned praise from ratings agencies.

But Elorza has also warned that Providence needs to address its pension system, which had just \$348 million in assets available to cover \$1.35 billion in promised retirement benefits – a funding ratio of 25.28% - as of June 30, 2017. He has said the city's growing annual contribution to the retirement fund – which is expected to increase from \$83 million in the current year to \$175 million by 2040 – will threaten funding for other necessary services in the coming years.

The mayor is already locked in a labor dispute with the city's 2,000 teachers, who have been working without a new contract since Aug. 31, 2017. He has said the school department is facing a shortfall of \$37 million over the next five years, which could force cuts to programming. Although teachers are not members of the city pension system, Providence's \$128.5 million annual payment to the school department this year is less than in 2009, when the district received \$133.8 million from the city.

Elorza has suggested the city should be allowed to monetize its water supply system, a solution that would require General Assembly approval. The mayor has predicted the city could generate between \$300 million and \$400 million if it enters into a lease deal for the water system with the quasi-public Narragansett Bay Commission.

Although the mayor has repeatedly said he is not seeking to privatize the city's water, the gubernatorial candidates all said they would oppose any attempt at privatization.

Raimondo believes Providence has a right to explore its options, “but any proposal would need to be fully vetted by the legislature, since it would impact many communities across the state,” according to Raia.

Trillo called a deal involving Providence Water “the easy way out for somebody who can't figure his way out.” He also suggested the city may not have the legal right to monetize the water supply.

Fung, who wrote an op-ed criticizing the ideal for The Providence Journal last year, said he does not support a “bailout” for the pension fund. And while Elorza is not the first Providence mayor to propose monetizing the water system, Fung acknowledges his relationship with the current mayor is different from the rapport he built with former Mayors Angel Taveras and David Cicilline.

“In nine years as mayor, he's been the only mayor I've had to publicly criticize over issues,” Fung said. “I'll leave it at that.”



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News Releases from Region 01

EPA Invites Narragansett Bay Commission to Apply for a WIFIA Water Infrastructure Loan

Loans will help make critical investments in communities to improve water quality for 22 million Americans

11/01/2018

Contact Information:

John Senn (senn.john@epa.gov)

(617) 918-1019

BOSTON – The U.S. Environmental Protection Agency (EPA) is inviting the Narragansett Bay Commission in Providence, R.I., to apply for a \$251 million Water Infrastructure Finance and Innovation Act (WIFIA) loan to make infrastructure improvements to control combined sewer overflows (CSOs).

"Through WIFIA, EPA is playing an integral role in President Trump's efforts to improve and upgrade our nation's water infrastructure and ensure all Americans have access to clean and safe water," **said EPA Acting Administrator Andrew Wheeler**. "This year, EPA will help finance over \$10 billion in water infrastructure investments that will create up to 155,000 jobs, upgrade aging infrastructure, reduce lead exposure, and improve the lives of millions of Americans across the country."

After a robust, statutorily required review process, Narragansett Bay Commission was selected as one of 39 projects nationwide, from a group of 62 prospective borrowers, representing large and small communities, who submitted letters of interest to EPA in response to the [2018 WIFIA Notice of Funding Availability \(NOFA\)](#). Together, the selected borrowers will receive WIFIA loans totaling up to \$5 billion to help finance over \$10 billion in water infrastructure investments and create up to 155,000 jobs.

"This funding will continue the important work already under way to address sewer overflows, which means cleaner water and a more vibrant economy for communities across Narragansett Bay," **said EPA New England Regional Administrator Alexandra Dunn**. "This loan embodies the administration's commitment to making sure New Englanders have clean water and that this utility has the resources needed to make that happen."

The WIFIA loan will further the Narragansett Bay Commission's work to design and construct a storage tunnel and associated infrastructure to provide a storage volume of 58.6 million gallons, which will help reduce CSOs.

Background

Established by the Water Infrastructure Finance and Innovation Act of 2014, the WIFIA program is a federal loan and guarantee program at EPA that aims to accelerate investment in the nation's water infrastructure by providing long-term, low-cost supplemental credit assistance for regionally and nationally significant projects. EPA's WIFIA loans will allow large and small communities across the country to implement projects to address two national water priorities – providing for clean and safe drinking water including reducing exposure to lead and other contaminants and addressing aging water infrastructure.

To date, EPA has issued four loans totaling over \$1 billion in WIFIA credit assistance. Combined, these four projects will create over 5,000 jobs.

According to EPA's estimate of national drinking water and wastewater needs, over \$743 billion is needed for water infrastructure improvements. EPA's WIFIA program plays an important part in fulfilling this need and in the [President's Infrastructure Plan](#), which calls for expanding project eligibility.

To learn more about the 39 projects that are invited to apply and about EPA's WIFIA program, visit <https://www.epa.gov/wifia/wifia-selected-projects>.

[Contact Us](#) to ask a question, provide feedback, or report a problem.

Federal EPA OKs funding for largest-ever R.I. public-works project

By Alex Kuffner
Journal Staff Writer

Posted Nov 7, 2018 at 8:07 PM

Updated Nov 7, 2018 at 8:07 PM

PROVIDENCE — The final phase of the largest public-works project in Rhode Island history inched a little closer to beginning after it pre-qualified for critical funding from the federal government.

The U.S. Environmental Protection Agency has cleared the way for the Narragansett Bay Commission to apply for a \$251-million loan that would help finance the completion of the decades-long, \$1-billion-plus construction of an underground network of tunnels to store and treat dirty stormwater before it flows into Narragansett Bay.

The commission, which manages the biggest wastewater treatment system in Rhode Island, was one of 39 applicants, and the only one in New England, chosen from a field of 62 public entities for Water Infrastructure Finance and Innovation Act loans. In 2017, the first year of the program, about half the qualified applicants ended up receiving loans, said EPA New England regional administrator Alexandra Dunn.

“We chose this because it will obviously make a significant difference in water quality for residents of the Ocean State,” she said. “Narragansett Bay is one of the iconic waterways in New England.”

The NBC’s efforts to deal with stormwater through the Combined Sewer Overflow project got underway in 2001 with the start of construction of a \$360-million, three-mile long, 26-foot-wide tunnel deep under Providence to store runoff. The second phase included construction at a cost of \$187 million of ancillary pipes to connect to the tunnel.

Work wrapped up on the first two phases in 2014. Since then, the commission has been finalizing a plan for the final phase, which would bring its system into full compliance with federal environmental laws.

The centerpiece of the next round of work will be construction of a 2.5-mile long, 28-foot-wide storage tunnel that will stretch from Bucklin Point in East Providence up the Seekonk River and into Pawtucket. With a series of other improvements included, it will be the most expensive part of the overall project, costing \$755 million.

The NBC’s Board of Commissioners voted in September to move forward with engineering for the third phase in preparation for construction to begin in 2020 or 2021. The project will be divided into four sub-phases ending in 2041.

The 119,000 households in the commission’s service area are bearing the costs of construction, with the average annual bill for a typical residence tripling over the last 14 years to \$480 and expected to peak at \$590 in 2025 before dropping back down to less than \$500 by the end of the construction

period.

But the rate increases could be tempered if the EPA funding comes through. Interest on the loan would be at a below-market rate and the payback period could be as long as 35 years, compared to 20 years for the type of financing the commission typically uses through the Rhode Island Infrastructure Bank.

“If we’re fully able to take advantage of the loan program, it would be a great thing for our ratepayers,” said Jamie Samons, public affairs manager for the commission.

The commission handles sewage and stormwater for Lincoln, Cumberland, Johnston, North Providence, Providence, Pawtucket, Central Falls and East Providence. A little more than half of the dirty water is channeled to a treatment facility in Fields Point in Providence, where it’s processed before emptying into the Providence River. The other half goes to a facility at Bucklin Point.

Following passage of the federal Clean Water Act in 1972, the EPA ordered the problem to be fixed. If nothing were done, the commission would have been subject to hefty fines.

The first two phases of the project are able to capture about 60 percent of the stormwater that passes through the NBC system. The third phase is aimed at taking care of nearly all of the rest.

When enough rain falls in a short period of time, the system, which includes century-old sections in Pawtucket and Central Falls, becomes overtaxed and contaminated water spills into the Bay and its tributaries before it can be treated.

Runoff from rains is considered one of the leading threats to the cleanliness of Narragansett Bay because it can carry bacteria that can close beaches and shellfishing beds and nutrients that can cause unhealthy algae blooms.

Since the tunnel network went into use, bacteria levels in the Bay have dropped by 50 percent, according to testing by the commission. The University of Rhode Island has also found that levels of nutrients had dropped to half of what they were in the 1990s.

“We’ve seen the benefits in the Bay of the investments so far,” Samons said.

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7 big turbines rise in Johnston — biggest onshore wind farm in R.I. | video

By **Alex Kuffner**

Journal Staff Writer

Posted Nov 14, 2018 at 11:51 PM

Updated Nov 14, 2018 at 11:52 PM

JOHNSTON — The wind turbines appear up ahead as you drive west on Route 6, rising high on a hill over Johnston.

In a matter of weeks, Green Development, of North Kingstown, has installed six of the German-made behemoths that each stand 524 feet tall when their blade tips are at their highest point — higher than the Industrial Trust building in Providence.

With only one turbine left to go, the wind farm in a largely industrial area off Plainfield Pike and Shun Pike, not far from the Central Landfill, is expected to start feeding power into the regional electric grid by the end of the year.

When the \$105-million project is completed, it will be the largest wind farm on land in Rhode Island, in terms of the amount of power it will be able to produce. Green Development's wind farm in Coventry has more turbines — 10 on sites off Victory Highway — but each one has only half the power-generating capacity of the seven next-generation turbines going up in Johnston: 1.5 megawatts versus 3 megawatts.

That means the total nameplate capacity of the Johnston wind farm is 21 megawatts, compared with 15 megawatts for the Coventry project.

The only wind farm in Rhode Island that can generate more power than the Johnston array is Deepwater Wind's five-turbine, 30-megawatt project in state waters off Block Island. Completed in 2016, it is the first, and so far only, offshore wind farm in the United States.

As he walked through the Johnston project on a recent morning, Mark DePasquale, founder and chairman of Green Development, pointed to a turbine whose rotor had just been lifted into place.

"That one will be done in about another hour," he said.

In the last six years, North Kingstown-based Green Development, formerly known as Wind Energy Development, has become one of the biggest developers of renewable energy in Rhode Island.

The company started with a single wind turbine in North Kingstown in 2012 and has put up 11 more — the ones in Coventry, as well as one in place of the failed turbine at Portsmouth High School — and installed or proposed more than 100 megawatts of solar power in Richmond, Exeter, North Smithfield and elsewhere around the state.

Although its projects are helping to reduce energy costs for municipalities and other public entities, have won contracts through the state, and been embraced by people like Johnston Mayor Joseph Polisena, they have not been universally welcomed. Some residents of Coventry in particular have complained of shadow flicker and noise and objected to the visual impact of the 414-foot-tall turbines in a largely rural part of that community.

Green Development has also found itself in the midst of more than one Smith Hill controversy. Two years ago, a budget provision designed to help the company's Coventry project by shifting some interconnection costs to ratepayers was shelved after a Journal story on it.

In the last General Assembly session, the company sought legislation that would have extended a key renewable-energy incentive to biomass — the burning of wood waste for power — to benefit a project in the works at the time in Johnston, but the measure was dropped in the face of opposition from environmental groups.

As recently as September, Green Development was still actively considering a biomass project in Johnston. In response to a request for proposals for renewable energy issued by the State of Rhode Island on Sept. 12, Green Development submitted a notice of intent to bid through a project called "GD Johnston Green Hill Biomass." The notice included a project size of 40 megawatts, a construction date of September 2019 and an operation date of December 2021, but offered no other details.

The company, however, did not follow through with a formal bid, according to public documents. And for now, Green Development is not pursuing any biomass proposals and has decided against taking up the fight again for the amendment to the net metering legislation in the next legislative session this winter, said spokesman Bill Fischer.

"It's not a priority right now," he said. "Our focus is on wind and solar."

The turbines being installed in Johnston were fabricated in Germany by manufacturer VENSYS and shipped to the Quonset Business Park in North Kingstown.

They are going up in pieces, five tubular tower sections that fit atop one another, then the nacelle 338 feet up that houses mechanicals, the generator on the front, and finally the rotor with its three blades. The 200-foot-long carbon-fiber blades are longer than those of the other turbines installed on land in Rhode Island, which allows them to capture more energy from the wind and convert it to more electricity.

Green Development is leasing land from private property owners in Johnston, including JR Vinagro Corp. and Rambone Disposal Services, paying them \$54,000 annually for each turbine. The company will pay Johnston \$140,000 a year as part of a tax deal and also agreed to make a one-time payment of \$175,000 to set up a college scholarship fund.

Mayor Polisenia said he hasn't heard any complaints about the project so far, noting that the area isn't residential, sits near the landfill and is already home to a host of industrial enterprises.

"It's great for the town, great for the environment and, importantly, great for future generations," he said of the wind farm.

Green Development has agreements in place with the Narragansett Bay Commission, the Rhode Island Convention Center Authority, the Town of Scituate and multiple housing authorities in the state, which will all buy power from the turbines to offset their electric bills. A portion of the wind farm's output will also be sold directly to the power grid.

DePasquale said that Green Development is looking at other places to install more wind turbines, while also working on plans to revamp its offices in North Kingstown, adding a renewable-energy education center, a solar array and a battery-storage facility.

"Overall in Rhode Island, we're putting out more energy than anybody else," DePasquale said. "We're looking to expand."

The Johnston turbines have gone up quickly, and should be done next week, but DePasquale hoped to finish sooner. The very weather conditions that make the location suitable for the project have delayed some construction.

"We've been fighting a lot of wind," DePasquale said.

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Large onshore wind farm expected to start operating soon

by THE ASSOCIATED PRESS
Friday, November 16th 2018



JOHNSTON, R.I. (AP) — An onshore wind farm that will have the most operational capacity in Rhode Island is expected to come online by the end of the year.

The Providence Journal reports that Green Development LLC has installed six of the seven turbines at its Johnston wind farm. The North Kingstown-based company says the \$105 million facility will have a capacity of 21 megawatts. Deepwater Wind's 30-megawatt offshore project is the only wind farm that generates more power in the state.

The Narragansett Bay Commission, Rhode Island Convention Center Authority and several housing authorities will all purchase power from the array.

Green Development owns 10 turbines in Coventry, but they're 1.5 megawatt each, for a capacity of 15 megawatts. The company says it's dedicated to creating "green jobs and green energy."

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Guest MINDSETTER™ Britt: Meet MR. CAN

Tuesday, November 20, 2018

Guest MINDSETTER™ Kerry Britt

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Who doesn't love Thanksgiving? Friends and family gather together to eat and celebrate, maybe watch a football game (or six), and take well-deserved nap on the sofa. But you know what can turn your great Thanksgiving into a real stinker? A sewage back-up caused by grease and other nasty stuff blocking your sewer pipes.

Let me introduce you to MR. CAN, the Narragansett Bay Commission's grease-fighting superhero. MR. CAN fearlessly fight the Grease Beasts, those globs of grease and gunk who conspire to turn your Thanksgiving into a CODE ICKY.

How do we keep the Grease Beasts from ruining your feast? Here are some tips to keep you in the clean this Thanksgiving:

In the kitchen:

Those glistening drippings on the turkey taste delicious, but they're bad for your pipes and will create Grease Beasts. Ditto the grease from your breakfast bacon and the oil you used to fry latkes, wandies, or your turkey. Instead, pour that grease in a can or other non-meltable container, let it cool, and put it in the garbage can.

Other things that can clog your pipes include:



Mr. CAN PHOTO: Facebook

VIEW LARGER +

- Rice, pasta, and bread
- Raw cookie dough or bread dough
- Fibrous fruits and vegetables
- Anything that's not food

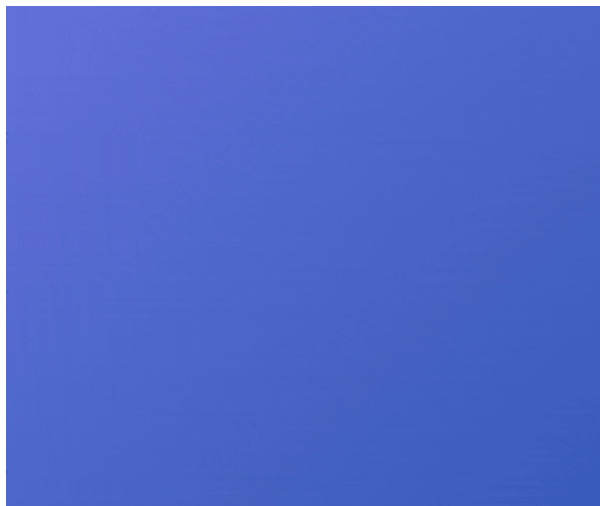
In the bathroom:

Only human waste and toilet paper go down the toilet. Anything else, especially those wipes that bill themselves “flushable,” should go in the trash bin. Other no-nos:

- Dental floss
- Contact lenses
- Cat litter
- Facial tissues, paper towels, and Q-tips
- Tampons
- Condoms
- Medication

Rhode Island has some of the oldest sewers in the nation, and we need to keep them free of Grease Beasts to protect the health of our rivers and Narragansett Bay. So, commit to clean pipes this holiday season. From all of the clean water professionals at the Narragansett Bay Commission, MR. CAN, and me, have a safe, happy, and clog-free Thanksgiving!

Kerry Britt is the Pretreatment Manager for the Narragansett Bay Commission and co-chair of the Industrial Pretreatment Committee for the National Association of Clean Water Agencies (NACWA). Under her management, the NBC's Industrial Pretreatment Program has been recognized repeatedly for excellence by the USEPA.



Related Slideshow: Some of the Most Interesting GoLocal LIVE Interviews—The First 1,000

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Providence

Providence Water deal, universal pre-K among Mayor Elorza's top goals for 2nd term

By:

- Dan McGowan

○

Posted: Dec 26, 2018 02:49 PM EST

Updated: Dec 27, 2018 11:46 PM EST



PROVIDENCE, R.I. (WPRI) – It won't make his inauguration speech when he is sworn in for a second term Jan. 7, but Providence Mayor Jorge Elorza has a message for whomever wants to succeed him in four years.

"If this water transaction isn't consummated, it's going to suck to be the next mayor," Elorza said during a wide-ranging interview with Eyewitness News earlier this month. "It's going to suck. It's going to be all about what are we going to cut? Who are we going to piss off? It's terrible."

That's why the Democrat says he will continue to pursue a deal to sell or lease the Providence Water Supply Board in exchange for a windfall of cash that would be earmarked for the city's ailing pension fund, which has less than 30% of the money it needs to cover \$1.35 billion in future payments to retirees.

Elorza, who breezed to re-election in November, said the proposed water transaction and a plan to implement a free universal pre-kindergarten program for children in the capital city are his top priorities over the next four years. (He will be term-limited in 2022, and isn't ruling out running for higher office.)

The ambitious proposals Elorza is putting forward are attempts to tackle two quintessential challenges his peers in cities across the country are facing: the ever-growing tab for retirement benefits and underperforming schools that send middle-class families searching for alternatives and too often allow poor children to fall off track.

When it comes to water, Elorza is offering a complicated solution to a straightforward problem.

Providence is required to contribute \$83 million to its pension fund in the current fiscal year, a payment that eats up 11% of the entire city budget. That annual deposit is projected to grow by 3.5% a year through 2040, when the payment will hit \$172 million. (It's likely the city will reamortize the debt at some point, smoothing out payments while extending the amount of time it will take to have a fully-funded pension system.)

While the largest pension contributions will come long after he leaves office, Elorza has repeatedly warned that every new dollar that goes toward retiree benefits is a dollar that can't be spent improving schools or city services, let alone lowering taxes.

"The real bill isn't going to come due during my time," Elorza said. "The city's going to be fine for the next four years. But the reason I've chosen to take this on is because we cannot kick the can down the road. This is not just a looming threat. This is an existential threat that the city has."

Elorza contends that Providence should be allowed to generate a profit on the water supply it controls, possibly through a lease deal that would involve the quasi-public Narragansett Bay Commission to oversee the system. He has said a transaction could generate nearly \$400 million for the pension fund, but he has faced resistance from lawmakers, other municipalities and environmental groups.

Some critics, including state Treasurer Seth Magaziner, have questioned whether Providence owns the water system. Others have warned against the idea of privatizing the water supply (Elorza maintains the system would not be privatized). At least eight members of the incoming City Council have publicly stated they oppose a water transaction.

Elorza acknowledges "I need to do a better job" explaining why he supports a water deal, but he maintains simply "disagreeing with the proposal we've put forward isn't sufficient." On the campaign trail this year, he repeatedly challenged his opponents to offer other solutions for the pension system, but none of them did.

"There are no other assets," Elorza said. "If there was another option out there, you would think that either my administration, [Angel] Taveras's administration, [David] Cicilline's administration, would have identified it by now. That easy option, that easy alternative, is just not out there."

Universal pre-K is likely to generate widespread support from the City Council and Providence residents, but finding the money to pay for it won't be easy.

Elorza said he believes the program could cost between \$8 million and \$12 million a year, a portion of which could come from the state if Gov. Gina Raimondo follows through on her pledge to implement universal pre-K across the state. But Providence school officials have warned the district [could face a \\$37-million shortfall](#) by 2023, which may force the city to make deep cuts in programming in the coming years.

"We can do it," Elorza said of his pre-K plan. "We can absolutely do it. Other cities have done it. It's a matter of identifying the resources and getting it done."

At the same time, Elorza said he wants to take a more holistic approach to improving educational outcomes for students. He regularly points out that children spend just 20% of their waking hours in classrooms, but he wants to make further investments in out-of-school opportunities, like summer camps and after-school programming.

"The 20% gets hundreds of millions of bucks," he said. "The other 80% gets peanuts."

While he stands by his year-long contract dispute with Providence's teachers – the two sides recently came to terms on a new agreement – he said the battle proved how difficult it is to change education policy through a collective bargaining agreement.

"It's frustrating that the leverage doesn't exist to bring about the change immediately that we know our kids deserve," he said. "On the flip side of that, you identify areas where you can make a difference and you work your tail off to make sure to build the systems in those specific areas so that kids aren't slipping through the cracks."

[Continue the discussion on Facebook](#)

Dan McGowan (dmcgowan@wpri.com) covers politics, education and the city of Providence for WPRI.com. Follow him on [Facebook](#) and Twitter: [@danmcgowan](#)

***NBC PRESS RELEASES
AND PUBLIC NOTICES***

NARRAGANSETT BAY COMMISSION

Perfect Compliance

in recognition of Significant Industrial User Perfect Compliance in 2017

The Narragansett Bay Commission recognizes these Significant Industrial User companies for perfect regulatory compliance with Pretreatment Program regulations during 2017:



A. Harrison & Company, Inc.
Dominion Energy

Manchester St., Inc.

Hord Crystal Corporation

International Chromium Plating
Mahr, Inc.

Metallurgical Solutions, Inc.

Pawtucket Power Associates

Pilgrim Screw Corporation

Providence Journal Company
Production Facility

Tanury Industries PVD, Inc.

Teknikote, Inc.

Univar USA, Inc.

Eagle Laundry, Inc.

Electrolizing, Inc.

HP Services, Inc.

Induplate, LLC

Materion Technical Materials, Inc.

Interplex Engineered Products, Inc.

Narragansett Jewelry, dba

C & J Jewelry Company

Providence Metallizing

Company, Inc.

Stackbin Corporation

Technodic, Inc.

Truex, Inc.

Has your company demonstrated extraordinary environmental efforts this year?

If so, apply for an NBC Environmental Merit Award! Download an application form at www.narrabay.com.

Vincent J. Mesolella, *Chairman* • Raymond J. Marshall, P.E., *Executive Director*

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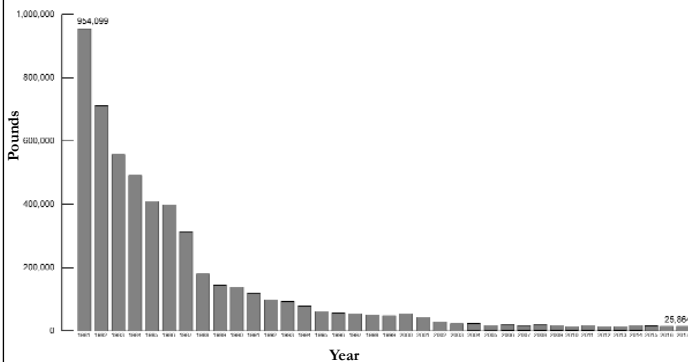
Firms in Significant Non-Compliance

THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGULATION 40 C.F.R. 403.8(f) (2) (vii) and Article 10 of the Narragansett Bay Commission, Rules and Regulations require the NBC to publish annually the names of all industrial users in Significant Non-Compliance (SNC) with pretreatment standards and other pretreatment requirements during the preceding year. Companies deemed to be in Significant Non-Compliance are those industrial users who have violated any of the Significant Non-Compliance criteria listed, as defined by Article 2 of the NBC Rules and Regulations during the time period from October 1, 2016 through December 31, 2017. The parameter for which a company was not in compliance and/or the specific administrative deficiency are listed after the company name. The number(s) in parentheses correspond to the type of SNC criteria specified below. Some of the firms listed below may have been issued an Administrative Order in which administrative and/or civil penalties may have been assessed. Many of the companies listed have made significant progress toward correcting the violation and may now be in compliance.

Significant Non-Compliance Criteria:

- (1) Chronic violations of wastewater discharge limits, defined here as those in which 66% or more of all of the measurements taken during a six-month period exceed (by any magnitude) a numerical Pretreatment Standard or Requirement for the same pollutant parameter;
- (2) Technical Review Criteria (TRC) violations, defined here as those in which 33% or more of all the measurements for each pollutant parameter taken during a six-month period equal or exceed the product of a numerical Pretreatment Standard or Requirement multiplied by the applicable TRC value (TRC = 1.4 for BOD, TSS, fats, oil, and grease and 1.2 for all other pollutants except pH);
- (3) Any other violation of a pretreatment effluent limit (daily maximum or long-term average) that the Commission determines has caused, alone or in combination with other discharges, interference or pass through (including endangering the health of Commission personnel or the general public);
- (4) Any discharges of a pollutant that has caused imminent endangerment to human health, welfare or the environment or has resulted in the Commission's exercise of its emergency authority to halt or prevent such a discharge;
- (5) Failure to meet, within 90 days after the scheduled date, a compliance milestone contained in a Commission notification, permit or enforcement order, for starting construction, completing construction or attaining final compliance;
- (6) Failure to provide, within 30 days after the due date, required reports such as baseline monitoring reports, 90-day compliance reports, self-monitoring compliance reports and reports on compliance with compliance schedules;
- (7) Failure to accurately report noncompliance;
- (8) Any other violation or group of violations which the Commission determines has adversely effected the operation or implementation of the Industrial Pretreatment Program.

Total Metals Influent to Field's Point WWTF, 1981-2017



THE NARRAGANSETT BAY COMMISSION IS COMMITTED TO PROTECTING THE STATE'S TWO LARGEST WASTEWATER TREATMENT FACILITIES AND NARRAGANSETT BAY FROM TOXIC DISCHARGES. This is accomplished by the issuance of discharge permits to commercial and industrial sewer users. These discharge permits specify the level of pollutants that can be discharged in a facility's wastestream and may require a firm to conduct wastewater monitoring to verify compliance with discharge limits, to implement a Spill Control Plan and/or Toxic Organic/Solvent Management Plan, and to install pretreatment equipment. Various reporting and record keeping requirements may also be written into discharge permits. The firms listed in this public notice violated one or more of the significant non-compliance criteria specified above. The Commission is required by the RI DEM and the US EPA to annually publish the names of all firms violating any of these criteria. Therefore, firms must be sure to comply with all the terms specified in their discharge permit to ensure that the name of their firm is not listed in this annual public notice. The NBC offers FREE technical assistance to firms located in the NBC service area through its non-regulatory Office of Environmental, Safety & Technical Assistance. For information on how the NBC Environmental, Safety & Technical Assistance Program can help your firm achieve and maintain compliance, contact the Environmental, Safety & Technical Assistance Program Staff at 461-8848/TDD 461-6549.

Most businesses located in the NBC district are to be commended for the fine job they have done treating their process discharges to remove toxic pollutants. In 1981, local industries discharged 954,099 pounds of heavy metals such as copper, nickel and zinc and 80,440 pounds of cyanide to the Field's Point Wastewater Treatment Facility. Since 1981, the total metals and cyanide loadings to the Field's Point facility have been reduced by 97.3% and 98.3% respectively. Similar toxic loading reductions have been observed at the NBC Bucklin Point facility.

Bucklin Point Service Area

Lincoln		
Company Name	Violations Cited	Present Status
Michael Healy Designs, Inc.	Failure to submit report on time (6)	Report has been received.
Putnam Holdings, Inc.	Failure to submit reports on time (6)	Reports have not been received.

Pawtucket		
Company Name	Violations Cited	Present Status
John H. Collins & Sons Company	TTO (2)	Firm is now in compliance.

Field's Point Service Area

Johnston		
Company Name	Violations Cited	Present Status
DiFruscia Industries, Inc.	Failure to submit reports on time (6)	Reports have been received.

Providence		
Company Name	Violations Cited	Present Status
Providence Specialty Products	O&G (1, 2)	Firm is still out of compliance.
JC Gorham Co.	Failure to submit reports on time (6)	Reports have not been received.
Bella's Jewelry	Failure to submit report on time (6)	Report has been received.
The Providence Mint	Failure to submit report on time (6)	Report has been received.
Ximedica	Zn (2)	Firm is now in compliance.

The Narragansett Bay Commission will continue to lead in wastewater treatment, environmental protection, and environmental education to ensure a cleaner Narragansett Bay for all to enjoy.

Vincent J. Mesolella, *Chairman* • Raymond J. Marshall, P.E., *Executive Director*
 Narragansett Bay Commission • One Service Road • Providence, RI 02905 • 401-461-8848 • TDD 401-461-6549 • FAX 401-461-6540 • <http://www.narrabay.com>
 Twitter: @narrabay • Facebook: www.facebook.com/narrabay • Instagram: @narrabay
The cost of this public notice will be billed to the firms listed above that were in significant non-compliance.

Narragansett Bay Commission Invited to Apply for EPA Infrastructure Financing Program

The U.S. Environmental Protection Agency (EPA) is inviting the Narragansett Bay Commission (NBC) to apply for a \$251 million Water Infrastructure Finance and Innovation Act (WIFIA) loan to make infrastructure improvements to control combined sewer overflows (CSOs) as a part of NBC's continuing CSO program.

After a robust, statutorily-required review process, the NBC was selected as one of 39 projects nationwide---and the only agency in New England---from a group of 62 prospective borrowers, representing large and small communities, who submitted letters of interest to EPA. Together, the selected borrowers will receive WIFIA loans totaling up to \$5 billion to help finance over \$10 billion in water infrastructure investments and create up to 155,000 jobs.

"This funding will continue the important work already under way to address sewer overflows, which means cleaner water and a more vibrant economy for communities across Narragansett Bay," said EPA New England Regional Administrator Alexandra Dunn.

Established in 2014, the WIFIA program is a federal loan and guarantee program at EPA that aims to accelerate investment in the nation's water infrastructure by providing long-term, low-cost supplemental credit assistance for regionally and nationally significant projects. The NBC will use the loan funds to help finance Phase III of its CSO Abatement Project, which includes construction of a 59-million gallon capacity deep rock tunnel to store storm-related sewage overflows. Phases I and II of the project, completed in 2008 and 2014 respectively, already have effected significant water quality improvements in Narragansett Bay and the urban rivers, decreasing bathing beach closures by 85% and expanding shellfishing into 3,700 acres of the bay that have been closed for seventy years.

"We have dual responsibilities at the NBC: to the environment and to our ratepayers," said NBC Executive Director Ray Marshall. "The WIFIA program will help us stay on a robust course of improving our clean water infrastructure while also providing some relief for our ratepayers. We are confident that all of Rhode Island will benefit from cleaner water and greater opportunities to experience our rivers and bay."

**IMPORTANT - PLEASE NOTE
PROPOSED CHANGES IN RATES**

Pursuant to R.I.G.L. § 39-3-11, and in accordance with Rule 1.9 and Part Two of the Rules of Practice and Procedure of the Rhode Island Public Utilities Commission ("PUC"), the Narragansett Bay Commission ("NBC") hereby gives notice that it has submitted two filings to the PUC that, if granted, would increase NBC's rates.

On October 3, 2018, NBC submitted a debt service compliance filing to the PUC (Docket 4885) to change its rates solely to cover debt service and debt service coverage expenses to fund NBC's ongoing capital improvements. The new rates, as proposed, will generate additional revenues of \$2,872,681 to support a total revenue requirement of \$102,522,251 for NBC. The impact of the proposal will be an across-the-board increase of 2.98% on all residential and non-residential rates. For an average residential customer, using 150 gallons of water per day, the request will result in an increase of \$14.21 in their annual bill from \$477.27 to \$491.48. The impact of the rate increase on all other customers will vary depending upon the customer's classification and consumption. The NBC has requested that the proposed new rates become effective on January 1, 2019. The filing can be accessed at <http://www.ripuc.org/eventsactions/docket/4885page.html>

On October 10, 2018, NBC filed an application for a general rate increase with the PUC (Docket 4890) to change its rates primarily to cover increased operation and maintenance expenses. The new rates, as proposed, are designed to generate additional revenues in the amount of \$6,388,424, or 6.33%, to support a total adjusted revenue requirement of \$107,249,751 for NBC. For an average residential customer, using 150 gallons of water per day, the request will result in an increase of \$26.63 in their annual bill from \$491.48 to \$518.11. The impact of the rate increase on all other customers will vary depending upon the customer's classification and consumption. The NBC has requested that the proposed new rates become effective on July 1, 2019. The filing can be accessed at <http://www.ripuc.org/eventsactions/docket/4890page.html>

If the PUC approves the rate increases requested by NBC in both Dockets, the annual bill for an average residential customer, using 150 gallons of water per day, will increase by \$40.84 from \$477.27 to \$518.11. The impact of the rate increase on all other customers will vary depending upon the customer's classification and consumption.

--OVER--

--CONTINUED FROM PREVIOUS PAGE--

The hearing on NBC's filing in Docket 4885 has been scheduled for December 4, 2018 at 9:30 a.m. at the Rhode Island Public Utilities Commission, 89 Jefferson Boulevard, Warwick, Rhode Island, and members of the public may appear and comment on the NBC's proposal.

The hearings on NBC's filing in Docket 4890 have been scheduled for May 23 and 24, 2019 at 9:30 a.m. at the Rhode Island Public Utilities Commission, 89 Jefferson Boulevard, Warwick, Rhode Island, and members of the public may appear and comment on the NBC's proposal. In addition, a public comment hearing for Docket 4890 will held on January 10, 2019 at 6:00 p.m. at the Narragansett Bay Commission's Main Conference Room, One Service Road, Providence, Rhode Island, and the public may also appear at this hearing to comment on the NBC's proposal.

The PUC can approve rates and revenues that are different than those proposed by NBC after full investigations and hearings in both Docket 4885 and Docket 4890, and no rate changes in either docket will take effect until the PUC has conducted full investigations and hearings on the proposals

Copies of both applications are on file at the NBC's main office at One Service Road, Providence, Rhode Island and at the offices of the Rhode Island Public Utilities Commission, 89 Jefferson Blvd., Warwick, Rhode Island and may be viewed during business hours.



Coming Soon:
Paperless Billing

MEET BILL

the Narragansett Bay Commission's
Paperless Billing Ambassador,
bringing new billing and payment
options to you in 2019!



Coming Soon: Paperless Billing

MEET BILL

the Narragansett Bay Commission's
Paperless Billing Ambassador,
bringing new billing and payment
options to you in 2019!

Paperless billing is

QUICK

CONVENIENT

GOOD FOR THE ENVIRONMENT

more information coming your way soon



The Narragansett Bay Commission
a clean bay today
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@narrabay



Viene Pronto: Facturación electrónica

CONOZCA BILL

el embajador de facturación electrónica de
Narragansett Bay Commission.
¡Traemos nuevas opciones de
facturación y pago en 2019!

La facturación electrónica es una manera

Más rápida

Conveniente

Bueno para el medioambiente

más información viene pronto



The Narragansett Bay Commission
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MEET BILL

Narragansett Bay Commission's Paperless Billing Ambassador bringing new billing and payment options to you in 2019!

Enjoy the convenience of paying your NBC bill anytime, anywhere with the NBC's new billing and online payment system. You'll have more choices on how you receive and pay your bill.

Online:

- View and pay your bill online
- Securely store payment information for future use
- Set up one-time payments, autopay or recurring payments
- Go paperless and receive your bills electronically
- See statements and payment transaction history

By Phone:

- Make a payment or check your balance 24/7 through the new Interactive Voice Response (IVR) system



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CONOZCA BILL

el embajador de facturación electrónica de Narragansett Bay Commission, trae nueva opciones de pago en 2019!

Disfrute de la comodidad de pagar su factura de NBC en cualquier momento y en cualquier lugar con el nuevo sistema de facturación y pago en línea de NBC. Tendrás más opciones sobre cómo usted recibe y paga su factura.

Electrónicamente:

- Ver y pagar su factura en línea.
- Ingrese de forma segura la información de pago para uso futuro
- Configure pagos únicos, pagos automáticos o pagos recurrentes
- Reciba sus facturas electrónicamente
- Ver estados de cuenta y el historial de transacciones de pago.

Por Telefono:

- Realice un pago o verifique su saldo 24/7 a través del nuevo sistema de Respuesta de voz interactiva.



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NBC NEWSLETTERS



NBC Pipeline

January 2018

NBC Pipeline is a monthly publication designed to keep Narragansett Bay Commission staff up to date on internal current affairs. Staff is welcome to forward to the Public Affairs Office any items they would like to share or see in a future publication. Your suggestions and participation are encouraged and appreciated.

Calendar of Events *for January*

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1  New Year's Day	2	3	4	5	6
7	8	9	10	11	12 Payday	13
14	15  Dr. Martin Luther King, Jr. Day	16 Tuition Reimbursement Deadline	17	18	19  Game @ 7 PM	20
21  Game @ 3 PM	22	23	24 CAC Meeting 9:30 AM	25	26 Payday	27
28	29	30 Board of Commissioner's Meeting 11 AM	31 Full Moon	<i>All meetings are held at the Commission's One Service Road Offices unless otherwise noted.</i>		

Spring Applications for Tuition Reimbursement

Applications for tuition reimbursement must be submitted by **Tuesday, January 16, 2018** for all Local 1033, Council 94 and Non-Union Employees.

Completed applications should be forwarded to Joanne Maceroni, at One Service Road, by the deadline of **Tuesday, January 16th**. Each Application **must be** accompanied by a short course description taken from the college catalog. Courses eligible for reimbursement should be related to your job or for career enhancement within the NBC. Blank Application forms may be obtained from the Commission's Human Resources Office or by going on Baynet and clicking on to General Information - Benefits - Tuition Reimbursement Programs. If you have any questions regarding the program, please contact **Joanne Maceroni** at ext. 327.

News Briefs...

NBC Partners with Providence Fire Department to Conduct Emergency Rescue Drill

In accordance with OSHA's regulation on Permit-required Confined Spaces, NBC is required to conduct an annual emergency rescue drill with an outside entity that is trained and equipped to offer such a service in a timely manner. In the absence of a trained, 24/7 on-site rescue team at NBC, the Providence Fire Department is one such entity who's abilities are required to be assessed and evaluated by NBC at least once a year.



On December 5th the Providence Fire Department (PFD) conducted a successful confined space rescue drill in the Gate & Screening Structure #1 (GS-1) on NBC's Tunnel Pump Station property. The scenario involved the rescue of an unconscious NBC IM Operator (manikin) that had succumbed to overexertion while working in the space. The drill ran smoothly and PFD used their own specialized equipment. A special thanks to NBC's IM department for their hard work in cleaning the space prior to the drill, as well as setting up all required confined space entry equipment.



The following fire departments within NBC's service area are currently trained and equipped to perform a confined space emergency rescue for NBC employees:

- Providence FD
- East Providence FD
- North Providence FD
- Cranston FD
- Cumberland FD

NBC's confined space training program mandates that rescue is to be conducted from outside the space by utilizing a mechanical winch. If ever involved in a confined space emergency that warrants calling 911 to rescue an NBC employee from the space, it is crucial that NBC employees remain calm and clearly explain the situation to the 911 Operator. The call will be routed to one of the fire departments listed above. If a physical address is not readily available, try to give local landmarks or look for numbers on telephone poles.

Health & Safety Trainings: Active Shooter Response Training: 1/11 & 1/25. 1/4 make-up date is scheduled for 2/1 other Feb class TBD.

-- Submitted by Dave Aucoin

This Year...

Here is some inspiration to set the tone for the new year...

- Believe that anything is possible
- Start each day with goals
- Eat more real food
- Drink water
- Exercise daily even when it sounds like its a terrible idea
- Shop for quality not quantity
- Purge the unnecessary and decrease the clutter
- Hug the ones you love
- Find the best in others
- Show others the best in you



Welcome...



Bernard Harwood Jr.,
BP Operator I



Nathaniel Reynoso,
FP Operator I

Bomb Cyclone Cleanup

NBC staff in action cleaning up the NBC campus during the "Bomb Cyclone" on Thursday January 4th that brought blizzard like conditions and extreme cold to RI.



-- Submitted by Meg Goulet

Know the Signs of Frostbite and Hypothermia



Whether working outside or enjoying outdoor winter activities, you or someone you know can quickly become susceptible to the dangers of cold-related emergencies such as frostbite and hypothermia. These conditions may quickly become life or limb threatening unless proper precautions are taken. Some suggested safeguards:

- Be aware of the wind chill factor.
- Dress appropriately and avoid staying in the cold too long
- Wear a hat and gloves when appropriate along with layers of clothing.
- Drink plenty of warm fluids or warm water but avoid caffeine and alcohol.
- Stay active to maintain body heat and take frequent breaks from the cold.
- Avoid unnecessary exposure of any part of the body to the cold. Get out of the cold immediately if the indications of hypothermia or frostbite appear.

Frostbite is the freezing of a specific body part such as fingers, toes, the nose or earlobes. Apparent signs of frostbite include:

- Lack of feeling in the affected area;
- Skin that appears waxy or cold to the touch, and discolored (flushed, white or gray, yellow or blue).

Treating Frostbite:

- Move the person to a warm place.
- Handle the area gently; never rub the affected area.
- Warm gently by soaking the affected area in warm water (100-105 degrees F) until it appears red and feels warm.
- Loosely bandage the area with dry, sterile dressings.
- If the person's fingers or toes are frostbitten, place dry, sterile gauze between them to keep them separated.
- Avoid breaking any blisters.
- Do not allow the affected area to refreeze.
- Seek professional medical care as soon as possible.

Hypothermia happens when the cooling of the body drops below 95 Degrees Fahrenheit. The goals of first aid are to restore normal body temperature and to care for any conditions while waiting for EMS to arrive. Apparent systems of Hypothermia include:

- Shivering, numbness, glassy stare;
- Apathy, weakness, impaired judgment;
- Loss of consciousness.

Treating Hypothermia:

- CALL 9-1-1 or the local emergency number.
- Gently move the person to a warm place.
- Monitor breathing and circulation; give rescue breathing and CPR if needed.
- Remove any wet clothing and begin drying the person.

- Warm the person slowly by wrapping in dry blankets /towels or by putting dry clothing on the person. Hot water bottles and chemical hot packs may be applied once the area has been covered.
- Do not warm the person too quickly by soaking in warm water. Rapid warming may cause dangerous heart arrhythmias. Warm the core first (trunk, abdomen), not the extremities (hands, feet). Warming hands and feet first may lead to shocking the body too rapidly.

Source and additional information can be found on [American Red Cross.com](http://AmericanRedCross.com) website.

-- Submitted by Lori Vernon

Back Up Power Banks Supplied to all NBC Employees

NBC's ESTA section launched a Safety Awareness Program in 2015. The goal of the Program is to promote employee awareness of and involvement in safety-related activities, such as hazard identification and correction throughout the course of daily work activities at NBC. As most will recall, travel-sized first aid kits were purchased and distributed to all employees last year as a means to further promote the Program.



For 2017, portable cell phone and tablet charger banks were purchased for all employees. These can be used by any NBC employee to help ensure that daily emergency communication is maintained in the office, field or at home.

NBC employees that currently have an NBC-issued iPad have been given a charger in a BLACK box. All other NBC employees have been provided with a charger in a WHITE box.

Special thanks to the various Safety Committee Chairs and Members throughout NBC for helping to distribute these chargers to all employees throughout December. Employee commitment to safety does not go unnoticed at NBC.

Happy Holidays from the ESTA Section and stay safe!

--Submitted by Dave Aucoin

P-Bruins Ticket Special for January

The P-Bruins are offering NBC a great special for upcoming games this month. Games are on **Friday, January 19th @ 7 PM and Sunday, January 21st @ 3 PM**. Tickets are just \$22 per person. Tickets include a popcorn and soft drink OR draft at the game. Everyone will also receive a FREE rally towel with ticket. **Deadline to purchase is Wednesday, January 10th.** Please email or call **Talia Girard** at ext. 394 on or before that date to purchase.








NBC Pipeline

February 2018

NBC Pipeline is a monthly publication designed to keep Narragansett Bay Commission staff up to date on internal current affairs. Staff is welcome to forward to the Public Affairs Office any items they would like to share or see in a future publication. Your suggestions and participation are encouraged and appreciated.

Calendar of Events *for February*

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2  Groundhog Day	3
4	5	6	7	8	9 Payday	10
11	12	13	14  Valentine's Day Ash Wednesday	15	16	17
18	19  President's Day	20	21	22	23 Payday	24
25	26	27	28 CAC Meeting 9:30 AM <i>All meetings are held at the Commission's One Service Road Offices unless otherwise noted.</i>			

News Briefs...

NBC Participates in "Changes in Narragansett Bay" Symposium

Several NBC staff members attended an exciting 2017 Baird Symposium sponsored by Sea Grant recently at the University of Rhode Island (URI). The symposium was titled "Changes in Narragansett Bay: A Conversation Among Citizens and Scientists" and included perspectives from fishermen, regulatory officials, and scientists. NBC ES&C director Tom Uva presented an engaging and comprehensive history of Narragansett Bay. He showed many historic photographs, including the photographs below of Field's Point in the 1800s before the first sewage treatment plant was built.

Many scientists at the conference recognized the positive effects of NBC's nutrient reduction efforts that were completed in 2014. Dr. Candace Oviatt of the URI stated that nutrient levels in the upper bay are down 50% since 2004. However, nutrient levels remain three times higher than nutrient levels prior to Europeans settlement in Rhode Island. Some local fishermen expressed worries that the decrease in nutrient levels in the bay caused a decline in key commercial fish species such as lobster and winter flounder, while local shellfish growers described very productive recent harvests. While the changing nutrient levels in the bay may be affecting the biology in the bay, scientists including Jeremy Collie (URI) and Wally Fulweiler (University of Massachusetts-Boston) discussed other drivers of change in the bay such as increased precipitation, increasing temperatures, and shifts in the fish community dating to the 1970s.

A few lobstermen stated concerns that chlorine discharged from wastewater treatment facilities (WWTFs) into the bay is toxic and causing fatalities of various species in the bay. This concern was addressed by URI professor Art Spivack, who explained that dechlorination practices at Field's Point and other WWTFs eliminate chlorine from effluents, and by Angelo Liberti from the Rhode Island Department of Environmental Management, who showed graphs illustrating the very small amount of chlorine that is discharged into the bay.

Overall, the symposium provided a thorough review of current conditions, research, and concerns regarding the bay. It was clear that bay conditions are and will continue changing. The ideal nutrient level for the bay is less clear and it was noted that fishermen and regulators are unlikely to agree on this point. Participants reached a consensus that it is important for Rhode Islanders to define goal criteria for a healthy and sustainable bay.



In the 1800s, Field's Point was a popular beach for recreation, bathing, and clambakes. The postcard and photograph above are both from the Rhode Island Collection at the Providence Public Library (<http://provlidigital.org/>).

Field's Point Mechanics Swap Out 20" Valve

The Field's Point Operations staff took on the challenging replacement of a 20" isolation valve on Return Activated Sludge (RAS) Pump #4 that weighed in at over 1360 pounds Wednesday, January 31st.

There were several days of prep needed before the job could be done. The valve was located over a pit, so FP mechanics built staging to situate a gantry over the valve. With the staging built and the gantry in place, mechanics prepped the valve for removal. Seal water lines and a large "Y-shaped" section of piping had to be removed prior to attempting valve removal. With the "Y" removed on Tuesday, January 30th, FP operators and mechanics jumped into action the following day. Plant operators first turned off RAS pumping. Together they manually closed six valves on the RAS suction header and seven valves on the RAS discharge line. With all of the isolation valves closed, the line was drained and mechanics were soon able to remove the failed valve. In short order, mechanics had a new valve in place. After closing the new valve, operators were able to resume RAS pumping and return the plant to normal operation. The swap out of valves took about 4 hours. There were two hours of preparation needed before the actual work could be done Wednesday morning, which included closing all the valves and draining the line. Thanks and a job well done to all FP staff involved with this project!



-- Submitted by Sarah Flickinger

--Submitted by Paul Desrosiers

Reminders for Safe Winter Driving

Driving in the winter can be harrowing, especially where blizzard and icy conditions develop unexpectedly. AAA and the National Safety Council offer some helpful information on driving during blustery wintery conditions..

If the forecast looks iffy, wait out the storm if possible. But if you must travel make sure you share your travel plans and route with someone before you head out.



Vehicle Maintenance Check:

Have your mechanic check the following to ensure your vehicle is operating properly:

- Ignition
- Brakes
- Wiring
- Hoses and fan belts
- Spark plugs
- Air, fuel and emissions filters, and PCV valve
- Distributor
- Battery
- Tire wear and air pressure
- Antifreeze level and freeze line

To Avoid a Skid or Crash:

- If visibility is severely limited due to a whiteout, pull off the road and don't even attempt to drive farther until conditions improve.
- Never mix radial tires with other types of tires
- If possible, avoid using your parking brake in cold, rainy and snowy weather
- Do not use cruise control in wintery conditions
- Look and steer in the direction you want to go
- Accelerate and decelerate slowly
- Increase following distance to 8 to 10 seconds
- Know whether you have antilock brakes, which will "pump" the brakes for you in a skid
- If possible, don't stop when going uphill
- Keep your gas tank at least half-full
- If you do get stranded, don't try to push your vehicle out of snow
- Signal distress with a brightly colored cloth tied to the antenna or in a rolled up window

And finally, be prepared in the event you do become stranded:

- Have your vehicle equipped with a full tank of gas and plenty of fresh antifreeze
- Make sure spare tire is properly inflated and, wheel wrench and tripod jack in working order
- Shovel
- Jumper cables
- Tow and tire chains
- Tool kit

- Bag of salt or cat litter for better tire traction or to melt snow
- Flashlight and extra batteries
- Reflective triangles or flares
- Compass
- First aid kit
- Windshield cleaner
- Ice scraper and snow brush
- Matches in a waterproof container
- Scissors and string or cord
- Nonperishable, high-energy foods like unsalted, canned nuts, dried fruits, hard candy and water
- Blankets, mittens, socks and hats

-- Submitted by Lori Vernon

NBC Watershed Explorers Learn About Wind Power

The NBC Watershed Explorers created wind mobiles in the month of December. Groups were given 4 life savers, 3 non-bendable plastic straws, 2 paper clips, an 8 ½ x 11 sheet of paper, approximately 50 cm of tape, and scissors (for cutting only). Second and third grade students were instructed to create



a vehicle that when they blew on it using only their own breath that it would move across the floor. Fourth and fifth grade students were given similar instructions, but also told they had to use at least one of each of the materials provided on their mobile. At the end of each lesson every group tested their mobile to see how far they could get it to move across the floor in their classroom. Prior to engaging in



the engineering part of the lesson, students were given a 10 minute presentation on energy. Included in the presentation was information about the NBC's wind turbines. Most of the students viewed the wind turbines in person when they came for their wastewater tour in October or November and were already familiar with them.

-- Submitted by Cynthia Morissette

NBC Employees Honored at NEWEA's Annual Conference

NBC received two prestigious awards at The New England Water Environment Association's (NEWEA) annual conference in Boston, Massachusetts on January 24th. NEWEA consists of New England's water

quality professionals who are responsible for the water people use on a daily basis. It's taken from any home or business, treated and then returned to the environment for future use. The conference held every year attracts over 2,000 engineers, consultants, scientists, wastewater operators and students. It features exhibits and technical sessions for those who attend and allows professionals to network.

NBC received the Environmental Protection Agency's (EPA) Operations and Maintenance Award and NBC's Lab Sample Compliance Coordinator, Ed Davies received the Alfred E. Pelouquin Award for the 2017 Calendar year.

EPA's Operation and Maintenance Award was accepted by NBC's Maintenance Manager Mike Spring, Operations Manager Paul Desrosiers and Assitant Operations Manager Nathan

Boiros. The Facility was nominated by the Rhode Island Department of Environmental Management's (RI DEM) Bill Patenaude to acknowledge the outstanding work that has been performed by Paul Desrosiers, Plant Manager, and his staff. The award and acknowledgement from DEM and the EPA are well deserved.

NBC's Ed Davies received the Alfred E. Pelouquin Award, which recognizes an individual whose personal service has contributed to excellence in plant operations either directly at a treatment plant, or indirectly through assistance to plant operations personnel.



From left to right: EPA's Justin Pimpare, Mike Spring, Paul Desrosiers, Nathan Boiros & EPA's Mark Spinale.



From left to right: NEWEA President James Barsanti & Ed Davies.

NBC Employees Receive Active Shooter Response Training

Throughout the winter months, NBC employees have received valuable classroom training on Active Shooter awareness and response. This free training has been delivered by Sargeant

Kenneth Vinacco, Weapons Bureau Commanding Officer and DHS Harbormaster for the Providence Police Department. With 37 years of experience on the police department, Sargeant Vinacco has been able to add valuable insight to each training session. NBC employees have received instruction on how and when to "Run, Hide or Fight" if ever faced with an active shooter situation. Building security assessments at NBC are on going, based on recommendations made by Sgt. Vinacco.

Employee feedback on this training has been very positive. A helpful fact sheet on how to respond to an active shooter situation, as well as methods to help recognize signs of potential workplace violence, is being distributed to all NBC employees in these classes. The fact sheet can also be found here.

For those employees who have yet to attend one of the classes, the final class will be held on February 8th at 1:00 PM. Please make every effort to this mandatory training. If you currently are not assigned to this class in February, please check with your supervisor for available spots.

February Health & Safety Trainings:

- Active Shooter Response Training (all employees): 2/8
- 8 Hour Hazwoper Refresher Training (applicable employees): 2/13, 2/15 & 2/21

--Submitted by Dave Aucoin

P-Bruins Ticket Special for February

The P-Bruins are offering NBC a great special for upcoming games this month. Games are on Friday, February 23rd @ 7 PM and Sunday, February 25th @ 3 PM. Tickets are just \$22 per person. Tickets include a popcorn and soft drink OR draft at the game. Each ticket purchase will receive a FREE \$3 Dunkin Donuts gift card.



Deadline to purchase is Wednesday, February 14th. Please email or call Talia Girard at ext. 394 on or before that date to purchase.



NBC Pipeline

March 2018

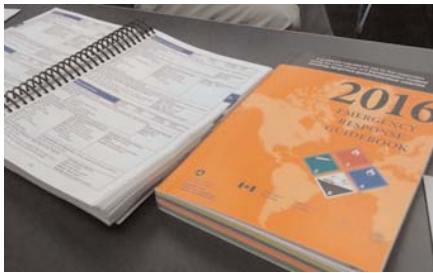
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Calendar of Events *for March*

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6 Board of Commissioner's Meeting 11 AM	7	8	9 Payday	10
11 Daylight Saving Time Begins	12	13	14	15	16	17  St. Patrick's Day
18	19  St. Joseph's Day	20 First Day of Spring	21	22	23  Game @ 7 Payday	24  Game @ 7
25 Palm Sunday	26	27	28	29	30 Good Friday	31
<i>All meetings are held at the Commission's One Service Road Offices unless otherwise noted.</i>						

News Briefs...

NBC Employees Receive "Hazwoper" Refresher Training



Throughout the month of February 2018, instructors from the RI Fire Academy conducted Hazardous Waste Operations and Emergency Response ("Hazwoper") refresher training classes for 45 NBC employees. This valuable refresher training is paid for through a grant made available through the RI Local Emergency Planning

Committees.

All 3 classes for the 2018 refresher were conducted by former Providence Assistant Chief of Operations Michael Dillon, former Warwick Fire Chief Frank Colantonio and current Warwick Fire Lieutenant Chris Albro. The 8-hour refresher training is required for all 40 hour certified Hazwoper employees at NBC, per OSHA regulations and NBC's Health & Safety Program. All 40 hour NBC employees are trained to be able to assist first responders with hazard identification and site control in the event of a hazardous material incident that may occur in either of NBC's treatment plants or throughout NBC's Servicing District.

EH&S trainings will soon be scheduled for March. Please obtain your supervisor's permission prior to registering for any safety class at NBC.



--Submitted by Dave Aucoin

Bucklin Point Hosts DEM Boot Camp



Bucklin Point hosted the February DEM Boot Camp class. This all day training included DEM's presentation of Lean organizational tools that offer significant benefits to the operation and maintenance of our wastewater systems. BP Maintenance Manager Dave Brouillard and BP Asset Management Assistant Steve Kruwell presented to those in the training on maintenance and asset management topics. The final presentation of the day was made by Paul Dombrowski from Woodward and Curran on final clarifiers along with a tour of the facility on a beautiful but rare 70 degree day in February!

--Submitted by Marc Pariseault

Mark Your Calendars...



NBC is pleased to assist you in your efforts to improve your health and well-being. Get ready for NBC's Spring Walking Challenge which will take place in April. The Walking Challenge Kick-off

meeting will be held on April 19th. Employees who complete the program will receive a \$100 wellness reimbursement if they meet the wellness program eligibility requirements. More details coming soon...

--Submitted by Cecille Antonelli

STAR WARS Weekend with the P-Bruins



The P-Bruins will be hosting their annual **STAR WARS WEEK-END** for games on Friday, March 23rd at 7 PM and Saturday, March 24th at 7 PM.

They offer us great lower level seats and tickets are \$22 each. Tickets include a popcorn and 12 oz. fountain drink or draft for those 21+. Everyone will also receive a Free P-Bruins Hat. A voucher will be given with your ticket with directions on where to pick up the hat from a table located right on the concourse at the game.

As part of this STAR WARS weekend fans have the opportunity to meet and have photos taken with some of their favorite Star Wars characters. In addition the P-Bruins will wear special Star Wars inspired jerseys to be auctioned off after the weekend in support of the Rhode Island Community Food Bank.

Deadline to purchase is Wednesday, March 14th. Please email or call **Talia Girard at ext. 394** on or before that date to purchase.

Celebrate National Nutrition Month

National Nutrition Month has been created by the Academy of Nutrition and Dietetics to educate and promote healthy food choices, better eating habits and better physical activity choices. It was first initiated in 1973 as a week-long event to create awareness but starting in 1980 it became a month long observance because of growing public interest.



The theme for the 2018 year is “Go Further with Food”. The goal for this theme is to bring awareness to people about choosing the right foods, adopting healthier lifestyles, and reducing food loss and waste. Starting the day off with a healthy breakfast and preparing foods to go further at home can make a difference in your diet. For more information on National Nutrition Month visit www.eatright.org.

--www.eatright.org

Recognition of Appreciation



NEWEA
WORKING FOR WATER QUALITY

As the year 2018 begins the New England Water Environment Association (NEWEA) has taken the time to reflect on things they are most grateful for over the past year, especially the talented group of volunteers that help contribute to the water sector.

They reached out to NBC and wanted to thank two employees for their volunteer service and those employees are Maintenance Manager Mike Spring and Safety Compliance Coordinator Dave Aucoin.



From left to right: Mike Spring & Dave Aucoin

Mike is the NEWEA State Director for Rhode Island and also their go-to guy for his photography skills. Dave is their Safety Committee Chair. Mike and Dave's commitment, creativity and high standards help make NEWEA what it is today, NEWEA looks forward to Mike and Dave's continuing efforts within the water sector organization in 2018.

Great job Mike and Dave, thank you for all your dedicated hard work with NEWEA and NBC!

Acknowledgement of Awards

At the annual March Board of Commissioners meeting cChairman Vincent Mesolella and Executive Director Raymond Marshall took the time to acknowledge two awards received by the Narragansett Bay Commission and recognized those who made the awards possible.

NBC received the 2017 Regional EPA Operation and Maintenance Excellence Award for the Field's Point Wastewater Treatment Facility. Operations Manager Paul Desrosiers and Assistant Operations Manager Nathan

Boiros accepted the award on behalf of NBC and Field's Point. The Facility was nominated by the Rhode Island Department of Environmental Management's (RI



From left to right: Vinny Mesolella, Nathan Boiros, Paul Desrosiers and Ray Marshall.

DEM) Bill Patenaude to acknowledge the outstanding work that has been performed by Paul Desrosiers, Plant Manager, and his staff. The award and acknowledgement from DEM and the EPA are well deserved.

The National Association of Clean Water Agencies (NACWA) awarded NBC with the National Environmental Achievement Award for Excellence in Education at their winter



From left to right: Vinny Mesolella, Kerry Britt and Ray Marshall.

conference in February. This award honors agencies for their inventive efforts to educate the public on the effects of waste water treatment and pollution control on the environment.

Pretreatment Manager Kerry Britt accepted the award on behalf on NBC.

This award was given to NBC for its efforts with the MR. CAN campaign. MR. CAN is Providence and NBC's latest superhero who fights grease beasts. This campaign was created to help educate people on how to properly dispose of household grease made from a combination of grease, oils, and fats produced by cooking, and disposable wet wipes.

For those of you who haven't checked out the MR. CAN campaign, you can do so by going to the NBC website. www.narrabay.com. Download the grease busting adventures of MR. CAN, download your MR. CAN activity book and see him in action on youtube!





NBC Pipeline

April 2018

NBC Pipeline is a monthly publication designed to keep Narragansett Bay Commission staff up to date on internal current affairs. Staff is welcome to forward to the Public Affairs Office any items they would like to share or see in a future publication. Your suggestions and participation are encouraged and appreciated.

Calendar of Events *for April*

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1  Easter	2	3	4	5	6 Payday	7 Passover Ends
8	9	10 Board of Commissioner's Meeting 11 AM	11	12	13	14
15	16	17	18	19 Walking Challenge Kick-off Meeting BP - 2 PM FP - 11:30 AM	20 Payday	21
22  Earth Day	23	24	25	26	27	28
29	30					

All meetings are held at the Commission's One Service Road Offices unless otherwise noted.

News Briefs...

2018 Spring Fitness Challenge

NBC is pleased to assist you in your efforts to improve your health and well-being. The 2018 Spring Fitness Challenge is an exciting voluntary exercise program available to any NBC employee. Only eligible employees can receive the incentive. For this program, you will have an option of tracking steps, if you have a tracking device, or tracking minutes. Whatever option you choose you must continue for the six-week duration of the program. Two sessions are 3 weeks each for a total of 6 consecutive weeks.

The program encourages participants to increase their physical activity on most days of the week. All walking/minutes journals for each session must be turned into Crystine Marandola in Human Resources on May 15, 2018 and June 5, 2018. Those individuals who complete this program will receive the \$100.00 wellness reimbursement as noted in the NBC Wellness Incentive Program.

On **April 19th**, please stop by the **Field's Point Education Room at 11:30 AM** or the **Bucklin Point Training Room at 2 PM** to receive the materials you need to kick-off the challenge!



NBC Staff Clean up During Nor'easter

March was quite an interesting month for weather. The March 13th snow storm brought blizzard like conditions, power outages and almost two feet of snow that kept most people home and off the roads. Thank you to all the responders who were able to make it out and clean up the NBC campus during the storm. The hard work is much appreciated by all of us here at NBC.



From Left to Right: Norm Rodolewicz, Roberto Castellanos, Mark Brazil, Broc Hector, Ricky Mello and not shown in the photo are John Schupp and Tony DiIorio.



--Submitted by Meg Goulet

Welcome...



Nigel Yattaw, BP Mechanic I



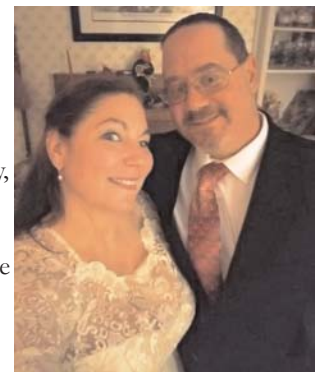
Mark Archambault, BP Assistant E & I Technician



Jose Almonte, Junior Networks and Communication Administrator

Congratulations...

To IM Inspector Anthony Ciacciarelli and Sarah Lyn Townes! The two married on Friday, March 16th on Anthony's son's 13th birthday. The ceremony was held at the Golden Crest Nursing Home in North Providence so that Anthony's 103 year old grandmother could participate in the ceremony. After the ceremony, they had a short honeymoon in North Conway with plans to celebrate a longer honeymoon in Italy sometime soon. Congratulations to Anthony and Sarah!



--Submitted by Meg Goulet

Work Stations Ergonomics Guidelines for Using Standing Desks

Standing desks have become very popular in the modern office environment. If you're using a standing workstation, you've already made a move that might improve your health. Research has linked sitting for long periods with health problems, including obesity and metabolic syndrome - a cluster of conditions that includes increased blood pressure, high blood sugar, excess body fat around the waist and abnormal cholesterol levels.

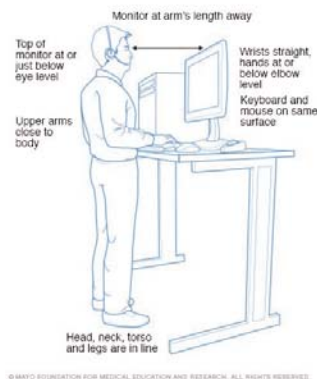
Although beneficial, there are a few tips to keep in mind to maximize the benefits such as correct desk height and computer placement to get the best use out of your standing desk while minimizing the risks.

Alternate Between Sitting and Standing

Sitting too much is very bad for your health.

However, that does not mean standing all day is a better alternative. Standing still for long periods is also thought to negatively affect your leg muscles, tendons, and other connective tissues. A ratio of 1:1 or 2:1 sitting vs. standing time is optimal for comfort and energy.

- **Desk:** Choose a desk deep enough to allow your monitor to fit directly in front of you and at least 20 inches (51 centimeters) away. The desk should enable you to keep your wrists straight and your hands at or slightly below the level of your elbows
- **Monitor:** Place the monitor directly in front of you, about an arm's length away. The top of the screen should be at or slightly below eye level. If you wear bifocals, lower the monitor an additional 1 to 2 inches (3 to 5 cm) for more comfortable viewing.
- **Change Your Keyboard and Mouse Position:** Working long hours on the computer can strain your wrists. It is important to optimize wrist position when sitting or standing. The ideal angle when standing is slightly more extended (tilted upwards) than when sitting. Failure to adjust when swapping between sitting and standing has been shown to lead to greater wrist pain and discomfort.
- **Posture:** When using a standing workstation, keep your head, neck, torso and legs approximately in line and vertical.
- **Remember to Take Breaks:** Even though standing at your desk is better than sitting, you should still take regular breaks to move and stretch, clear your head and rest your eyes. For some, quick breaks come naturally, while others may need an automated reminder.



Work Stations Ergonomics Guidelines for Using Standing Desks Continued...

One option is to download a break reminder app on your phone or watch. There are many free versions for both of these. For more information on office ergonomics, check out www.mayoclinic.org/healthy-lifestyle.

--Submitted by Lori Vernon

Distracted Driving Awareness Month

According to the National Highway Traffic Administration, over 40,000 people died in motor vehicle crashes in 2017. This represents a 6% increase from 2015, and equates to an alarming 110 deaths per day. An additional 4.5 million people were injured seriously enough to require medical attention in motor vehicle crashes in 2017. As technology rapidly develops and drivers become less focused on the task of driving, distracted driving continues to be one of the leading causes of motor vehicle accidents in the U.S. Additionally, motor vehicle accidents remain the number one cause of workplace fatalities throughout the country.

In its continuous attempt to try to curb these rising statistics, the National Safety Council designates the month of April each year as Distracted Driving Awareness Month. 1 out of every 4 motor vehicle crashes involve cell phone use. Cell phone use while driving isn't just a manual and visual distraction, but also has a major impact on the driver's cognitive ability to fully recognize the surrounding traffic environment.

NBC employees are reminded that although Rhode Island does not currently ban cell phone use while driving, texting while driving is prohibited. Employees are encouraged to review the guidelines for vehicle cell phone usage at NBC, as outlined in NBC's Policy on Vehicle Safety Procedures. In order to learn just how distracting the use of cell phones and even hands-free devices impair one's ability to focus on the road, NBC employees are encouraged to take a brief 10-minute training through NBC's Online University Driver Safety section entitled "Hang Up & Drive: Cell Phones & Driving."

The following health and safety trainings have been scheduled for April and are posted in the Training Central portal on BayNet. Please obtain your supervisor's permission prior to enrolling in any safety training class.



DISTRACTED DRIVING AWARENESS MONTH 2018

--Submitted by Dave Aucoin

2018 Environmental Merit Awards Breakfast

On April 4th, NBC held its twenty-third annual Environmental Merit Awards ceremony at Kirkbrae Country Club. Each year NBC recognizes those companies among its 1500 permitted users who have achieved perfect regulatory compliance and outstanding pollution prevention in the previous year. Guest Speaker, Lt. Governor Dan McKee, an advocate for education, supporting small businesses and improving the states economy spoke to guests about supporting all 39 cities and town that make up Rhode Island.

NBC has one of the most successful pretreatment programs in the country. Kerry Britt, NBC's Pretreatment Manager, and her entire staff are repeatedly recognized for their excellence and expertise. This year NBC awarded seventeen companies for achieving perfect compliance with their NBC permits.



From left to right: Chairman Mesolella with Lt. Governor Dan McKee.

The companies in perfect compliance include: A. Harrison & Company, Inc., Eagle Laundry, Inc., Dominion Energy, Manchester St., Inc., ElectroLizing, Inc., HP Services, Inc., Hord Crystal Corporation, Induplate, LLC, International Chromium Plating, Materion Technical Materials, Inc., Mahr, Inc., Interplex Engineered Products, Inc., Metallurgical Solutions, Inc., Narragansett Jewelry, dba C & J Jewelry Company, Pawtucket Power Associates, Pilgrim Screw Corporation, Providence Metallizing Company, Inc., Providence Journal Company Production Facility, Stackbin Corporation, Tanury Industries PVD, Inc., Technodic, Inc., Teknicote, Inc., Truex, Inc., Univar USA, Inc.

NBC also announced the grantees for the 2018 Earth Day River Clean Up Grant Program. This program helps clean up the Woonasquatucket River and other local bodies of water. Hundreds of volunteers from different organizations gather to remove thousands of pounds of tires and debris from the beds and banks of the rivers, ponds and shorelines of Rhode Island during these annual Earth Day clean ups. Grantees for this year are: Save the Bay, Woonasquatucket River Watershed Council, Keep Blackstone Valley Beautiful, City of Central Falls Parks & Recreation & community Service Department, Neighborhood Alliance of Pawtucket, Neutaconkanut Hill Conservancy, Edgewood Waterfront Preservation Association, Blackstone River Watershed Council/Friends of the Blackstone, Waterman Street Dog Park Association, Miss RI Scholarship Program Organization, Blackstone Heritage Corridor, Inc., Partnership for Providence Parks, Town of Smithfield, East Providence Conservation Commission

2018 Environmental Merit Awards Breakfast Continued...



Pictured above: Bonnie and Suzanne from the Blackstone River Watershed Council brought in one of the four new gadgets purchased with grant money from last year to help keep the area clean all throughout the year. It's a cart that can attach to the back of a bike and with the long hand held claw you will be able to pick up any trash along the bike path during your ride. Chairman Mesolella was a big fan and was able to test it out with out the bike, as you can see in the photo. Such a great idea!

Only a Few Months Left to Earn your \$500 in Wellness Incentives

If you have not already taken advantage of the \$500 offered to you through NBC's wellness incentives, click the link below for a list of programs that you may still have time to complete before the new Wellness Incentive Program begins on July 1, 2017 and ends on June 30, 2018.

Click Here: [Wellness Incentive Credits](#)





NBC Pipeline

May 2018

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Calendar of Events *for May*

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
			CAC Meeting 9:30 AM		Payday	
6	7	8	9	10	11	12
			Board of Commissioner's Meeting 11 AM			
13	14	15	16	17	18	19
 Mother's Day		First session of walking/minute logs due			Payday	
20	21	22	23	24	25	26
			NBC Watershed Explorers Conference at Goddard Park			
27	28	29	30	31		
	 Memorial Day HOLIDAY	Full Moon				

All meetings are held at the Commission's One Service Road Offices unless otherwise noted.

Reminder...



Session 1 fitness logs and certification form must be handed in on May 15th to HR.

News Briefs...

NBC Receives Certificate of Achievement for Excellence in Financial Reporting

The Government Finance Officers Association of the United States and Canada (GFOA) has awarded NBC the Certificate of Achievement for Excellence in Financial Reporting for its comprehensive annual financial report (CAFR). The



From left to right: Vin Mesollela, Cheryl Pescarino, Leah Foster, Jacqueline Giroux & Ray Marshall.

CAFR award is the highest form of recognition in the area of governmental accounting and financial reporting and represents significant accomplishment. NBC has received this award for 16 consecutive years. At the monthly Board of Commissioners Meeting on April 10th Executive Director Ray Marshall and Chairman Vincent Mesolella presented this award to NBC Accounting staff whose efforts garnered the NBC this award. Congratulations Leah Foster, Cheryl Pescarino and Jaqueline Giroux!

NBC Gets Approval for REF Funding

NBC's Water Quality and Compliance Department received an \$80,000 grant from the RI Renewable Energy Fund (REF) for renewal energy projects after originally being denied. After being greatly disappointed with the news that the Biogas Combined Heat and Power Project did not meet technical requirements of the RI REF, NBC's Environmental Sustainability Engineer Barry Wenskowicz decided to further investigate the firm's decision. Unfortunately the consultant for REF was not very knowledgeable on wastewater anaerobic digestion. Barry explained that NBC digesters perform well or even better than other low rate municipal digesters in terms of total solids concentration and methane yield and NBC still falls far below the minimum requirement. After Barry's extreme persistence and many conference calls and emails educating the consulting company they reconsidered and NBC will be receiving the grant. Great work Barry, Jim McCaughey and Kerri Houghton!



Welcome...



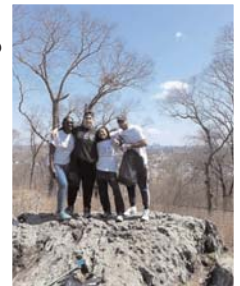
Brenna McCarthy, Lab Technician



Daryll Sirleaf, FP Operator I

Earth Day River Clean Up at Neutaconkanut Hill in Providence

NBC encourages local organizations to plan ambitious Earth Day clean ups by offering grants ranging from \$250 up to \$1,000 each year.



The Neutaconkanut Hill Conservancy (NHC) was one of this year's recipients and held their River Clean Up event over the Earth Day weekend in April. Volunteers from Johnson & Wales and CVS participated in restoring NHC's green space.





NBC Pipeline

June 2018

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Calendar of Events *for June*

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
					Payday	
3	4	5 Second session of walking/minute logs due	6	7 Poster Contest Gallery Night 5:30 PM	8	9
10	11	12	13 CAC Meeting 12 PM	14 Flag Day	15 Payday	16
17  Father's Day	18	19 Board of Commissioners Meeting 11 AM	20	21  First Day of Summer	22	23
24	25	26	27	28	29 Payday	30

All meetings are held at the Commission's One Service Road Offices unless otherwise noted.

News Briefs...

NBC Watershed Explorers Celebrate at Goddard Park

On Wednesday, May 23rd about 750 elementary school students, teachers and guests from thirteen Rhode Island schools gathered at Goddard Park in Warwick for NBC's annual environmental education conference to conclude NBC's year-long Watershed Explorers environmental education program. The program encourages students and teachers to become stewards of the environment focusing on their local watershed and other surrounding water bodies. Students from Sarah Dyer Barnes Elementary in Johnston, Anna McCabe Elementary in Smithfield, Ashton Elementary in Cumberland, Kent Heights Elementary and Orlo Avenue Elementary in East Providence, Agnes Little Elementary and St. Cecilia's in Pawtucket, Paul Cuffee in Providence, Centredale Elementary in North Providence, Chester Barrows Elementary and Woodridge Elementary in Cranston and Saylesville Elementary in Lincoln participated in the NBC Watershed Explorers Program this year and attended the conference at Goddard Park.



NBC welcomed for the second year, special guest speaker, Abigail Abrahamson, a high school student from Rehoboth, Massachusetts. She is a member of Dr. Jane Goodall's Roots and Shoots US National Youth Leadership Council. Dr. Jane Goodall's Roots & Shoots is a youth service program for young people of all ages. Their mission is to foster respect and compassion for all living things, to promote understanding of all cultures and beliefs, and to inspire each individual to take action to make the world a better place for people, other animals, and the environment.

Abigail spoke to the students about the program, mission, her passions and some example projects she's done to hopefully be of influence to the many young listeners.



Abigail Abrahamson giving her speech to the students at Goddard Park.

Five groups of students were chosen to present their macro invertebrate posters including interesting facts and their song, rap or poem from their projects followed by educational activities presented by NBC staff, Biomes Marine Biology Center, Audubon Society, Roger Williams Park Zoo, New England Aquarium, Mystic Aquarium and the Norman Bird Sanctuary. The goal is to help students understand the connection between the health of their local watersheds and Narragansett Bay and to keep these precious resources healthy for the future generations.

Many thanks to all the NBC Staff who volunteered at the conference. Your efforts were absolutely critical to the day's enormous success!

Welcome...



David Bowen,
Engineering Manager



Edward Stenovitch,
Pretreatment Engineer



Tiziano Roncone,
Customer Service
Analyst



Tyler Bissonette, Process
Monitor

SECA Awards Banquet 2018

NBC's Customer Service Representative Nicole Klesbauskas and EMDA Clerk Ashley Petteruto attended the SECA awards banquet of Friday, May 18th. Both Nicole and Ashley made SECA a success this year and accepted the award on behalf of NBC for participating in another year of SECA.



From left to right: Ashley Petteruto, Dr. Nicole Alexander-Scott the Director of the Department of Health & Nicole Klesbauskas

Congratulations...

To Bucklin Point Operations Supervisor **Anthony Turchetta** and his wife Tania on the birth of their beautiful baby boy, Dominic Turchetta! Dominic was born on May 31st at 1:39 AM weighing 8 lbs 4 oz. Everyone is happy and healthy!



To Government Affairs Manager **Joanne Maceroni** on her upcoming retirement in September. With the 2018 legislative session coming to an end her fellow friends and colleagues at the statehouse surprised her with a retirement party at Bravo restaurant on May 30th celebrating her



many years as a lobbyist. On Thursday, May 31st, bills were introduced in both the House and Senate recognizing Joanne on her retirement.

Joanne Maceroni with House Majority Leader Joe Shekarchi.



Did you know?

The average time to work through the cycle for a single purchase order is about 90 minutes, whether it is for \$10 or \$100. In an effort to further NBC's reputation as a utility of the future, the Finance, Accounting, and Purchasing Departments are very excited to announce the implementation of the NBC Purchase Card Program. This program will allow for a more efficient way of purchasing goods and services, in addition to being extremely user friendly. Each department and cost center now has access to this program through the designated cardholder who is responsible for purchasing goods on behalf of the NBC. For more information on the program, visit the Purchase Card site on SharePoint.



--Submitted by Cassie Balzano

Reminder...



Session 2 fitness logs and certification form must be handed in on June 5th to HR.

NBC Safety Awareness Program Update

Early in 2016, NBC launched a company-wide Employee Safety Awareness Program. NBC's Environmental, Safety & Technical Assistance (ESTA) section is tasked with managing the program. The goal of the program is to promote employee awareness of and involvement in safety-related activities, such as hazard identification and correction throughout the course of daily work activities at NBC. In an effort to jumpstart the program, a safety slogan and logo contest was held among all NBC employees. The contest guidelines stated that the winning entry would have their design utilized throughout NBC to promote safety awareness.

Several NBC employees and sections submitted entries in 2016. Since that time, funds from the program have gone toward other safety awareness items for NBC



Ray Marshall and Jim McCaughey presented Tricia with her artwork.

such as portable emergency first aid kits and portable cell phone and tablet power banks. As we shift our focus back to the origin of this program, NBC would like to formally congratulate IM Clerk Tricia Fabrizio on having her safety slogan and logo design chosen to help promote a safe work environment throughout NBC. Keep an eye out for Tricia's entry posted throughout NBC! Congratulations Tricia!

Do YOU have an attractive slogan and logo design that you'd like to see featured throughout NBC? If so, please contact Dave Aucoin at x 418 or Kerri Houghton at x 383.

--Submitted by Dave Aucoin

Wishing Two NBC Employees a Happy Retirement..

Engineering Manager Tom Brueckner retired from NBC on May 4th after 33 years with NBC and Construction Manager Mark Thomas is retiring on July 6th after 17 years with NBC. NBC staff put together a surprise retirement party for the two at Shriners on May 3rd and it went off without a hitch! Both Tom and Mark were so surprised. Both were given a toilet seat cover along with their gifts with the saying “When you gotta go, you gotta go” on the lid. NBC would like to thank you both for your many years of service with NBC, you will truly be missed. Wishing you the best in your retirement!



Pictured above: Mark Thomas & Linda Giesinger.



From left to right: Tom's daughters Emily, Phoebe, Wife Trinky, Son Walter and girlfriend Daria, Tom and Daughter-in-law Kate.

May Breakfast Fun



Second floor at the COB hosted May Breakfast on May 10th along with celebrating Sam Celone's birthday!

National Safety Month

Sponsored by the National Safety Council and observed annually in June, National Safety



NATIONAL SAFETY MONTH 2018



Month focuses on reducing leading causes of injury and death in the workplace, at home and on the road. Throughout June, NBC's ESTA program will be working hard to promote National Safety Month by providing weekly tips on ways NBC employees can all help to keep one another safe.

Weekly promotional items will cover the following topics:

- Week 1: Emergency Preparedness
- Week 2: Wellness
- Week 3: Falls
- Week 4: Driving

Managers are encouraged to post materials in common work areas through June. Thanks in advance for your participation and continued commitment to health and safety.

The following EH&S Trainings will be offered in June and have been announced in the Training Tab on SharePoint. Please obtain your supervisor's permission prior to enrolling in any safety training class:

New Employee Safety Training - June 11th

--Submitted by Dave Aucoin



NBC Pipeline

July 2018

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Calendar of Events *for July*

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4  Independence Day	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20 Payday	21
22	23	24	25	26	27	28
29	30	31			Full Moon Payday	

News Briefs...

NBC Awards Poster Contest and Science Fair Winners at its Annual Gallery Night

On Thursday, June 7th, NBC awarded many talented young artists and scientists at NBC's 25th annual Poster Contest & Science Fair Awards Ceremony. This year's poster theme was, *Clean Water Avengers*. Students were asked to artistically create their own clean water



Cynthia Morissette with fifth-grade poster contest winner Ava Brule.

avenger to join NBC's super hero Mr. Can in his fight to ward off the grease beasts and other items wreaking havoc in the sewer.

Science Fair projects were judged at the RI State Science Fair for excellence in water quality investigation.

Students gathered with family and friends in the Education Room at the Field's Point Administration Building where the students' art work was displayed around the room for all to see. Cynthia Morissette, Environmental Education Coordinator, presented this year's science fair winners and poster contest winners with award certificates and a check from NBC for their excellent work. Those whose posters were chosen will be featured in the 2019 NBC calendar coming out in December.

Monster Striper Found in the Upper Bay

This monster of a striper was caught in the channel right outside the Edgewood Yacht Club. One of the club members sent it over to our EMDA staff very impressed. This is a true testament to the water quality in upper Narragansett Bay!



Welcome...



Elizabeth Kohr,
Chemist

Best Places to Work



NBC has been selected as one of the Best Places to Work in RI for 2018 by Providence Business News for the eighth consecutive year. Providence Business News had an award ceremony on Thursday June 14th at the Crowne Plaza. NBC's Laurie Horridge, Jen Harrington, Joanne Maceroni, Karen Musumeci, Brenda Smith, Paul Nordstrom, Clara Casamiro and Sam Celone represented NBC at the event and celebrated with NBC flag plungers when NBC was called to receive the award.

Thank you to the entire staff for completing the surveys and feeling that this truly is a great place to work!

Is Narragansett Bay too Clean?



Many fishermen are beginning to think so, and this is the topic of conversation in the June 2018 RI Monthly cover story. On June 20, 2018, Tom Uva, Environmental Science & Compliance Director, participated in the filming of a panel discussion on the topic of “Is Narragansett Bay Too Clean?” for the RI Monthly Community Conversation television show, which was filmed at the Rhode Island PBS studio. The filming of the panel discussion lasted about two hours and it was filled with lively conversation amongst the panelists which include oceanography professor at URI-GSO Dr. Candace Oviatt, RI lobsterman Al Eagles, RI lobsterman Lanny Dellinger, author of the RI Monthly June cover story Todd McLeish, NBC’s own Tom Uva, and Save the Bay Executive Director Jonathan Stone. The show will include the panel discussion as well as clips of interviews with John Motta on the NBC monitoring boat and Jamie Samons at our wastewater treatment facility. The show will air on RI PBS Channel 36 on Friday, July 13th at 8 PM, Saturday, July 14th at noon and 11 PM, and Sunday, July 15th at 7 PM. The program will also be available on YouTube after the television broadcast.

Be sure to tune in to hear what everyone had to say and see Tom, John and Jamie on the show!!

To see the full magazine article: [Is Narragansett Bay too Clean?](#)

-- Submitted by Kim Kirwan

Ocean State Alliance Takes the Win

NBC is pleased to announce that RI’s Wastewater Operations Challenge team “Ocean State Alliance” had an outstanding performance and won first place overall for the fourth consecutive year in a row in the New England Water Environment Association’s (NEWEA) annual Operations Challenge in Newport, at its Spring meeting.

The Operations Challenge, also known as the “Wastewater Olympics,” is a competition that allows wastewater professionals to



showcase their skills and improve upon them in a fun and challenging environment. Teams are judged in five categories to reflect different skills and aspects of the wastewater field: maintenance, lab, safety, collections and process. “Every position within the industry is valuable and we are all fighting for a common cause, clean water and a clean environment,” said team captain Ed Davies, Bucklin Point Process Monitor

Teams from three states in the New England area participated in the five events. Ocean State Alliance dominated with four out of five first place wins.

The Ocean State Alliance team began preparation for the event in early March under the coaching of the NBC’s Maintenance Manager Mike Spring. Team Captain Davies



Pictured: DEM’s Bill Patenaude, Walter Palm, Nora Lough, Kim Sandbach, Ryan Patnode, Janine Burke, Ed Davies Peter Rojas of Cranston, Scott Goodinson of Warwick & Mike Spring.

was joined by Environmental Chemist Kim Sandbach and Maintenance Supervisor Ryan Patnode, and Peter Rojas of the City of Cranston WWTF. NBC’s Lab Manager Walter Palm and Biologist Nora Lough participated as judges for the process control and laboratory events. The team will go on to compete in the national competition at the Water Environment Federation’s Technical Exhibition and Conference in New Orleans in late September. Congratulations and good luck!

WATER. REST. SHADE.



The Occupational Safety & Health Administration (OSHA) began a Heat Illness Prevention Campaign in 2011 to educate employers and employees on the dangers of working in the heat. The safety message for the campaign is clear: Water. Rest. Shade.

As the warmer weather arrives in Southern New England this month, NBC employees are encouraged to monitor themselves and their co-workers for signs of heat illness while working outdoors. Here are some helpful tips:

- Drink water often, even if you're not thirsty
- Allow your body to become acclimated to hot weather before increasing work loads
- Institute engineering controls such as air conditioning and ventilation to keep cool
- Seek shade and rest if experiencing any heat illness-related symptoms
- Plan for heat-related illnesses and check-in on 'lone workers'

Do you know the signs and first aid measures to take if a fellow employee shows signs of a heat-related illness? Click [HERE](#) for valuable life-saving information. The OSHA-NIOSH Heat Safety Tool app is also available for iPhone and Android smartphones.

--Submitted by Dave Aucoin

Protecting Our Pollinators

Due to the loss of habitat, pesticides, disease and climate change bees, butterflies and other pollinators are declining. Pollinators are responsible for bringing us one out of every three bites of food. They sustain our ecosystems and produce our natural resources by helping plants reproduce. They are responsible for 180,000 different plant species and more than 1200 crops and add \$217 billion dollars to the global economy. In addition to the food we eat and what it brings to the economy, pollinators support healthy ecosystems that clean the air, stabilize soils, protect from severe weather and support other wildlife.

The decline in these species is mainly due to loss of feeding and nesting habitats. Pollution, chemicals, disease and changes in climate patterns are also a factor. There are ways you can help. Using safe alternatives to pesticides, plant and encourage planting of native flora to increase pollinator habitat, and spread the word to others.

During the month of June National Pollinator Week was celebrated June 18th through the 24th. The Audubon Society of RI is working with the state of RI to bring awareness to protecting our pollinators. During this week the RI state house dome was lit up with black and yellow lights to raise awareness.



NBC Receives "Lead by Example" Energy Award



The award was presented at the June BOC meeting. Pictures left to right: Barry Wenkocvitz, Vincent Mesolella, Jim McCaughey, Kim Kirwan, Ray Marshall & Tom Uva.

NBC received the RI Office of Energy Resources "Lead by Example" Energy Award from Governor Gina Raimondo for 2018. The award was established in 2015 by Governor Raimondo, directing state agencies to "Lead by Example" and transition energy supply consumption practices to reduce energy costs and mitigate greenhouse gas emissions, which is part of RI's economic, energy and environmental goals.

NBC was one of twelve state government agencies, quasi-public agencies, municipalities and state colleges and universities that received the award for their efforts in renewable energy for 2018. Congratulations NBC!



NBC Pipeline

August 2018

NBC Pipeline is a monthly publication designed to keep Narragansett Bay Commission staff up to date on internal current affairs. Staff is welcome to forward to the Public Affairs Office any items they would like to share or see in a future publication. Your suggestions and participation are encouraged and appreciated.

Calendar of Events *for August*

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17 Payday	18
19	20  Victory Day	21	22	23	24	25
26	27	28	29	30	31 Payday	
Full Moon						

News Briefs...

Geopolymer Spincast Presentation at NBC

NBC and the National Water Main Cleaning Company hosted a Geopolymer Spincast Presentation and site tour on June 29th at NBC. NBC is an active job site for this product. EPA requirements on wastewater and stormwater infrastructure for the future are estimated to cost billions of dollars, but this Geopolymer mortar product will help with structural rehabilitation in sewer pipelines in a cost effective way. The product creates a permanent seal against corrosion, infiltration and exfiltration lengthening the lifespan of the pipe.



Pictured: IM Inspector Anthony Ciacciarelli

This Presentation was extended to other agencies in the New England area who are interested in understanding the new technology for rehabilitating large diameter sewers via trenchless technology. NBC, Boston Water and Sewer Commission, Metropolitan District Commission, CDM, CH2MHill, Kleinfelder and Tighe and Bond attended the event.



Workplace Safety is No Accident

Both Field's Point and Bucklin Point have hung up safety banners at the main entrances to remind us all about the importance of safety. Make sure to check them out!



Welcome...



Gavin Delaney,
FP Operator I



Troy Zillich,
FP Operator I



Louisa Antonio,
EMMA Summer Intern



Andrew Mendillo,
Customer Service Representative



Molly Welsh,
Environmental Scientist



Thomas McGreevy, IM Operator II

Mark Your Calendars

NBC will be hosting Free Flu Shot Clinics on these following dates...

- October 11th at Bucklin Point 2 PM - 3 PM
- October 24th at Field's Point 6:30 AM - 8:30 AM
- October 24th at COB - 9:30 AM - 12:30 PM



Sign up details will be forthcoming. All employees are invited to participate, even those who waive NBC health coverage.

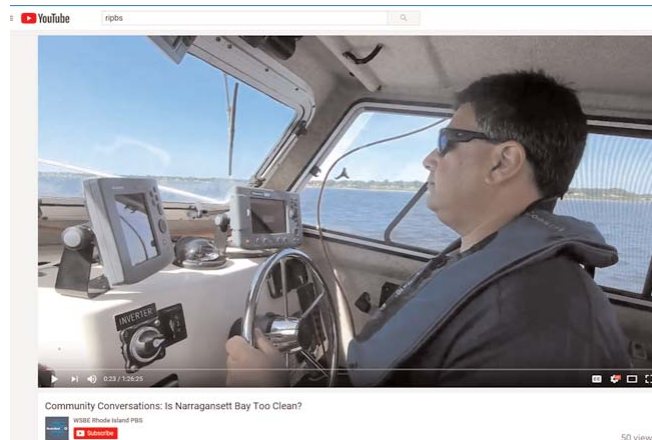
-- Submitted by Cecille Antonelli

Wishing Joan Duckworth a Happy Retirement

NBC's Payroll Supervisor Joan Duckworth retired from NBC on July 31st after 26 years. Accounting staff surprised her on her last day with pizza, cake, and gifts with many of her NBC co-workers. Joan loved payroll and based her life around it. Her dedication, kind heart, funny stories, and candy will surely be missed! Wishing you a happy retirement, Joan!



Is Narragansett Bay Too Clean?



Is Narragansett Bay too Clean? Many fishermen are beginning to think so, and this is the topic of conversation for the June 2018 RI Monthly cover story. The following link will take you to the PBS RI Monthly YouTube show where you can see NBC's Tom Uva as one of 6 panelist participants involved in a lively conversation about the state of Narragansett Bay: <https://www.youtube.com/watch?v=MoovDiNJ5qc>.

The one hour show also includes clips of interviews with John Motta on the NBC monitoring boat and Jamie Samons at our wastewater treatment facility, as well as glimpses of Jeff Tortorella and Sara Nadeau conducting monitoring activities. The show is followed by a 30-minute Q&A session with the live studio audience. Be sure to tune in to hear what everyone had to say and see NBC staff on the show!

--Submitted by Kim Kirwan

Did you Know?

One watermelon requires 264 gallons of water. At 92% water, a watermelon naturally requires a lot of water to grow and needs consistent watering during the crop season. An 11 lb watermelon will soak up 264 gallons of water during its growth, harvesting and distribution.



-- Your Water Footprint by Stephen Leaby




NBC Pipeline

September 2018

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Calendar of Events *for September*

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3  HOLIDAY	4	5	6	7 Payday	8
9 Rosh Hashanah Grandparent's Day	10	11 Patriot Day	12	13	14	15
16	17	18 Yom Kippur begins	19 CAC Meeting 12 PM	20	21 Payday	22
23 First Day of Autumn	24 Full Moon	25 Board of Commissioners Meeting 11 AM	26 Joanne Maceroni's Retirement Party @ Kirkbrae 5:30 PM	27	28	29
30						

All meetings are held at the Commission's One Service Road Offices unless otherwise noted.

Healthy Back/Preventing Slips & Falls 2018 Training Schedule

Field's Point: Tuesday 9/25 @ 7:15 AM & 2:00 PM

Bucklin Point: Thursday 9/27 7:30 AM & 2:00 PM

News Briefs...

Summer Intern Appreciation

NBC has given the opportunity to many high school and college students to intern in certain departments within NBC to help students develop the skills and experience they need to succeed in their future careers. NBC not only wants to help them succeed and grow but truly appreciates their assistance and impacts they make on the organization. With most internships coming to an end and some already complete, NBC wishes all of the summer 2018 interns the best of luck on their future endeavors. Here is a little background information on a few of NBC's interns from this summer for those of you that did not have the chance to get to know them...



From left to right: Nick Berg, Louisa Antonio, Emily Hesse, Andrew Ashkar, Grace Jordan, Mackenzie Plouffe & Thomas Basso.

Andrew Ashkar: Executive intern for 3 summers at NBC. Graduated from UMass Dartmouth in May with a bachelor's degree in Economics. Currently applying to law schools with hopes on becoming a corporate lawyer.

Louisa Antonio: EMDA intern for the second year. Going into her second year of nursing school at Quinnipiac University. She is a busy girl! On the weekends she works as a psychiatric/pediatric nurse at St. Mary's Home for Children.

Emily Hesse: Water Quality and Compliance intern. This was her third summer at NBC and she will be a senior at Connecticut College in September. She is majoring in Architectural Studies and a double minor in Environmental Studies and Economics.

Mackenzie Plouffe: A junior at URI pursuing a bachelor's degree in cell and molecular biology and plans to get her doctorate in pharmaceutical sciences. NBC has given her the opportunity to work in the microbiology lab preparing media and testing plant, river and bay samples of fecal coliform bacteria.

Grace Jordan: a junior at Classical High school hoping to pursue a degree in Journalism in the future. She interned with NBC's Water Quality and Science department.

Welcome...



Dionne Bigotti,
Laboratory Clerk



Joseph Guerreiro, Lab Tech



Holly Ialongo,
Chief Legal Counsel

P-Bruins Kick off the Season



The P-Bruins are kicking off the season with our first group offer for two Saturday games in October. Either Saturday October 13th at 7 PM or Saturday October 20th at 7 PM.

They offer us great lower level seats and tickets are \$22 each. Tickets include a popcorn and 12 oz. fountain drink or draft for those 21+. Everyone will also receive a Free P-Bruins Dunkin Donuts Mug!

Deadline to purchase is Wednesday, October 3rd. Please email or call **Talia Cheshier at ext. 394** on or before that date to purchase.

Mark Your Calendars

On Tuesday, **September 12th** Marc Beausoleil, Director of Financial Planning at Strategic Retirement Partners and primary advisory contact to NBC's Defined Contribution, Defined Benefit and Deferred Compensation Plans, will be available for individual consultations from 9:15 AM - 2:30 PM in the COB Main Conference Room.

If you're interested in meeting with Marc regarding your retirement accounts, please call **Crystine at ext. 376** to arrange a 15 minute appointment.



NBC will be hosting Free Flu Shot Clinics on these following dates...

- October 11th at Bucklin Point 2 PM - 3 PM
- October 24th at Field's Point 6:30 AM - 8:30 AM
- October 24th at COB - 9:30 AM - 12:30 PM



Sign up details will be forthcoming. All employees are invited to participate, even those who waive NBC health coverage.

-- Submitted by Cecille Antonelli

-- Submitted by Cecille Antonelli

September is National Preparedness Month

The Federal Emergency Management Agency (FEMA) annually designates the month of September as National Preparedness Month. Through a variety of promotional items and events posted on www.ready.gov, FEMA's goal is to provide companies and the public with guidance on revisiting and strengthening emergency planning procedures that protect us all from disasters such as fires, floods, earthquakes and tornadoes. The recent devastation caused by hurricanes and wildfires should serve as a reminder of just how important emergency planning is for minimizing the impact of unpredictable disasters.

The promotional theme for this year's National Preparedness Month is "Disasters Happen. Prepare Now. Learn How." NBC employees are encouraged to take time now to learn life-saving skills such as: CPR & first aid, review insurance policies and coverage for hazards that can be encountered, consider the costs associated with disasters and save for an emergency, and know how to take practical safety steps like shutting off water and gas.



ESTA will be distributing promotional graphics that cover this year's weekly themes:

- Week 1: Sept 1-8 Make and Practice Your Plan
- Week 2: Sept 9-15 Learn Life Saving Skills
- Week 3: Sept 16-22 Check Your Insurance Coverage
- Week 4: Sept 23-29 Save For an Emergency

NBC employees and their families can visit the [FEMA Preparedness Portal](#) to register to receive community preparedness announcements, download the [FEMA app](#), or learn how to get involved in preparedness activities in their area.

Health & Safety Trainings for September will soon be announced for applicable NBC employees.

--Submitted by Dave Aucoin



NBC Pipeline

October 2018

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Calendar of Events *for October*

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
					Payday	
7	8	9	10	11	12	13
	 Columbus Day HOLIDAY			Flu Shots Bucklin Point 2 PM - 3 PM		
14	15	16	17	18	19	20
		Bosses Day			Payday	
21	22	23	24	25	26	27
		Pumpkin Decorating Contest FP Edu. Room 11:30 AM	Flu Shots FP: 6:30 - 8:30 AM COB: 9:30 - 12:30 PM CAC Meeting 12 PM			
28	29	30	31			
		Board of Commissioners Meeting 11 AM	 Halloween			

All meetings are held at the Commission's One Service Road Offices unless otherwise noted.

News Briefs...

Wishing Joanne Maceroni a Happy Retirement

Government Affairs Manager Joanne Maceroni retired on September 28th after 33 years of service with NBC. NBC celebrated her career with her closest friends, family and co-workers on Wednesday, September 26th at Kirkbrae Country Club. Joanne was a longtime asset to NBC, someone many of us idolized and admired. She will truly be missed. NBC would like to wish Joanne a happy retirement filled with fun and happiness. Congratulations and best wishes on your new chapter in life!



Photo credit: Constance Brown

NBC's Annual Pumpkin Decorating Contest

Join us **Tuesday October 23rd** in the **Field's Point Education Room** for our Annual NBC Pumpkin Decorating Contest at **11:30 AM**. Each section must decorate or carve a pumpkin for the contest. We will use the same voting method from previous years seeing as though some departments are much larger than others, so to be fair you will not be allowed to vote for your own pumpkin. Along with decorating a pumpkin, please bring in a small snack or treat to share during the contest!



Pumpkins and anything else brought need to be picked up by 2 PM.

Free Flu Shot Clinics

NBC will be hosting Free Flu Shot Clinics on these following dates...

- October 11th at Bucklin Point 2 PM - 3 PM
- October 24th at Field's Point 6:30 AM - 8:30 AM
- October 24th at COB 9:30 AM - 12:30 PM



All employees are invited to participate, even those who waive NBC health coverage.

-- Submitted by Cecille Antonelli

Welcome...



Dean Martelly,
IM Supervisor



Gregory Waugh,
Construction
Manager

Casual Day

The Casual Day Fund has made three charitable donations this month:



- Gloria Gemma Breast Cancer Research Foundation
- American Red Cross, for relief effort for Hurricane Florence
- Team Rubicon, which unites military veterans with first responders to rapidly deploy emergency relief teams after natural disasters. They prioritize low-income, underinsured, elderly, and special needs homeowners when allocating free assistance.

Reminder: any employee who contributes to the Fund through payroll deductions can suggest a charity! The organization must be a 501(c)(3) and may not be political or religious in nature.

Acknowledgement of Awards

At the September 25th Board of Commissioners meeting there was an acknowledgement of awards. NBC received the “2018 Best Places to



Work” award from Providence Business News for the eighth consecutive year. Human Resources Manager Cecille Antonelli, Labor & Employee Relations Manager Diane Buerger and Director of Administration Laurie Horridge accepted the award on behalf of NBC.

presented to Public Affairs Manager Jamie Samons and Resident Representative Joe Moniz for a job well done. These two showed sincere dedication, professionalism,



coordination, and outstanding teamwork to make sure the project went as smoothly as possible. Along with the resolutions NBC presented them with a construction themed cake to congratulate Jamie and Joe on all their hard work.

Congratulations...



NBC’s wastewater treatment facilities received two prestigious awards. Field’s Point received the NACWA Gold Peak Performance Award for having no permit violations for the calendar year. Process Monitor George Dolan, Assistant Operations Manager Nathan Boiros and Mechanic II Norman Rodolewicz, Jr. accepted the award of behalf of Field’s Point.

NBC’s wastewater treatment facilities received two prestigious awards. Field’s Point received the NACWA Gold Peak Performance Award for having no permit violations for the calendar year. Process Monitor George Dolan, Assistant Operations Manager Nathan Boiros and Mechanic II Norman Rodolewicz, Jr. accepted the award of behalf of Field’s Point.

To Environmental Compliance Technical Assistant **Kerri Houghton** on getting her undergraduate research on “Facile fabrication of ZnO—graphite composite thin films for ultraviolet photodetection” published by IOP Science. Kerri received a Bachelors degree in Chemistry at Rhode Island College May of 2017. Great job Kerri!



Bucklin

Point received the NACWA Silver Peak Performance Award for having no more than five violations per calendar year. Operations Supervisor Marcelo Taveira and Electrical Foreman Alfredo Diez accepted the award on behalf of Bucklin Point.



Point received the NACWA Silver Peak Performance Award for having no more than five violations per calendar year. Operations Supervisor Marcelo Taveira and Electrical Foreman Alfredo Diez accepted the award on behalf of Bucklin Point.

To **Bucklin Point’s Boot Camp Class of 2018!** NBC’s Tim Henshaw, TJ Harrington,



Marcelo Taveira, Jeffrey Chapdelaine, John Contrino, and Fred Diez completed the class and did an excellent job on their final presentations. Bucklin Point Operations Manager Marc Pariseault was highly impressed with the detail and effort put forth by all of those in the class. Marc, a fellow alumnus himself knows that it’s a long and difficult year but also very rewarding. Congratulations to all!



NBC recognized two staff members who went above and beyond on the Greenville Avenue Project in Johnston. A Resolution of Appreciation was

--Submitted by Marc Pariseault



NBC Pipeline

November 2018

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Calendar of Events *for November*

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
					Payday	
4	5	6	7	8	9	10
Daylight Saving Time Ends		 Election Day				
11	12	13	14	15	16	17
Veteran's Day	Veteran's Day Observed				Payday	
18	19	20	21	22	23	24
				 Thanksgiving	Full Moon	
25	26	27	28	29	30	
					Payday	

News Briefs...

Ocean State Alliance Wins 1st Place at WEFTEC 2018

The Narragansett Bay Commission (NBC) is pleased to announce that RI's Wastewater Operations Challenge team "Ocean State Alliance" had an outstanding performance during the national competition at the Water Environment Federation's Technical Exhibition and



From left to right: Ryan Patnode, Peter Rojas, Ed Davies and Kim Sandbach.

Conference (WEFTEC) in New Orleans, LA. The Ocean State Alliance finished top ten in three out of five categories and first place in the Lab and Process categories.

WEFTEC is the world's largest annual water quality research and technology event. The National Operations Challenge, also known as the "Wastewater Olympics," features teams of four members representing all regions of the United States (and occasionally international regions) competing in five separate events: operations, maintenance, laboratory, safety, and collection systems. All of the events are timed and judged, and designed to test the diverse skills required for the operation and maintenance of wastewater treatment facilities, their collection systems, and laboratories. Teams respond in real-time to challenges such as water treatment facility flooding, sewer collapses, process failures and other critical environmental and public health emergencies.

The Ocean State Alliance team began preparation in early March under the coaching of the NBC's Maintenance Manager Mike Spring, and won first place overall in the New England regional competition in June. The team continued drills at the NBC wastewater treatment facility, laboratory and collections at the NBC tunnel pump station throughout the summer months to prepare for New Orleans. "The support, encouragement, purchasing of training equipment, flexibility of work schedules, and use of facilities for training allowed us to strengthen our wastewater skills and directly contributed to our overall success. We have a great support system here at NBC," said team captain Ed Davies, Process Monitor at NBC's Bucklin Point Wastewater treatment Facility. Team Captain Davies, was joined by Environmental Chemist Kim Sandbach and Maintenance Supervisor Ryan Patnode of the NBC, and Peter Rojas of the City of Cranston WWTF. NBC's Lab Biologist Nora Lough participated as a judge for other teams throughout the country. Congratulations!

Welcome...



Peter Yidiaris,
Resident
Representative



Gerard Hamel Jr.,
Environmental
Monitor



Joseph Malouin,
FP Operator I

P-Bruins Tickets on Sale for November Games

The P-Bruins are offering NBC a great special for upcoming games in November. They are offering two dates to choose from...



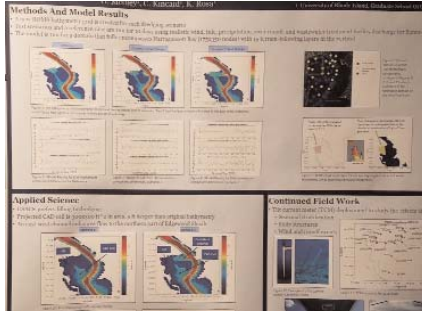
- Friday, November 16th @ 7 PM
- Saturday, November 17th @ 7 PM

They offer us great lower level seats and tickets are just \$22 each. Tickets this time include a popcorn and 12 oz. fountain drink or draft for those 21+. As an added bonus a FREE \$3 Dunkin Donuts gift card will be given out with each ticket.

Deadline to purchase is Wednesday, November 7th. Please email or call Talia Cheshier at ext. 394 on or before that date to purchase.

NEERS Conference

On October 26th and 27th, Environmental Scientists Eliza Moore and Molly Welsh attended the New England Estuarine Research Society (NEERS)



Fall 2018 Meeting which was held at UMass Dartmouth's School for Marine Science and Technology in New Bedford, MA. At this conference, they engaged with researchers, regulators, and stakeholders regarding the state of Narragansett Bay following nutrient reductions from NBC's facilities. They attended a presentation by URI GSO where simulations of Narragansett Bay circulation derived from the Regional Ocean Modeling System (ROMS) were used to describe water movement and quality in Narragansett Bay (pictured). Both Eliza and Molly also participated as judges for a poster contest that was held at the workshop and toured the School for Marine Science and Technology's laboratories, where they examined several experiments in progress.

-- Submitted by Kim Kirwan

Manhole Cover at FP gets a New Look

Field's Point Operator I, Al Montijo got creative with the design of a manhole cover at the wastewater treatment facility. The manhole cover is a cast iron air release manhole cover for sodium hypochlorite (NAOCL) and sodium bisulfite (NAHSO3). All Hypochlorite pumps and lines are painted yellow throughout the facility and all of the bisulfite pumps and lines are purple. The manhole cover will now decipher the two as well. Nice job Al!

Before



After



2018 Employee Appreciation

Employee Appreciation Luncheons for...

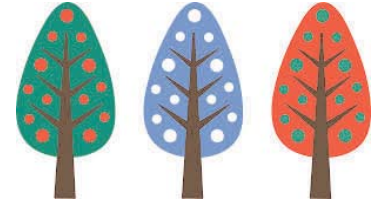
IM: December 12th at 11:30 AM

COB, Pretreatment,

EMDA and Lab: December 13th from 12 PM - 2 PM

Field's Point: All shifts December 18th

Bucklin Point: All shifts December 20th



BP Avoids Wet Weather Event with Great Teamwork

On Tuesday, October 16th at 1:15 AM Bucklin Point lost utility power to the plant; although generators began working immediately they eventually failed about an hour later. The emergency bypass gate was opened and diverted all plant flow



to the wet weather tanks. The UV hydraulic gate was closed and all final flow was diverted to the chlorine contact tank and operations began the hypochloride and bisulfite process immediately. Flow was also diverted to Aeration tank 1 which was eventually pumped back through full process.

Electrical Foreman Fred Diez was called in after the first initial loss of power. He arrived just as the generator failed and was able to quickly restart the generator and eventually the main power came back on. UV disinfection had to go through a start delay then warm up before operations could put it back online. All plant flow resumed through full treatment and discharged from the chlorine contact tank while UV was offline.

Right before the generator had failed they had started an interim wet weather event at 1:46 AM and ended at 3:45 AM. All utility power was restored at 3:36 AM. Through all of this Bucklin Point did not have a confirmed wet weather event. Fecal samples were taken from both the chlorine contact tank and UV for the lab to test. Total suspended solids (TSS) were elevated during the higher flows and polymer was added. Operations along with Fred Diez worked exceptionally hard to fix the equipment and get the system back to normal power in a timely manner. All emergency procedures were followed. Thank you for all your hard work!

NBC's Annual Pumpkin Decorating Contest





NBC Pipeline

December 2018

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Calendar of Events *for December*

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5	6	7	8
Hanukkah Begins						
9	10	11	12	13	14	15
		Board of Commissioner's Meeting 11 AM	IM Employee Appreciation 12 PM	COB, PT, EMDA & Lab Employee Appreciation 12 PM - 2 PM	Payday	
16	17	18	19	20	21	22
		FP Employee Appreciation (All Shifts)		BP Employee Appreciation (All Shifts)	First Day of Winter	Full Moon
23	24	25	26	27	28	29
	 Christmas Eve	 Christmas Day	 Kwanzaa Begins			
30	31				Payday	
	New Year's Eve					

News Briefs...

2018 Employee Appreciation

Employee Appreciation Luncheons for...

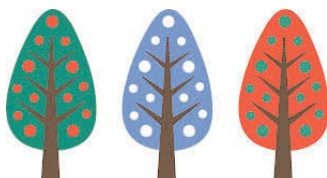
IM: December 12th at 11:30 AM

COB, Pretreatment, EMDA and

Lab: December 13th from 12 PM - 2 PM

Field's Point: All shifts December 18th

Bucklin Point: All shifts December 20th



Casual Day Fund

NBC's Casual Day Fund donated \$500 to Ovarian Cancer Research Foundation in October and \$500 to the Rhode Island Community Food Bank on #GivingTuesday in November, which was matched to make it a \$1000 donation.



During the COB Employee Appreciation on December 13th be sure to enter the Casual Day Charitable Giving raffle during the luncheon! If your name is picked, the NBC Casual Day Fund will make a donation to the 501(c)(3) charitable organization of your choice.

10 Year Anniversary for CSO Tunnel

November 1st was the official 10 year anniversary of the CSO Phase I tunnel. Over 10 Billion gallons of CSO flow has been captured in the past decade.



P-Bruins Ticket Special for January

The P-Bruins are offering NBC a great special for upcoming games in January. Games are on Friday, January 11th @ 7 PM and Sunday, January 13th @ 3 PM. Tickets are just \$22 per person. Tickets include a popcorn and soft drink or draft at the game. Each ticket purchase will receive a FREE P-Bruins reusable water bottle. This would be a great idea for a Christmas gift or stocking stuffer!



Christmas mailing deadline is **Friday, December 14th**. Please email or call Talia Cheshier at ext. 394 on or before that date to purchase.

Port of Providence Toy Drive

NBC will be joining other businesses in the Port of Providence in a toy collection for underprivileged children.



Please consider

donating an unwrapped, new toy which will make the holidays a little brighter for a local child.

Toys can be dropped off at the COB Employee Appreciation Event on Thursday, December 13th in the main conference room.

NBC Celebrates Executive Director, Ray Marshall's Retirement

On December 4th, NBC staff, friends & family celebrated Executive Director Ray Marshall's upcoming retirement this month at the Quidnessett Country Club in North Kingstown.



Ray celebrates 26 years of service with NBC, working the last 12 years as Executive Director. The story on the photo above at the event: Ray's grandson J.D. was concerned that "Papa" was not going to have anything to do after retirement and heard there was a crossing guard position open at his school. Now Ray is prepared if he takes J.D. up on that offer! NBC would like to wish Ray a happy and healthy retirement and all the best in this next chapter in his life.

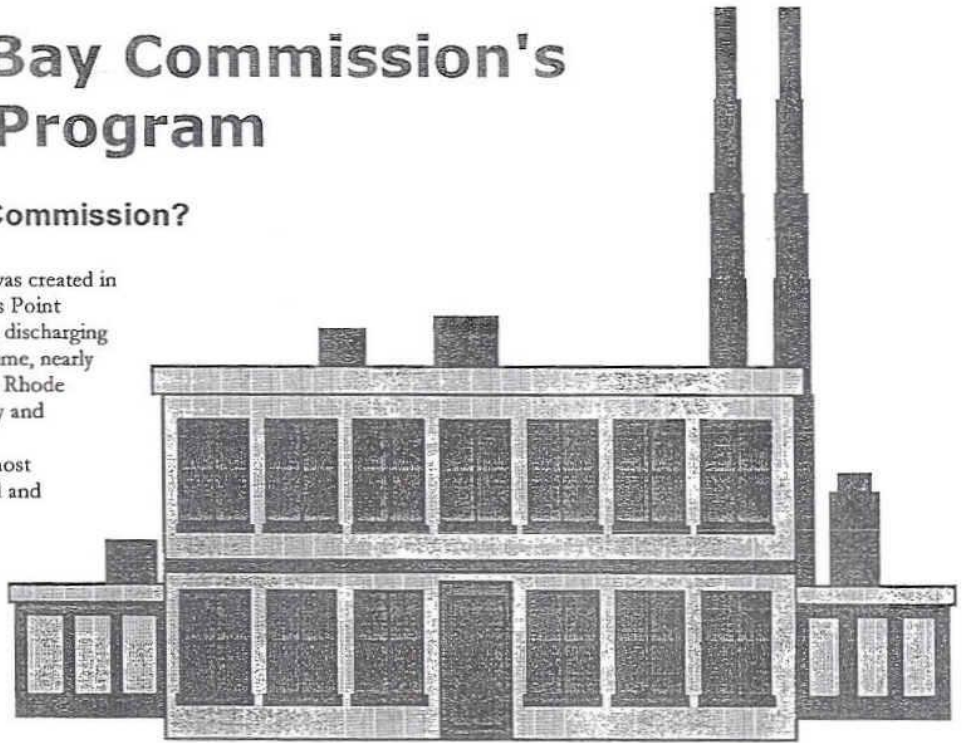
EDUCATIONAL DOCUMENTS

Narragansett Bay Commission's Pretreatment Program

What is the Narragansett Bay Commission?

The Narragansett Bay Commission, or the NBC, was created in 1980 to reduce the amount of pollutants the Field's Point Wastewater Treatment Facility, in Providence, was discharging into Narragansett Bay and its tributaries. At that time, nearly 65 million gallons of untreated sewage flowed into Rhode Island's waterways everyday, resulting in temporary and permanent closures of shellfishing beds in Upper Narragansett Bay, violations of federal laws, and most importantly, threatened the region's environmental and economic well-being. The NBC acquired the facility from the City of Providence in 1982, and has spent the last decade transforming the once failing, antiquated facility into the highly sophisticated, award winning facility it is today.

In 1992, the NBC assumed ownership of the Bucklin Point Wastewater Treatment Facility in East Providence. The NBC now owns and operates the state's two largest wastewater treatment facilities and provides quality wastewater collection and treatment services to about 300,000 persons and 8,000 commercial and industrial customers in Providence, North Providence, Johnston, Pawtucket, Central Falls, Cumberland, Lincoln, the northern portion of East Providence and small sections of Cranston and Smithfield.



What is the purpose of a Pretreatment Program?

Since wastewater treatment facilities are not designed to remove heavy metals, cyanide and other toxic chemicals, the federal Environmental Protection Agency (EPA) requires that wastewater agencies implement Pretreatment Programs to control toxic discharges. The NBC's Pretreatment Program staff is responsible for protecting its treatment facilities and Narragansett Bay from the discharge of such contaminants. To satisfy EPA requirements, a program was put in place by the NBC to monitor and regulate the many electroplaters, metal finishers, chemical manufacturers, machine shops, laboratories, hospitals, laundromats, restaurants, and other firms that are tied into the NBC's sewer system.

Depending upon what kind of business or industry is discharging into the system, certain substances can do a lot of damage to the sewer system, the wastewater treatment facility, the environment and, ultimately, to people. The discharge of metals and other toxics into the sewer system jeopardizes the health and safety of NBC personnel, clogs sewer lines, can be extremely toxic, if dumped in high concentrations, and can mix with other chemicals to form toxic gases in the sewer system.

Heavy metals and other toxics interfere with the operation of the wastewater treatment process by upsetting the biological process at the facilities and killing the microorganisms needed for proper treatment. This prevents the NBC from meeting its effluent limits that are established by EPA and RI DEM. Approximately 40 to 60 percent of the heavy metals and toxics in wastewater can settle out in the sludge, contaminating the sludge, and preventing its reuse, while the remainder of the toxics empty into Narragansett Bay and its tributaries. Once this happens, marine life is exposed to toxic substances, which may enter the food chain and eventually expose people to these toxic substances. While our mission at the NBC is to protect the environment, our top priority is to protect human health. Our pretreatment program helps us accomplish this goal.

How effective is the Pretreatment Program?

To date, this program has had a major positive impact on the quality of treatment and discharges from the Field's Point and Bucklin Point facilities. By taking steps to permit, monitor and regulate the thousands of sewer users in the NBC District, the NBC has dramatically reduced the amount of metals and toxics being dumped into the sewer system and ultimately into Narragansett Bay. For example, in 1981, local industries discharged 954,099 pounds of heavy metals and 80,440 pounds of cyanide to the Field's Point Wastewater Treatment Facility. Data for 2006 indicates that significant reductions in metals (96.6%) and cyanide (96.7%) were achieved. Additionally, nearly 95.6% of all our regulated users are adhering to these environmental regulations.

Why do I have to pay sewer user fees and permit fees?

Sewer user fees are necessary for the NBC to recover the cost to transport and treat wastewater discharged from commercial, industrial, and residential users. The user fees are based, in part, on the amount of water discharged to the sewer system and are regulated by the Public Utilities Commission (PUC). Part of the fee charged to users is a fixed amount, the other part is based on how much water is used. By conserving water, a sewer user can reduce the portion of the fee associated with the amount of water used.

In May, 1990, the PUC issued an order requiring that the expense of the NBC's Pretreatment Program must be paid for entirely by the permitted user. These permit fees are necessary to recover costs associated with satisfying all EPA and State mandates and to ensure the protection of the treatment facilities and Narragansett Bay. The rates charged are PUC approved and cover the cost of program administration, facility inspection and facility sampling conducted by the NBC.

How were permit fees determined?

Discharge permit fees range from \$217 - \$14,492 per year. Individual rates are based on the effort necessary for the NBC to regulate a user. The level of effort is dependent on the size of a facility, the volume of discharge, the toxicity of the chemicals used, etc. Budget plans are available for any business demonstrating financial hardship. Simply contact the NBC Customer Service Section at 461-8828 to discuss a budget payment plan.

What if I don't get a permit?

Failure to apply for a wastewater discharge permit may subject you to administrative, civil and/or criminal penalties of up to \$25,000 per violation per day and you may lose your privilege to discharge into the NBC sewer system. The NBC is strict about the enforcement of this requirement because we need to know what is going into the sewers so we can protect our treatment facilities and the bay. Further, inconsistent permitting would be unfair to other permitted users and ultimately increase the cost to all other users.

What if I need technical assistance?

The NBC has available free, non-regulatory technical assistance through its Environmental, Safety & Technical Assistance (ESTA) Section, formerly known as Pollution Prevention. Pollution prevention is any practice that reduces or eliminates the amount of hazardous materials entering a waste system. Elimination of pollution at the source will not only help you remain in compliance with discharge standards, but will save you money by taking full advantage of all your resources. Pollution Prevention engineers and chemists are available to assist you incorporate the latest source reduction technologies into your manufacturing operations. We will evaluate your operating procedures and general practices and recommend alternatives, such as chemical substitution, that will generate less waste without sacrificing quality production. This program is confidential; no regulatory repercussions will occur by taking advantage of this program. If you wish to have NBC's ESTA staff visit your facility, or if you wish to find out more about this program, please contact James McCaughey, P.E., Environmental, Safety & Technical Assistance Manager, at 461-8848 ext. 352. This program is meant to be one alternative or a step a business can take to meet pretreatment requirements. It may be necessary for a business to seek additional professional guidance from an outside consultant.

What if I have more questions?

Ask us. The NBC has well-trained and capable chemical engineers, technicians and others who would be happy to answer any questions or concerns you may have regarding your permit, or any other program relating to the NBC. For questions regarding the Pretreatment Program, please contact Kerry M. Britt, Pretreatment Manager at 461-8848 ext. 490. For other questions, contact our Public Affairs Office at 461-8848/TDD 461-6540 or email at jsamons@narrabay.com.

Narragansett Bay Commission's Restaurant & Food Preparation Facility Grease Removal Program

What is the Narragansett Bay Commission?

The NBC owns and operates the State's two largest wastewater treatment facilities and provides quality wastewater collection and treatment services to about 300,000 persons and 8,000 commercial and industrial customers in Providence, North Providence, Johnston, Pawtucket, Central Falls, Cumberland, Lincoln, the northern portion of East Providence and small sections of Cranston and Smithfield.

What is the purpose of a Pretreatment Program?

Since wastewater treatment facilities are not designed to remove heavy metals, toxic chemicals, grease, etc., the federal Environmental Protection Agency (EPA) requires that wastewater agencies implement Pretreatment Programs to control toxic discharges. The NBC's Pretreatment Program staff is responsible for protecting its treatment facilities and Narragansett Bay from the discharge of such contaminants. To satisfy EPA requirements, the Pretreatment Program was put in place by the NBC to monitor and regulate the many electroplaters, metal finishers, chemical manufacturers, laboratories, hospitals, laundromats, restaurants and other firms that are tied into the NBC's sewer system.

What is a Grease Removal Program?

The Grease Removal Program was initiated by the NBC's Pretreatment Section to control the discharge of grease and animal fats from restaurants and food preparation facilities into the sewer system.

Why is the discharge of grease and animal fats a problem?

The presence of grease, fats, and oils in wastewater results in major operational problems both in the NBC sewers and at the wastewater treatment facilities. Grease from food preparation operations solidifies on the inside of sewers restricting the flow of sewage, similar to the way that cholesterol restricts the flow of blood through arteries and veins. Sewer blockages have resulted from this grease build up, causing raw sewage to back up into the basements of homes and businesses. Further, grease has fouled equipment and controls at treatment facilities, and high concentrations of grease and oils in wastewater inhibits the biological processes used to treat domestic sewage.

What kitchen operations are responsible for grease entering the sewer system?

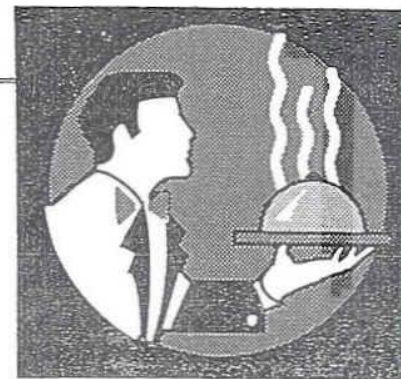
Grease discharges are predominantly generated from washing and cleaning operations and not from fryolators or deep frying units as most people might think. The pot washing sink, dishwasher pre-rinse station, and garbage grinder are the major sources of grease discharges to the sewer system.

How can grease discharges be controlled and minimized?

There is only one way -- by installing and maintaining a grease removal or recovery unit (GRU).

What is a GRU?

A GRU is a device designed to collect



and remove grease from wastewater discharged from restaurants and food preparation facilities. Most GRU's separate grease from water by gravity. Since grease weighs less than water, the grease floats and can be skimmed from the surface of the wastewater.

What types of Grease Removal Units are acceptable to the NBC?

There are two (2) types of GRU's that are acceptable for installation in the NBC districts. One type of GRU is the automatic electrical/mechanical grease removal unit. This type of GRU is small, which allows installation in the kitchen under a sink or elsewhere. This type of GRU removes grease daily, collecting it neatly in a bucket from which it can be disposed in a dumpster or recycled through a rendering firm. Maintenance must be performed daily consisting of checking the grease collection bucket and cleaning a solids removal strainer.

Another acceptable GRU is the large in-ground passive type grease interceptor. This type of GRU must have a capacity of at least 15 gallons per seat in the restaurant with a minimum capacity of 500 gallons. This type of GRU is so large that it must be installed underground outside the facility. Maintenance requirements include weekly inspections to determine grease layer thickness and regular pumping of the grease by a certified

waste hauler. Pumped-out grease must be hauled to special facilities for processing or incineration.

Is the small, under the sink passive type grease interceptor acceptable to the NBC?

No, the NBC has found that these small, passive grease traps are not effective at removing grease because these units are considerably undersized, resulting in insufficient time for oil/ water separation. In addition, the small size of these passive units allows hot water from the pot wash sink to dissolve trapped grease in the unit and flush it into the sewer system. This type of grease trap is also maintenance intensive, requiring time consuming effort to perform system inspections or remove collected grease. Due to these intensive maintenance requirements this type of GRU is often neglected and does not perform properly. Therefore, the NBC does not allow installation of this type of GRU.

Can a garbage grinder or garbage disposal unit be used in the restaurant or food preparation facility?

Only if the garbage disposal unit discharges to a large in-ground passive type grease interceptor that has been properly sized for removal of settleable solids. Garbage disposal units may not be used in facilities with automatic under the sink type grease interceptors.

Should a restaurant just go ahead and install a grease interceptor?

Definitely not. Anyone proposing to install a grease interceptor must contact the NBC pretreatment staff at 461-8848 prior to purchasing or installing a grease interceptor. NBC staff will provide the guidance necessary to ensure that the GRU chosen meets all NBC criteria. Contacting the NBC in advance may prevent your company from purchasing expensive GRU retrofits should the initial installation not satisfy NBC criteria.

Is there anything else that is required of restaurants or food preparation facilities?

Yes. All restaurants and food preparation establishments must obtain a wastewater discharge permit from the NBC. A permit application can be obtained by contacting the pretreatment staff at 461-8848 or by visiting the Pretreatment Office at 2 Ernest Street in Providence.

What is required by the Wastewater Discharge Permit?

The restaurant discharge permit requires the restaurant or food preparation facility to maintain the GRU in a proper operating condition. A log book must also be maintained at the facility documenting the date of each GRU inspection and each GRU maintenance activity.

What if I have more questions?

Just ask us. The NBC has well trained and capable engineers, technicians, and others who would be happy to answer any question or concerns you may have regarding the Grease Removal Program, the permitting process, or the NBC in general. Feel free to call us! ■

NARRAGANSETT BAY COMMISSION



ENVIRONMENTAL

BEST

MANAGEMENT
PRACTICES

for

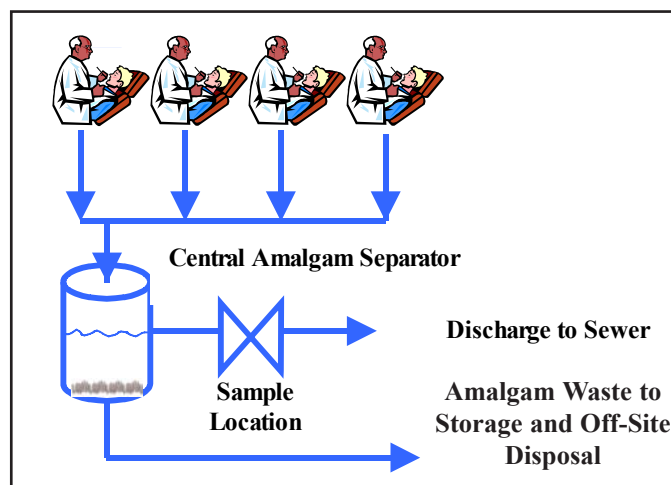
the Management of Waste Dental Amalgam

The Narragansett Bay Commission (NBC) has developed the following set of Environmental Best Management Practices (BMPs) for the Management of Waste Dental Amalgam to help the dental community safely and economically reduce the amount of mercury released into the environment. Dental facilities serviced by the NBC must install, use, and maintain an amalgam separator with a separation efficiency of 99% when tested according to ISO 11143 standards and must demonstrate compliance with the BMPs. These separators help to remove most mercury from dental wastewater without being overly burdensome to operate or maintain. Based on NBC's current discharge limit for mercury, as little as 1/10,000 of a gram of amalgam in one gallon of wastewater would place your office in non-compliance resulting in additional sampling and monitoring costs. Continued non-compliance with NBC discharge limits can result in having your name published in the newspaper as being in significant non-compliance and/or the issuance of fines and penalties.



NBC BMP Implementation with the Installation of an Amalgam Separator

The installation and operation of an amalgam separator and implementation of the attached NBC BMPs is required. All amalgam-contaminated wastewater, including wastewaters from cuspidors and vacuum systems, must flow through an amalgam separator and through a sample location prior to sewer discharge.



Typical wastewater plumbing diagram for dental office with an amalgam separator

Specific Requirements for NBC Dental BMP Option

Amalgam Separators must be ISO 11143 certified and capable of handling flow from vacuum pumps and chair side cuspidors. Separators vary in complexity, capabilities and cost. Here are some criteria that should be considered when selecting an amalgam separator:

1. The vendor of the equipment must be able to provide ISO 11143 documentation certifying that the equipment has been proven capable of removing at least 99% of amalgam during certification tests.
2. There should be minimal loss of suction power within the vacuum system.
3. A system that is low maintenance is preferred over one that requires manual operation and frequent cleaning and/or servicing.
4. The unit should operate quietly.
5. The unit should be centrally installed so as to service a whole office or a series of chairs in order to minimize the cost and maintenance associated with individual units that service only one chair.
6. The unit or units must be capable of handling flow from:
 - a. Vacuum Systems,
 - b. Cuspidors and
 - c. Sinks if applicable.
7. Plans of the dental office and amalgam separator must be approved by NBC prior to installation.

Maintenance of Amalgam Separator

1. Amalgam separators must be installed and maintained such that all flow from vacuum systems; cuspidors and applicable sinks receive proper treatment.
2. Amalgam separators must be operational at all times.
3. Follow the manufacturer's specification for maintenance of the separator.
4. Inspect the separator weekly to ensure proper operation.

Certification and Record Keeping

1. The dental office must document all separator and trap inspections, cleaning and maintenance activities in a bound logbook.
2. Information in the logbooks must include:
 - Date (mm/dd/yy) of each trap/separator inspection/service activity;
 - A clear indication of which trap/separator is being serviced;
 - All routine and non-routine activities conducted (i.e., cleaning, maintenance, repairs, etc.);
 - Signature of person conducting activity.

Best Management Practices

Dental offices must adhere to all of the required BMPs detailed in this brochure.

1. While regular sampling of wastewater effluent, on the part of the dental facility, is not required as part of Option 1 of the NBC BMP Program, installation of a sampling location is required.

Best Management Practices

Chair Side Traps

1. Equip all dental chairs with chair side traps to capture large amalgam particles from cuspidors and vacuum systems.
2. Use traps with the smallest screen size that your vendor says will work.
3. While not required as a condition for participation in this program, disposable chair side traps are preferred to reusable traps due to the difficulty of cleaning traps for reuse without releasing captured amalgam particles to the sewer system during the cleaning process.

Maintenance of Chair Side Traps

1. Check to make sure all chair-side traps are in place when chair is in use.
2. Inspect chair-side traps on a daily basis and clean or replace as necessary.
3. If using disposable chair side traps, place spent traps directly into a labeled amalgam waste storage container. Never rinse a used trap over a sink that is directly connected to the sewer or place in trash.
4. If using a reusable trap remove all visible amalgam particles from the trap by emptying the contents into a labeled storage container.
5. Never dispose of the collected amalgam down the drain, in the trash or with sharps and/or biohazard waste.
6. Rinse reusable traps only if necessary and only in sinks plumbed into an amalgam separator using a minimum amount of water.

Maintenance of Vacuum Pump Filters

1. Check to make sure your vacuum pumps are equipped with filters. Talk to your equipment vendor to upgrade all such equipment not equipped with filters.
2. Talk to your equipment vendor to make sure you are using the smallest available vacuum filter screen that will not compromise the efficiency of the vacuum system.
3. Dry-turbine vacuums - Check to make sure the air/water separator is free of built-up sludge. Manage collected sludge as you would a mercury containing waste - do not wash down drain.
4. Change vacuum pump filters at least once per month or more frequently in accordance with the manufacturer's recommendations.
5. After removing the filter hold it over a spill tray or other type of container that can catch any water that has collected in the trap. Carefully decant the water without losing any visible amalgam. The decanted water, if it contains no visible amalgam, may be discharged to the sewer through an amalgam separator.
6. Place spent filters in their original container or in another sealed container and properly store prior to disposal/recycling as a mercury-containing waste.

Storage, Management and Disposal of Scrap Amalgam

1. Collect and store all contact and non-contact amalgam in separate appropriate labeled and closed containers.
2. Label all containers used to store waste amalgam with the words "Hazardous Waste" and "Waste Mercury/Amalgam."
3. Wastes containing mercury are regulated as hazardous waste by the RIDEM and EPA - comply with all state and federal hazardous waste management regulations (see section on Hazardous Waste Management).
4. Do not mix waste streams, including contact and non-contact amalgam waste, without checking with your waste hauler and disposal/recycling facility first. Mixing of waste streams may limit disposal and/or recycling options and increase waste management costs.
5. Do not put mercury-containing waste in medical waste containers. Disposal methods used for medical waste, such as incineration, will release mercury into the environment.

Please note: "empty" prepackaged amalgam capsules may contain enough residual amalgam to be classified as a hazardous waste. While not a BMP, it is recommended that empty capsules be collected and stored separate from other amalgam waste. This will allow for testing of the spent capsules in order to determine an ultimate disposal method.

Line Cleaners

Dental clinics may regularly use a liquid cleaner to disinfect the pipes in their vacuum system. Certain brands of line cleaners that are corrosive or oxidizers must be avoided because they dissolve solid mercury. Never use bleach (sodium hypochlorite) or a bleach-containing product to clean vacuum lines, instruments or equipment that may be contaminated with mercury or amalgam. Mercury that is mobilized in this way is very difficult to trap and can easily travel to the sewer plant or into the receiving waters. The following brands of cleaners and disinfectants are acceptable:

- Green and Clean (Metasys)
- GC Spray-Cide (GC America)
- Sani-Treet Plus (Enzyme Industries, Inc.)
- VacuCleanse Evacuation (Infection Control Tech)

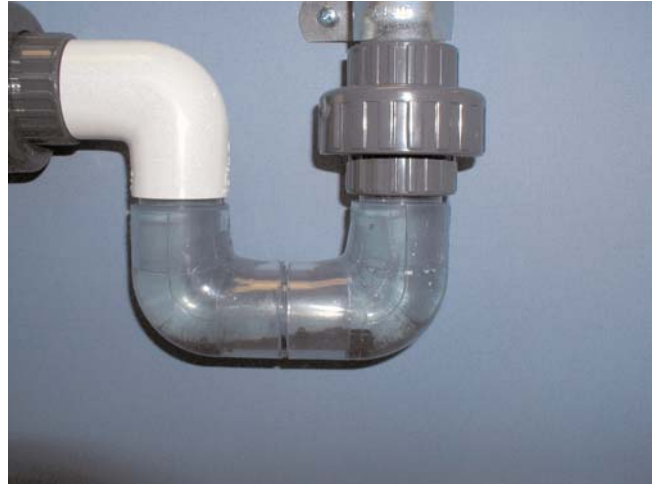
The above list is not all-inclusive and NBC may give written approval to use other cleaners. The NBC will review requests to use other cleaners upon receipt of a Material Safety Data Sheet (MSDS) for the proposed cleaner.

Best Management Practices

Clean Plumbing and Sink Traps

Due to the potential past use of sinks as disposal outlets for contact and non-contact scrap amalgam, all sink traps in the vicinity of mercury use (past or present) must be removed, inspected and cleaned.

1. Remove sink traps/elbows and inspect for sludge build-up.
2. Collect any sludge in a container separate from scrap amalgam waste.
3. Install new traps/elbows or replace the existing traps/elbows after cleaning with an appropriate line cleaner .
4. Dispose of the sludge as a mercury containing waste or have samples of each waste stream tested by a licensed analytical laboratory prior to ultimate disposal. Guidance on testing waste samples can be obtained through NBC's Pollution Prevention Program.



Sinks Located in Operatories

Sinks located in operatories have the potential to discharge amalgam waste to the sewer from the cleaning and rinsing of dental instruments, chair side traps and other equipment or devices that may come into contact with amalgam. Two Sink Use Alternatives are available to dental offices participating in these Best Management Practices.

Sink Use Alternative A: Designate all sinks for "Sanitary Use Only" by eliminating the cleaning of amalgam contaminated instruments, traps and other equipment in all sinks.

For sinks designated for "Sanitary Use Only" the following conditions and procedures will apply:

1. Washing of instruments, filters from chair-side traps and used amalgam capsules will be strictly prohibited.
2. Sign stating: "Sinks to Be Used for Sanitary Purposes Only - No Chemical or Amalgam Disposal" must be clearly posted at each sink.
3. All employees must be trained on this policy and certification of training maintained on site.

Sink Use Alternative B: Designate certain sinks for "Sanitary Use Only" and other sinks for "Equipment Cleaning Only ." This alternative requires sinks in which equipment cleaning will take place be plumbed into an amalgam separator - if you choose to not install an amalgam separator you will have to comply with Alternative A. If you choose to install an amalgam separator, please note that some separators may not allow for the connection of sinks. Discuss this with your separator equipment vendor before purchasing a separator.

For sinks designated for "Sanitary Use Only" all conditions and procedures noted above will apply.

For sinks used for "Equipment Cleaning Only" the following conditions and procedures will apply:

1. Plumb each of these sinks into to the amalgam separator.
2. Install flow restricting orifices in each sink discharge line in order to limit and control the flow rate to the separator and prevent washout of the amalgam separator
3. Submit plans of each of these sinks and the amalgam separator to NBC for approval prior to installation.
4. Manage all debris removed from these sinks and drain lines as mercury contaminated waste.
5. Post signs stating: "Washing of Instruments and Filters Contaminated with Amalgam only - Sanitary Use Prohibited" at each sink.
6. Train all employees on these policies and procedures and maintain certification of training on site.

Please note: if flow can not be adequately controlled using flow constrictors a surge tank capable of handling peak flow from these sinks may need to be installed up stream of the amalgam separator .

Wastewater Discharge Permit Requirements

Annual Certification and Record Keeping

1. Document all separator (if applicable) and trap inspections, cleaning and maintenance activities in a bound logbook.
2. Include the following information in the logbooks:
 - a. Date (mm/dd/yy) of each trap/separator inspection/service activity,
 - b. A clear indication of which trap/separator is being serviced,
 - c. All routine and non-routine activities conducted (i.e., cleaning, maintenance, etc.)
 - d. Signature of person conducting activity.
3. Maintain all Hazardous Waste Manifest documents and/or shipping papers of mercury waste sent off-site for disposal or recycling on-site and have them immediately available for inspection by NBC.
4. Submit an annual certification statement to NBC attesting to compliance with all BMPs.

Personnel Training Requirements

All personnel associated with the handling and management of amalgam and/or mercury containing materials/ wastes must be trained with respect to:

- the hazards associated with mercury
- hazardous waste management regulations
- procedures to follow in the event of a spill or an accident including spill-reporting requirements.

Waste Management and Spill Response

If any elemental mercury is used or is present in the dental office, including mercury from historical use and mercury in any medical instruments such as thermometers, a mercury spill kit must be maintained on site and all appropriate staff trained in its use.

Please note: even very small amounts of metallic mercury (for example, a few drops) can raise air concentrations of mercury to levels that may be harmful to human health. The longer people breathe the contaminated air, the greater the risk to their health. Metallic mercury and its vapors are extremely difficult to remove from clothes, furniture, carpets, floors, walls, and other such items. If these items are not properly cleaned, the mercury can remain for months or years, and continue to be a source of exposure.

Steps to take in case of a spill:

- Contact your local poison control center, fire department, the RIDEM or the RIDOH for advice on cleanup the spill.
- Ask everyone to leave the area.
- Close-off the area while unoccupied.
- Shut off conditioning and air circulation to the room
- Open windows and doors in the area of the spill to ventilate the area while clean-up activities are taking place.
- Wear rubber or latex gloves to prevent skin contact with metallic mercury.
- Use a dry sponge, paper towel or paper to clean up the spill.
- Place all collected mercury in a sealed glass jar .
- In the event of a large mercury spill (more than a broken thermometer's worth), immediately evacuate everyone from the area, seal off the area as well as possible, and call local and state authorities for assistance.

What Not to do when there is a spill:

Do NOT use a vacuum cleaner to clean up a mercury spill. A vacuum cleaner will spread the mercury vapors throughout the area, thereby increasing the chance of exposure. Do NOT attempt to sweep the spill with a broom. Never dispose of mercury down the drain. Never throw materials used to clean up a spill in the trash - contact the RIDEM for guidance.

Emergency Contacts

Rhode Island Department of Environmental Management: (401) 222-6822

Narragansett Bay Commission: (401) 461-8848

Rhode Island Poison Control Center: (401) 444-5727

National Response Center: (800) 424-8802

Rhode Island Emergency Management Agency: (401) 946-9996

Local Hospital: _____

Fire Department: _____

Useful Web Sites

www.narrabay.com
www.epa.gov/mercury/index.html
www.state.ri.us/dem
www.newmoa.org

Pollution Prevention

The goal of pollution prevention is to reduce or eliminate the use of toxic substances at the source. This minimizes the release of toxic compounds and serves to protect human health by ultimately reducing exposure to solid, dissolved or gaseous toxic compounds. Although source reduction is most efficient, it is often combined with control-based approaches such as end-of-pipe treatment to achieve desired results. Pollution Prevention activities and recycling in dental offices are essential in order to minimize releases of polluting substances into the sewer system, medical waste, ordinary trash or environment. Recommended activities include the use of the following materials, processes or practices:

1. Use non-amalgam substitutes where appropriate as determined by general dental practice procedures.
2. Utilize prepackaged, single-use amalgam capsules to eliminate larger bulk quantities of elemental mercury (also referred to as free, bulk, or raw mercury).
3. Stock amalgam materials in a range of capsule sizes. Use the smallest capsule required for the job at hand to minimize the amount of scrap non-contact amalgam produced.
4. Properly seal all amalgam capsules before amalgamation. Reassemble capsules immediately after dispensing amalgam. Disassemble and clean the amalgamator on a regular basis.
5. If a small amount of elemental mercury is to be disposed of, initiate a reaction with amalgam alloy to form scrap amalgam, which can then be recycled through your amalgam recycler.
6. When removing an existing amalgam, attempt to remove it in chunks so that it is more likely to be caught in the chair - side trap.
7. Consider using techniques that eliminate the need for cuspidors in the operatory when possible.
8. Do not mix different types of wastes, such as contact and non-contact amalgam, when it impacts wastewater treatment or waste disposal. Whenever possible, collect waste amalgam solids for proper storage before they mix with wastewater.
9. Do not discharge solutions that mobilize mercury such as certain vacuum line cleaners that are corrosive or contain bleach or other oxidizing compounds. Neutral, enzymatic cleaners are preferred.
10. During office renovations, alert renovators to the possibility of historical mercury spills that may have resulted in the presence of mercury in carpets, floor cracks, behind moldings and other areas where amalgam capsules may have been spilled. A waste is considered hazardous if TCLP tests indicate a mercury concentration over 0.2 mg/l. Seamless and impermeable floors are easiest to keep clean.

Hazardous Waste Management

Mercury is one of eight "heavy metals" regulated by EPA and the Rhode Island Department of Environmental Management (RIDEM) as a "Characteristically Toxic" Hazardous Waste.

This means wastes containing mercury, over established Regulatory Levels (0.2 mg/l for mercury using the Toxicity Characteristic Leaching Procedure), must be handled in strict compliance with federal and state hazardous waste regulatory requirements. A detailed overview of these regulations is outside the scope of this BMP document and the reader is referred to the document "Hazardous Waste Compliance Workbook for Rhode Island Generators" at <http://www.state.ri.us> for a comprehensive description of Rhode Island's hazardous waste management regulations. The following general guidelines, however, should be followed as part of generating and managing wastes containing amalgam:

Waste Generation

1. Apply for an EPA Identification Number through the RIDEM,
2. Inform all employees of the hazards associated with handling waste amalgam, and
3. Write a brief procedure to be followed in case of a spill of waste amalgam and familiarize all applicable employees with these procedures.

Waste Storage

1. Keep all containers closed except when adding or removing waste amalgam,
2. Label containers with the words "Waste Mercury Amalgam",
3. Inspect containers on a weekly basis, and
4. Store containers in a safe and secure location away from office traffic.

Waste Shipment

1. Become familiar with hazardous waste manifesting requirements,
2. Utilize only properly licensed/permitted waste haulers, and
3. Utilize only properly licensed/permitted waste recycling/disposal firms.
4. Contact the state environmental regulatory agency from which a waste hauler, recycler and/or disposal company resides in order to assure they are in compliance with all applicable regulations. A list of contacts for all state environmental agencies can be found at www.epa.gov.

Record-keeping

1. Maintain a readily accessible file on employee training with respect to hazardous waste management, and
2. Maintain a readily assessable file with all copies of Hazardous Waste Manifests.

Note: EPA regulations allow for certain exemptions from strict hazardous waste management regulations when a waste is being sent off-site for recycling. These exemptions, however, are not always adopted by individual state environmental agencies and are often open to interpretation. It is a good idea to comply with all hazardous waste management regulatory requirements even if the waste is being recycled.

THE GREASE BUSTING ADVENTURES OF
MR. CAN!
Quick guide to proper grease disposal



Meanwhile in Providence, RI...

There seems to be a problem downtown. I'm afraid it's the Grease Beasts!

This is a CODE ICKY.
I repeat: a CODE ICKY!

Pouring grease down the drain can cause costly, icky, and even dangerous effects on our neighborhoods and environment. Grease hardens and clogs our pipes causing messy backups into homes and city streets. When pipes are clogged, dirty water can't make it to the Narragansett Bay Commission facilities to be cleaned.

How about that, Icky Ike? They poured us down the drain! Let's clog this baby up and wreak havoc on the streets! Nothing like a nice backup to throw Mother Nature into a tizzy!

This is great Boss!
And the best part is it tastes like french fries!
We'll be oozing out in no time!
No WWTF for us!

WHAT WAS THAT?!

WHAM!

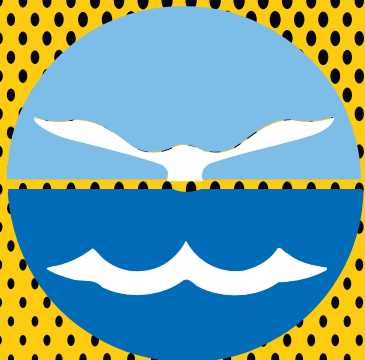
Not today
Grease Beasts!
It's me: Mr. Can!

Get a load of
my cooling
wand!

ZAP!

FOR PROPER GREASE
DISPOSAL,
COOL IT & CAN IT!

Together we can keep
the grease beasts off the
streets!



Narragansett Bay Commission

One Service Road, Providence, RI 02905

www.narrabay.com



**FATS, OILS, & GREASE
COMPLIANCE AND BEST MANAGEMENT
PRACTICES WORKBOOK**



**for RESTAURANTS
FOOD PREPARATION FACILITIES**

In an effort to address fats, oils and grease (FOG) management problems the Narragansett Bay Commission (NBC), in cooperation with the University of Rhode Island, the RI Department of Environmental Management and EPA Region I have established the NBC FOG-Environmental Results Program (ERP) to help the local food service industry keep FOG out of the sewer.

The goal of the NBC FOG-ERP is to improve the management of FOG at the source of generation through:

- On-site Technical Assistance
- Workshops
- Development and use of FOG Best Management Practices (BMPs)
- FOG management "Self-Evaluations"
- Compliance Inspections
- FOG data collection and analysis



The Narragansett Bay Commission

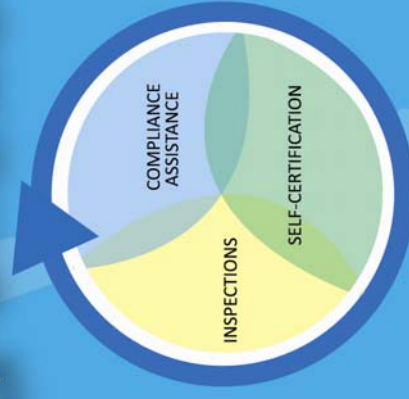
1 Service Road
Providence, RI 02905

Phone: 401.461.8848
Fax: 401.461.6540
www.narrabay.com



NARRAGANSETT BAY COMMISSION

FATS, OILS, & GREASE



ENVIRONMENTAL RESULTS PROGRAM

One Service Road
Providence, RI 02905

Tel: 401.461.8848
Fax: 401.461.6540
www.narrabay.com

Fats, Oils and Grease

Fats, Oils and Grease (FOG) are by-products of the Food Service Industry (restaurants, cafeterias and other commercial food service establishments) as well as household kitchens. FOG is generated from the use of vegetable oils and animal fats in the preparation of food products.



Typical operations that produce FOG include washing of dishes, pots, and utensils; floor cleaning, equipment sanitation (collectively referred to as “Brown Grease”) and the disposal of used fryolator cooking oils (“Yellow Grease”).

When released into the environment, particularly into sewer systems, septic systems or water surface bodies, FOG causes serious environmental harm. FOG that is discharged into the sewer system or septic tanks will accumulate and cause blockages that often result in backups and overflows. FOG that enters municipal wastewater treatment facilities and/or

natural surface water bodies will form unsightly globular balls of grease that can foul equipment, impact beaches and deplete water oxygen levels.

Restaurants that release excess FOG to the sewer system can be closed down if grease blockages and backups occur and can be held financially responsible for any resulting damages.

Biodiesel Production

Yellow grease from fryolators can be converted into biodiesel which can be used in diesel engines and as a renewable home heating fuel. As part of the NBC FOG-ERP, participating restaurants are encouraged to send their waste yellow grease to a biodiesel production facility.



The NBC FOG Environmental Results Program

The NBC FOG Environmental Results Program (ERP) has been designed to help improve the management of FOG by local restaurants through a combination of: 1) Compliance Assistance, 2) Voluntary Self Evaluation, 3) Regulatory Inspections, and 4) Certification.

1. Compliance Assistance

Pollution Prevention Engineers from the University of Rhode Island and the NBC are available to meet with participating restaurants owners and managers both one-on-one and in educational workshop settings to help implement sound and sustainable FOG Best Management Practices.

2. Self Evaluation

Participating restaurants will be trained to self evaluate their facility and will certify their FOG management practices utilizing the NBC Oil & Grease Compliance and Best Management Practices Workbook.

3. Regulatory Inspections

As required by NBC Pretreatment Program regulations, all restaurants will continue to be inspected on a regular basis. Participation in the FOG ERP will help firms prepare for regulatory FOG Inspections and help firm comply with FOG regulations.

4. Certification

Restaurants that demonstrate a superior FOG management performance level will be issued a Certification of Best Management Practices which may be displayed in their place of business.

To participate in the NBC FOG-ERP, complete the self-evaluation checklist in the

NBC Fats Oils & Grease Compliance and Best Management Practices Workbook and mail a copy to:

Narragansett Bay Commission
Pollution Prevention Program
One Service Road

valves on the truck, and hosing down the discharge area where spillage occurred.

- After cleaning up, the hauler is to proceed in a forward direction, since backing up is not allowed, and must be sure to exit the facility at a slow speed.

WHAT ELSE SHOULD I KNOW?

- The NBC runs the Septage facility as a service to Rhode Island's non-sewered residents. As such, only septage from within the state of Rhode Island may be brought to the facility. Any loads, or partial loads, from outside the state will not be accepted.

- The hauler must establish and maintain an account with a positive cash balance with the NBC Customer Service Section. The hauler will not be allowed to discharge without sufficient funds.

- Trucks with capacities less than 4,500 gallons are permitted to discharge between the hours of 8:00AM and 2:00PM, Monday through Friday and 8:00AM and 12:00 noon on Saturdays. Larger capacity trucks may discharge between the hours of 2:00PM and 4:00PM weekdays and 12:00 noon to 2:00PM on Saturdays.

- Once the NBC septage station receives 100,000 gallons of septage for any given day, only those trucks with full loads, all originating in the NBC primary service district, will be allowed to discharge. The NBC may only accept 116,000 gallons of septage daily, at which point the facility will close.

- Firms found to be falsifying paperwork submitted to the NBC and/or bringing non-residential quality septage to the facility may be subject to civil, criminal and/or administrative penalties. These penalties could include fines of up to \$25,000 per violation per day, revocation of permit and 30 days imprisonment for criminal violations.

- Haulers who discharge grease or other waste that causes the processing equipment to foul and/or breakdown will be immediately suspended from using the station for a minimum of a two-week period while NBC investigates the cause of the incident.

- Inquiries regarding permitting may be made to the NBC Pretreatment Section by calling (401) 461-8848 Ext. 483.



NARRAGANSETT BAY COMMISSION

LINCOLN SEPTAGE RECEIVING FACILITY

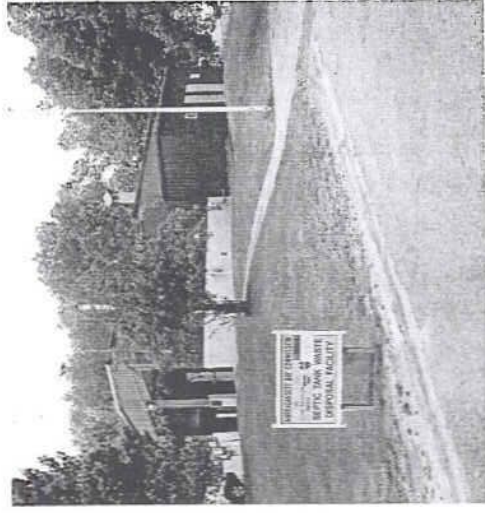
Septage Acceptance Policy Summary



Narragansett Bay Commission
Corporate Headquarters:
1 Service Road, Providence, RI 02905
Phone (401) 461-8848
Fax (401) 461-8540

Pretreatment Office
2 Ernest Street
Providence, RI 02905
Phone (401) 461-8848
Fax (401) 461-0170

Lincoln Septage Receiving Facility:
692 Washington Highway
Lincoln, RI 02865
Phone (401) 333-5610
Fax (401) 333-5610



OVERVIEW

The Narragansett Bay Commission (NBC) has upgraded the Lincoln Septage receiving station, installing new wastewater treatment equipment to reduce odors and remove solids contained in the septage. A six (6) inch hose connection has been installed to speed-up the discharge process and a computer tracking system has been installed for identification and billing streamlining purposes. This informational brochure provides an outline of procedures and practices which must be strictly followed to ensure the acceptance of your septage loads and the proper operation of the NBC facility.

PERMITTING REQUIREMENTS

- All trucks and/or trailers must be permitted with the NBC prior to bringing septage wastewater for disposal. Any changes, such as new or deleted vehicles, must be made known to the NBC Pretreatment office by submitting a new permit application with the correct information. It is the haulers' responsibility to ensure all registrations, insurance and DEM permits for vehicles are obtained and maintained in a valid state.
- Each permitted truck and/or trailer must be weighed empty and full to determine the capacity of the vehicle. This process must be overseen by NBC Pretreatment personnel. Appointments must be

scheduled in advance at 461-8848 Ext. 483 for this purpose.

- All trucks and/or trailers must have a NBC computer tracking chip programmed with identification and capacity information affixed to it.

- All trucks and/or trailers must have Permit Fee Paid and Permitted Volume stickers affixed.

MANIFEST REQUIREMENTS

- The manifest form must be completed in its entirety prior to arriving at the facility. The manifest requires the hauler to certify that only residential quality septage is contained in the truck that shall discharge.

- The manifest must clearly identify the origin of the load. The customer name, address and telephone number for that customer must be indicated for every load which is contained in the truck.

- A signature by the customer that your firm pumped must be on the manifest. If the customer was not home to sign the manifest, additional confirmation information regarding the customer is required in order to discharge the load. This could include a copy of the customer's signed check for the pump out or a photocopy of your company invoice to the customer. These documents must be attached to the manifest in lieu of a customer signature.

- Information provided on manifests is routinely checked by Pretreatment staff to verify the origin of the load. Pretreatment staff will routinely contact your customers.

PROCEDURES TO BE FOLLOWED AT THE STATION

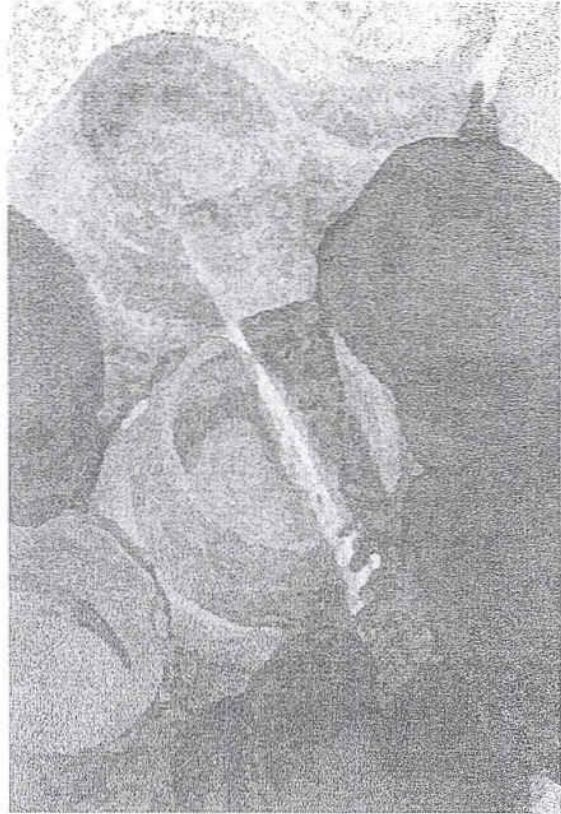
- Upon arriving at the station, the driver is to wait in line to use the facility.
- When it is your turn, the facility operator will inspect the stickers on your vehicle, scan your computer chip and take your manifest and other associated information. If anything is not in order, the load will be refused.
- Prior to discharging you must take a sample under the perview of the station operator. This sample will be checked for pH and visual indications for grease or other suspected pollutants. The pH must be in the range of 5.5 to 12.0 standard units or the load will be refused. Detection of other suspected pollutants will also result in the load being refused.
- When given the OK to discharge, the hauler is to hook up to the six (6) inch discharge connection and proceed to empty the truck. Grease and/or gravel will foul the solids handling equipment and will be readily detected. **If your load contains grease and/or other dense solid material, such as gravel or rocks, do not bring it to the Lincoln facility.** It must be brought elsewhere for proper disposal.
- Upon completing the discharge, the hauler must properly clean up and make the station neat and safe for the next hauler. This includes putting away all hoses, shutting all

NARRAGANSETT BAY COMMISSION

Environmental, Health & Safety

BEST MANAGEMENT
PRACTICES
for

FINE ART PAINTING STUDIOS



The purpose of this brochure is to guide you in protecting your health and preserving the environment as you work with various supplies and materials in your studio. It is also intended to help you save money and to comply with existing environmental regulations.

Following these guidelines will keep you and your environment safe.

Sources of health & safety information on the Internet for artists

Disposal of household hazardous waste in RI:
www.rtrrc.org/site/c0a1ep00/eco_dgpt_hwc.pdf

A searchable health & safety database by medium: www.rihs.gov/az.us/artistszards/home.html

List of references and more:
www.library.untsu.edu.au/intermat/pathfind/artistszards.htm

Comprehensive list of articles covering many mediums:
www.crcweb.com.au/nrcat3/crcdthvb/links.cfm?topicID=2

List of books, periodicals and organizations:
<http://www.library.untsu.edu.au/intermat/pathfind/artistszards.htm>

Comprehensive list of articles:
www.library.untsu.edu.au/intermat/pathfind/artistszards.htm

Article entitled *Art, Pollution and Drawing*:
<http://www.eric.ed.gov/fulltext/ED412171/artistszards.htm>

Very comprehensive list of resources for many media:
www.tmcart.info/hazards.htm

Safety Primer with references:
www.tmcart.info/hazards.htm

Safety Primers:
www.artspaceonline.org/solutions/safety.html

www.usfax.edu/arts/art/haz.html

www.gamblercolleges.com/safety.html

Studio Ventilation:

www.craftreport.com/max/10/studiovents.htm

How to manage contaminated rags:
www.cbaq.gov/p2/shoprags.pdf

Technical leaffers:
<http://www.danielmuth.com/leaflets.html>

NARRAGANSETT BAY COMMISSION Environmental, Health & Safety

BEST MANAGEMENT PRACTICES

for

FINE ART PAINTING STUDIOS



As you are probably aware, many art materials contain ingredients that are toxic to your health and the environment. The paints, pigments, colorants and glazes you use may contain toxic metals. Commonly-used paints, like oil, acrylic, watercolor and gouache, may contain heavy metals such as cadmium, chromium, and lead, which can be hazardous to your health and the environment. Also, oil paints contain solvents and require cleanup with solvents, such as turpentine, mineral spirits, or other paint thinners. Oil paints, resins, and solvents each pose fire safety hazards. Many solvents are toxic and flammable, and their use contributes to the formation of ground-level ozone, contaminating the air we breathe, and a few can deplete the ozone layer in our stratosphere, potentially increasing our exposure to harmful effects of the sun. If improperly disposed of, these materials pose environmental and community health hazards. You can reduce these risks by determining which materials contain hazardous ingredients, and by finding and using safer alternatives. If an alternative is not available, then you must know how to use and dispose of the hazardous materials safely. Remember that even less toxic alternatives must be handled safely and disposed of properly.

Use of many of these materials can produce wastes controlled by a variety of local, state and federal requirements, such as Rhode Island's Hazardous Waste Management Act, which authorizes the RI Department of Environmental Management (RIDEM) to regulate hazardous waste management and disposal, and the federal Clean Water Act which authorizes both RIDEM and local sewer authorities such as the Narragansett Bay Commission (NBC) to regulate wastewater disposal to Publicly-Owned Treatment Works (POTWs). Sewer authorities have obligations under the Clean Water Act to regulate sources (such as painting studios) that discharge process wastewater into the sewer system. The practices recommended in this guidance document can help you to understand, and minimize or eliminate hazardous materials and wastes from your work. This may eliminate the need for you to obtain permits from these government agencies.

Wise purchasing choices will help you reduce or eliminate hazards in your studio. Tables 1 and 2 provide information about metals and solvents in pigments to help you choose safer materials for your work. You may be able to choose less toxic paints by comparing the information from the Material Safety Data Sheet (MSDS) about the types and amounts of metals contained in your paints (see Table 2). For example, you may select a paint containing an iron-based pigment rather than a more toxic lead chromate or cadmium pigment. You can also compare properties of available solvents to decide which is best for your purpose and which is a safer choice.

When you are deciding which solvent to use, consider that you may reduce your health risks by using solvents with low values for any or all of the following characteristics: toxicity, evaporation rate, flammability, photochemical reactivity, ozone-depleting potential, Worker Exposure Value and Environmental Hazard Value. Also look for a low Vapor Pressure, which indicates how quickly the solvent will evaporate into the air you breathe (see Table 1). Low-odor mineral spirits would be a safer choice than regular mineral spirits or turpentine. Finally, buy only as much material as you need to complete your work so that you are not unnecessarily storing large amounts of hazardous materials in your studio.

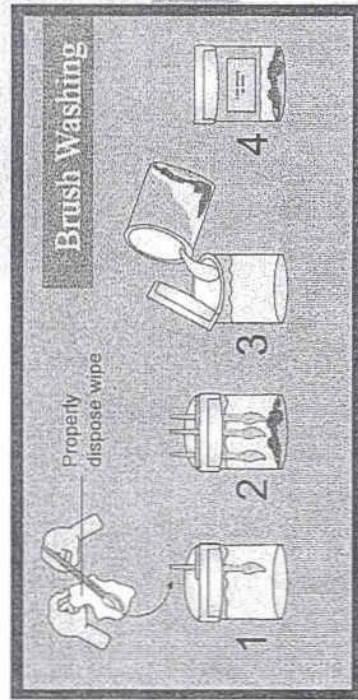
Store supplies and materials properly by following the manufacturer's instructions. Incompatible materials must be stored separately, in covered and labeled containers, so they do not react (see Table 1). For example, products containing oxidizers, such as bleach, should be stored in a location separate from flammable materials to reduce potential fire hazards and other dangerous reactions. Label all products with the date of purchase and the date you open the container. Use an indelible marker or graphite pencil to label each container, and replace the label if it becomes illegible. Maximize the shelf life of your materials by keeping air out of paint cans and tubes. Use oldest supplies first and do not keep supplies that you will never use again. Donate excess stock to someone who can use it, such as another artist, local theater group, art schools or a materials exchange (www.rtrrc.org/site/srme.htm).

Exposure to solvents and toxic metals can be dangerous to your health. Common routes of exposure include ingestion, inhalation and absorption through the skin. Less toxic substitutes can often be used both in your painting process and for clean-up. Oil paint can be cleaned off hands and brushes with baby oil, followed by soap and water. Soap and water alone may be adequate if you are using acrylic paints, gouache or watercolors. Solvents such as mineral spirits, turpentine or other paint thinners may be needed for more demanding jobs. Before you use straight solvent, try a 50:50 mixture of baby oil and solvent. If using a mixture doesn't work, and you need to use a straight solvent, read the product information for alternative products to choose a less toxic solvent.

To use these paints and solvents safely, follow recommendations on the product's label, MSDS and Technical Data Sheet. Ventilate the work area whenever possible to remove airborne pollutants. Avoid using powders that generate airborne dusts. The dust may contain toxic metals, which cause serious harm when inhaled, absorbed, or ingested. If you are unable to remove these hazards from your workplace, you should eliminate or reduce bodily contact by using personal protective equipment such as gloves, safety glasses/goggles, aprons and other barriers to avoid absorption of metals and solvents through the skin. In addition, consider using appropriate respiratory protection when spray painting or working with powders, and always when recommended on a product's MSDS, to prevent inhalation of toxic materials. There may be certain health considerations when choosing a respirator, so please consult with a medical professional before making your purchase.

To expedite clean up and to reduce solvent use, squeeze excess paint off brushes, rollers or trays, liners, and when possible, put it back into the original labeled paint container. To minimize the amount of water or solvent needed to clean brushes, paint-out the paint remaining on a brush after a project is complete. Other water conservation methods include wash water reuse and counter-current rinsing. Sometimes, clean-up will require a strong solvent such as mineral spirits, turpentine or other paint thinners. To clean brushes and reuse solvent, hang your brush so that the bristles are covered by solvent but do not touch the bottom of the container. Most pigment solids will separate from the solvent, falling to the bottom of the container. When the brush is clean, remove it and slowly pour the solvent into a clean container, being careful not to disturb the solids at the bottom of the original container. This will allow you to reuse the solvent and properly dispose of the solids in the bottom of the original container. (See the disposal paragraph below.) Remember to cover all solvent containers, even while your brushes are soaking, to reduce fumes in your work area and to prevent fire and personal exposure. Use a temporary aluminum foil cover, perforated plastic cover or other cover (your brush handle may stick out through the cover) to cut down on the amount of vapors that escape into your work environment. This option should be for short term storage only while you are working with the materials. These tops will fail to prevent spills if the container tips over. Some plastic tops are fire for solvent storage. Many paint solvents are sold by the manufacturer in plastic containers. Remember to check containers periodically to ensure they will hold up for extended periods of time.

The best solution for long-term solvent storage is to put it back into its original container.



REMOVE excess paint from brush. **WASH** the perforated brush vertically in paint thinner.

DECANT the good thinner into a new container as it can be used again.

SETTLE pigments.

LADLE and properly manage the residue.

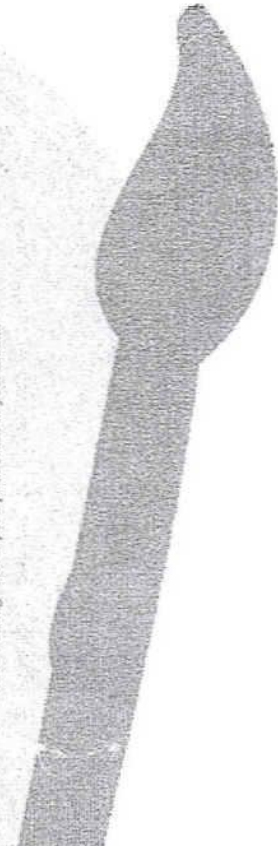
Do not put even small amounts of waste oil paint or solvents down the drain, because they can ultimately reach Narragansett Bay. Sewage treatment plants are not designed to treat these substances. These materials harm sewer workers, cripple the biological sewage treatment process, and can cause fish-kills in the receiving waters. If as part of doing business you put rinse-water, wash-water or other process wastewater down a drain to the sewer system, you must contact your local sewer authority (i.e. NBC) to determine if a wastewater discharge permit is required. The practices recommended in this guidance document can help you to understand and minimize or eliminate hazardous materials and wastes from your work. This may eliminate the need for you to obtain permits or it may reduce your permit requirements and costs.

Properly dispose of spent solvents, paint wastes, aerosol paint cans, and other wastes generated in your studio. Hazardous wastes generated by household sources (including non-commercial artists) in Rhode Island, can be dropped off free of charge at the Rhode Island Resource Recovery Corporation's Eco-Depot in Johnston. Non-hazardous waste can be disposed of with your municipal trash. In Rhode Island, a waste is considered hazardous if it is flammable/ignitable with a flashpoint less than 200 F (see MSDS), or if it contains toxic heavy metals above a TCLP concentration. Toxic heavy metals include Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Silver, and Selenium (see Table 2 for more information). If you are using these types of materials then you should consider the wastes to be hazardous and dispose of them as such. They should be stored in covered and labeled fireproof containers. Wipes must be handled as hazardous waste if they are saturated (dripping) with liquids that are considered hazardous wastes. If you use wipes in your clean-up, you need to drain any liquid or solvent from them and then dispose of the wipes separately from other trash. Otherwise dispose of dry non-hazardous wipes as municipal trash. Small amounts of non-hazardous waste paint can be air-dried and also disposed of as municipal trash.

Commercial artists are considered a small business and must abide by different regulations for hazardous waste disposal than home hobbyists. Commercial artists cannot use the RIRRC's Eco-Depot to dispose of hazardous wastes. If you are a commercial artist who generates hazardous waste, you must register with the RIDEM as a hazardous waste generator. You must also hire a licensed hazardous waste transporter to remove waste for proper recycling, treatment and disposal at an approved site. For more information on your hazardous waste responsibilities, see RIDEM's "Hazardous Waste Compliance Workbook for Rhode Island Generators" at: <http://www.state.rhodeisland.gov/ehp/ehp/water/pdfs/hwcombk.pdf>, or call RIDEM at (401) 222-6800.

Pick up spills promptly and then safely reuse or properly dispose of the recovered material. Keep adequately stocked spill kits at locations where they will be needed, and know how to use them. When you are using powders, wipe up small areas with a damp cloth instead of using a wet-mop or broom. Clean larger areas with a vacuum cleaner equipped with a high-efficiency particulate air (HEPA) filter. Following these suggestions will help you avoid undesirable wastewater and airborne dusts. Never use a wet-vac to clean a solvent spill, because the vapors can explode in the vacuum. Instead, wipe up the small solvent spill with a rag, drain the rag, then dispose of it and the waste solvent as if it were hazardous waste. Use personal protective equipment such as gloves and respirators. Be sure to contact the RIDEM in the case of a large solvent spill to request assistance and spill clean-up guidance.

Practice good housekeeping to promote a safe and efficient work environment. Properly manage shop towels, wipes and rags in your studio. Store wipes that have been in contact with flammable materials (such as certain paints and solvents) in a self-closing fire-proof canister until ready for disposal. Wash dirty studio clothing separately from your other laundry to avoid cross-contamination. Be aware that your shoes can become a source of toxic metal contamination in your home, because you may track paints and dusts from the studio into your living area. Wipe your feet or have separate studio shoes for your work. Always wash your hands before eating or smoking, and wash your hands periodically during the day as you work. Do not put your hands near your eyes, nose, or mouth while working. Never put a paint brush in your mouth.



E, H & S Reference Information

Table 1 - Environmental and Health Hazards of Solvents

Organic Compound	EHV	WHV	HWV	Exposure Limit (ppm)	Flash Point (F)	Vapor Pressure (mmHg)	Water Solubility (%)	Classification	Notes
Acetone	1.5	1.6	2	250	0	160	100	IB flammable	solvent, incorp. w/ acids
2-Butoxyethanol	2.5	1.6	2	5	143	1	100	IIA combustible	miscibility agent, skin adsorbs, incorp. w/ caustics
D-Limonene	1.1	0.5	1	30	120	20	0	II combustible	has citrus odor
Ethyl Acetate	3.6	2.6	3	400	24	73	10	IB flammable	solvent, incorp. w/ acids & alcohols
Isopropyl Alcohol	1.4	1.5	1	400	81	33	10	IB flammable	solvent, incorp. w/ acids and chloro-
Methyl Ethyl Ketone	3.9	2.8	3	200	16	28	2	IB flammable	paint remover, waste may be TCLP, incorp. w/ ammonia
Methylene Chloride	1.3	2.8	3	735	none	350	2	—	combustible paint remover and degreaser, TLO, ODS, skin adsorbs
Mineral Spirits	1.3	1.9	2	350	104	20	0	II combustible	thinner, may contain 2, 6 or 22% aromatics
XM & P Naphtha	1.1	1.2	1	200	104	20	0	II combustible	thinner, may contain 1, 2 or 20% aromatics
Odorless Mineral Spirits	3.7	2.1	2	350	104	20	0	II combustible	thinner, may contain 1, 2 or 20% aromatics
Toluene	3.4	2.1	2	100	85	4	0	IC flammable	thinner, skin adsorbs, incorp. w/ chloro-
Xylene	3.9	1.3	2	100	85	4	0	IC flammable	aromatics, skin adsorbs, incorp. w/ chloro-

- Organic compounds, such as those listed above, can be found alone or in mixtures which are used to dilute (thin) paint, strip paint, dissolve resin, make medium or for cleanup. The health and environmental values of greatest concern are bolded.
- Environmental Hazard Value (EHV) accounts for impacts on aquatic ecosystems, air quality and land contamination.
- Worker Hazard Value (WHV) accounts for impacts on human health in a work environment. Although a low WHV is safest, the release, inhalation, ingestion,
- skin/eye and other contact with organic solvents should be avoided.
- Average Hazard Value (HWV, where 1 is safest) is equal to the average of the EHV and the WHV.
- Severe regulations prohibit businesses from discharging flammable liquids, hazardous waste, solvents, paint thinner or stripper, methylene chloride, naphtha, toluene, and xylene and also limit the amount of other organic and inorganic compounds that can be discharged into the sewer.
- When solvent use is necessary, maximize safety by choosing one that has a high exposure limit, high flash point, low vapor pressure and a low hazard value.

Table 2 - Environmental and Health Hazards of Metals

Metal	EHV	WHV	HWV	NBC limit (mg/m ³)	RCRA TCLP (mg/l)	PBT	Exposure Limit (mg/m ³)	Carcinogen	Used in Paint Colors including:	Notes
Arsenic	3.9	2.2	3	0.10	5	0.002	Y	Y	Y, O, W, R, B	skin adsorbs
Barium	0.4	0.8	1	none	100	0.5	Y	Y, O, W, R, B	PEL is for soluble barium compounds	
Cadmium	4.1	2.4	3	0.07	1	0.005	Y	Y, O, W, R, B	A PBT according to the Ecology PBT Working List	
Chromium	4.7	1.9	3	1.63	5	0.5	Y	Y, O, W, R, B	Hex chrome is more toxic than trivalent form	
Copper	3.0	2.9	3	1.20	none	1.0	Y	Y, O, W, R, B	prevent skin & eye contact	
Lead	4.1	2.6	3	0.29	5	0.05	Y	Y, O, W, R, B	volatile; prevent skin contact	
Mercury	4.0	1.7	3	0.005	0.2	0.015	Y	Y, O, W, R, B	insoluble Ni compounds carcinogen per ACGIH	
Nickel	4.0	2.4	3	1.62	none	0.2	Y	Y, O, W, R, B	prevent skin contact	
Selenium	2.4	1.9	2	0.20	5	0.2	Y	Y, O, W, R, B	prevent skin & eye contact	
Silver	1.4	1.9	2	0.20	5	0.01	Y	Y, O, W, R, B	prevent skin & eye contact	
Tin	0.1	1.8	2	2.00	none	2.0	Y	Y, O, W, R, B	incompatible with hydrogen	
Zinc	0.4	1.7	1	1.39	none	5	Y	Y, O, W, R, B	PEL is for zinc oxide	

- The health and environmental values of greatest concern are bolded. The lowest NBC wastewater discharge limit for each metal is shown.
- The average of the Environmental (EHV) and the Worker Exposure Hazard (WHV) values is equal to the Average Hazard Value (HWV, where 1 is safest).
- A substantial portion of metal in dry paint is relatively immobile when used as intended.
- Metals that tend to have a relatively high PEL (ex. 15 mg/m³) include cadmium, aluminum and iron.
- The risk of inhaling metals are highest for fine art painting operations involving spray painting, airbrushing, sanding, dry powders & chalks and touching.
- Other metals of concern that can be found in oil, watercolor and other paints include antimony, cobalt, manganese, molybdate, strontium and titanium.

Useful Information and Definitions

Corrosives: caustics are acids (e.g. nitric acid, hydrochloric acid or ferric chloride) that have a pH below 2 and alkalis (e.g. sodium hydroxide or lye) that have a pH above 12.5 standard units.

Environmental, Health and Safety (EH&S) agencies protect our environments and human health. Note that certain substances that are relatively safe to work with may still be harmful to the environment.

Flash Point is the lowest temperature at which a solvent will flame when an ignition source is present.

Halogenated compounds contain chlorine, bromine or fluorine. In the upper atmosphere, halogenated organic compounds are most notorious for being ozone depleting substances (ODS). Certain halogenated compounds are also direct (i.e. methyl chloroform) or indirect (i.e. methylene chloride) greenhouse gases (GHG). Many halogenated organic compounds are carcinogens and do not have a flash point.

Material Safety Data Sheet (MSDS) chemical manufacturers supply a MSDS to inform industrial purchasers and users of hazardous chemicals of the reasonably foreseeable physical and chemical hazards that may arise from the use of those chemicals.

Oxidizing compound is a reactive chemical, such as bleach, chlorox, hydrogen peroxide and nitric acid.

Permissible Exposure Limit (PEL) is the maximum concentration of a chemical in air that a worker can be exposed to without health consequences.

Persistent Bioaccumulative Toxics (PBT) are highly toxic compounds that last a long time and build-up to high levels in the food chain.

Publicly Owned Treatment Works (POTW) is a sewage treatment facility.

Resource Conservation and Recovery Act (RCRA) is the federal law that governs the disposal of hazardous waste.

Solvent is a typically volatile, organic (aliphatic, aromatic or unsaturated) liquid capable of dissolving other compounds such as paints, oils or resins. Organic solvents are incompatible with oxidizers.

Total Toxic Organics (TTO), including methylene chloride and toluene, are listed in 40 CFR Section 431.111e, Total Toxic Organics definition (Appendix V.1)

Toxicity Characteristic Leachate Procedure (TCLP) is one of the tests for 40 compounds that can characterize a waste as hazardous.

Vapor Pressure is a direct indication of how quickly a substance will evaporate. An organic compound with a vapor pressure over 2 mmHg is considered volatile.

Volatile Organic Compounds (VOCs), especially aromatic (i.e. toluene and xylene) that are the most photochemically reactive VOCs, are notorious for causing smog (ozone in the lower atmosphere). Certain VOCs are also direct (i.e. ether) or indirect (i.e. aromatics) greenhouse gases.

This brochure was funded in part by a US EPA Region 1 grant and the Narragansett Bay Commission and was produced by a working group of art and environmental professionals including: Pamela Gail (RIDESE), Alan Canara (RIDESE), Rafael Guell (NBC), Katie Florsheim (Photographer), Rebecca Pava (RISD), Randall Kutenban (RSC-H), and Barry Wojtkowicz (NBC).

RI Agencies Providing Further Information

Narragansett Bay Commission (NBC)
(401) 461-8848 - www.narrabow.com

RI Department of Environmental Management (RIDEEM)
(401) 222-6822 - www.state.ni.us/dem

RI Dept. of Health, Occupational Health & Safety Consultation Services
(401) 222-2438 -
www.health.state.ni.us/environment/occupational/home.htm

RI Resource Recovery Corporation (RIRRC)
(401) 942-1430 - www.rirrc.org

RI School of Design (RISD)
(401) 454-6780 - http://ntranet.risd.edu/departments/default.asp?department=Environmental_Health_and_Safety

RI State Council on the Arts (RISCA)
(401) 222-3880 - www.risca.state.ni.us

Other Agencies

Art and Creative Materials Institute (ACMI)
(617) 426-6339 - www.acmi.net.org

Arts, Crafts, and Theater Safety (ACTS)
(212) 777-0962 - www.caseweb.com/acts

Massachusetts and Rhode Island Poison Center
(800) 222-1212 - www.maripoisoncenter.com

National Institute for Occupational Safety and Health (NIOSH)
(800) 336-5674 - www.niosh.com/my

Occupational Safety and Health Administration (OSHA)
(202) 523-7075 - www.osha.gov

RCRA Hotline
(800) 424-9346 - www.epa.gov/eppoaswv/hotline



Narragansett Bay Commission
One Service Road
Providence, RI 02905



NARRAGANSETT BAY COMMISSION
Environmental, Health & Safety

BEST MANAGEMENT
PRACTICES
for
FINE ART PAINTING STUDIOS





Narragansett Bay Commission

Electroplaters, Metal Finishers, Chemical Processing Firms and Other Industries:

Vacation Shutdown Prohibited Sewer Discharges

Typically many industries shut down their operation for a period of time during the holiday months. Past operating experiences in the Narragansett Bay Commission (NBC) District have shown that large quantities of toxic and hazardous wastes have been indiscriminately dumped in significant quantities into the sewer as part of an industry's "clean-up" procedure prior to their shutdown. This usually occurs in the last two weeks of June and throughout the month of July, as well as in December. Pursuant to Title 46 Chapter 25 of the Rhode Island General Laws, the NBC has adopted regulations which prohibit the discharge of wastes which could:

- create a fire or explosion (example: solvents such as trichloroethylene, xylene or gasoline);
- cause corrosive damage to our facilities (example: acids or bases);
- hinder the flow or causes obstructions to our facilities (example: fats, waxes, greases, oils, solids);
- result in an excessive hydraulic/pollutant flow rate (example: slug discharge from the dumping of plating or other baths);
- interfere with treatment facility operations (example: dumping cyanide or heavy metal containing solutions) and;
- cause pass through of the wastewater treatment facility (example: dumping of dyes or pigments).

Other wastes are also regulated specifically by type of waste and concentration by the NBC's Rules and Regulations. Copies of these regulations may be obtained at the NBC's Pretreatment office. In addition, it is illegal to discharge any non-sanitary wastewaters into the NBC sewer system prior to being issued a discharge permit. Please dispose of spent solutions properly. It is less costly than being caught illegally disposing of these wastes. Industries found to be in violation of the NBC's Rules and Regulations may be subject to a fine of up to \$25,000 per violation per day and/or up to thirty (30) days of imprisonment. In general, industries located in the NBC service area are to be commended for the fine job to date at reducing toxic discharges to the sewer. In 1981, local industries discharged 954,099 pounds of heavy metals such as copper, nickel, and zinc, and 80,440 pounds of cyanide to the Field's Point Treatment Facility. A portion of these toxics would eventually pass through the treatment plant and enter Narragansett Bay. There has been a 97.0% reduction in heavy metal discharges to the Field's Point Facility since 1981. The cyanide loadings to this treatment facility were also reduced by 97.6% over this same period. This impressive reduction in toxic discharges by industry has also been noted at the Bucklin Point Wastewater Treatment Facility. The level of toxics entering Narragansett Bay from the NBC facilities has been similarly reduced.

The NBC will continue to be a leader in the field of wastewater treatment and environmental protection to ensure a cleaner Narragansett Bay for all to enjoy. For more information on the proper disposal of wastes from your facility, contact the pretreatment program staff at 461-8848 ext. 490 / TDD 461-6549.

Vincent J. Mesolella, *Chairman*

Raymond J. Marshall, P.E., *Executive Director*

ATTACHMENT VOLUME I

SECTION 2

***TYPICAL NBC WASTEWATER
DISCHARGE PERMITS***

***TYPICAL METALFINISHER
WASTEWATER DISCHARGE PERMIT***



WASTEWATER DISCHARGE PERMIT

Permit Number: B1112-092-0923
Company Name: **SUMMIT MANUFACTURING CORPORATION**
Facility Address: 248 Pine Street, Pawtucket, RI 02860
Mailing Address: 248 Pine Street, Pawtucket, RI 02860
Facility President: Mr. Paul Cotter
Facility Authorized Agent: Mr. Stephen Pogorilich
User Classification: Metal Finisher
Categorical Standards Applicable: 40 CFR §433.17, Pretreatment Standards for New Sources

By virtue of Rhode Island's General Laws Title 46 Chapter 25 (Act) and in accordance with the Rules And Regulations For The Use Of Wastewater Facilities Within The Narragansett Bay Water Quality Management District (Rules and Regulations), **Mr. Paul Cotter and Summit Manufacturing Corporation**, hereinafter jointly referred to as **Permittee**, is hereby authorized to discharge process wastewater from the above identified facility in accordance with the terms and conditions set forth in this permit.

All discharges authorized herein must be consistent with the effluent limitations, monitoring requirements and other conditions set forth in this permit. The discharge of any pollutant not identified in this permit or any pollutant identified in this permit at a level in excess of that authorized shall constitute a violation of the permit. This permit consists of 18 pages with conditions A - V.

**This permit becomes effective on October 1, 2018
and expires on September 30, 2023.**

Noncompliance with any term or condition of this permit shall constitute a violation of the NBC's Rules and Regulations and may subject the user to an **Administrative or Civil Penalty** of up to \$25,000 per violation per day as defined in R.I.G.L. §46-25-25.2. Willful or criminally negligent violations shall be punishable by the aforementioned fine and/or imprisonment as defined in R.I.G.L. §46-25-25.3.

For the **Narragansett Bay Commission:**

/s/ Kerry M. Britt
Kerry M. Britt, Pretreatment Manager
Narragansett Bay Commission

September 21, 2018
Date

NOTE: The NBC will accept the person(s) named on this permit as the **Permittee's** authorized agent(s) until notified otherwise.

An authorized agent or authorized company representative is a person who is a principal executive officer or other corporate officer with signatory powers as per the **Permittee's** by-laws or per a vote of the directors if the **Permittee** is a corporation; a general partner or proprietor if the **Permittee** is a partnership or sole proprietorship respectively; or a duly authorized representative of an individual designated above if such representative is responsible for the overall operation of the facility and has the authority to sign contracts, permits, permit applications, monitoring results and other documents in the company's name and otherwise bind the **Permittee**. The **Permittee** may designate additional or new authorized agents by completing and submitting the enclosed Designation of Authorized Agent form.

The NBC will not accept documents signed by persons other than the Company's authorized agent(s) or authorized representative(s).

CONDITIONS TO PERMIT

A. Effluent Discharge Limitations:

1. The permittee shall at all times comply with the effluent limitations specified in Table 1 on page 17, attached hereto and incorporated herein.
2. The permittee shall comply with all discharge limitations and prohibitions contained in Article 5 of the NBC's Rules and Regulations, as well as all other provisions of those Rules, and any other applicable State or Federal standards, including but not limited to the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq. and R.I.G.L. §46-12-1 et seq. The permittee shall at all times comply with 40 CFR §403.5 and may not introduce into the NBC's facilities any pollutants which shall violate the general or specific prohibitions including but not limited to discharges resulting in pass through or interference situations at the NBC's facilities.
3. The permittee shall not increase the use of process water or dilute a discharge in any way as a partial or complete substitute for adequate treatment to achieve compliance with the above standards.
4. The permittee agrees that the average discharge per calendar day of metal finishing process wastewater is greater than or equal to 10,000 gallons but less than 50,000 gallons. Decreasing or increasing the average daily water usage may affect the annual permit fee and/or the monitoring frequency. The permittee must notify the NBC of any deviations from the aforementioned average flow range so that required permit modifications may be made.
5. The permittee is classified as a Metal Finisher and, therefore, must at all times comply with EPA Categorical Regulations 40 CFR §433.17, Pretreatment Standards for New Sources. EPA regulations require that Metal Finishers maintain full compliance with the EPA Total Cyanide Metal Finishing maximum limitation of 1.20 ppm and the monthly average limitation of 0.65 ppm at the combined point of cyanide process discharge, prior to combining with non-cyanide bearing wastewater streams, and at the discharge from the cyanide treatment system. Upon conducting an engineering review of the facility, it has been determined that the permittee does not utilize or store cyanide on site. Since there are no cyanide processes utilized at the facility, the EPA Total Cyanide Metal Finishing Standards will be applied at the final process discharge location, Sample Location #1. Since the NBC Total Cyanide limitations are more stringent than the EPA Total Cyanide limitations at this location, the NBC Total Cyanide limitations will be enforced at the final discharge location.

B. Permitted Discharges:

1. The permittee is authorized to discharge the following tanks, solutions, or process wastewater streams to the NBC's facilities:
 - a. Treated Anodizing Rinse Waters;
 - b. Treated Bright Dip Rinse Waters;
 - c. Treated Nitric Acid Solution;
 - d. Treated Alu-Kleen 1157 Cleaner Solution;
 - e. Treated Alum-Etch #3 Solution;
 - f. Treated Air Scrubber Wastewaters;
 - g. Treated reject stream generated from the two (2) AJ-20 diffusion dialysis units servicing anodizing line B-1, Anodize Tank #8 and Hardcoat Tank #10;
 - h. Treated Cation Regenerant;
 - i. Treated Anion Regenerant.
2. No other process wastewater is to be discharged to the sewer unless specifically approved by the NBC in writing.

C. Prohibitions:

1. The permittee is strictly prohibited from discharging any prohibited substances detailed in the Rules and Regulations of the Narragansett Bay Commission. Prohibited discharges include, but are not limited to, the following:
 - a. Acidic Solutions with a pH less than 5.0 standard units;
 - b. Caustic Solutions with a pH greater than 11.0 standard units;
 - c. Degreasing Solutions;
 - d. Solvents;
 - e. Sludges;
 - f. Fuel or Lubricating Oils.
2. The permittee is strictly prohibited from discharging any process wastewater streams other than those specified in Section B(1) of this permit or wastestreams containing pollutants with concentrations in excess of the effluent limitations specified in Table 1 on page 17, attached hereto and incorporated herein.
3. The permittee may only treat and/or discharge those solutions that were indicated as such on plans submitted to the NBC by the permittee on May 15, 2009, May 27, 2009, and August 21, 2009. The permittee is strictly prohibited from discharging any other tanks, solutions, chemicals or materials, including all prohibited substances as defined in the Rules and Regulations of the Narragansett Bay Commission, without written approval from the NBC.

4. The permittee is prohibited from discharging the following tanks without prior NBC approval:

<u>Process Line</u>	<u>Tank</u>	<u>Solution</u>
B1	#6	Deoxide NC-9
B1	#8	Anodize
B1	#10	Hard Coat
B1	#12	Hard Coat
B1	#15	Black Dye
B1	#16	Dichromate Seal
B1	#18	Nickel Seal
B2	#4	Deoxide NC-9
B2	#13	Anodize
B2	#16	Blue Dye
B2	#21	Red Dye
B2	#18	Gold Dye
B2	#20	Gold Dye
B2	#22	Blue Dye
B2	#25	Green Dye
B2	#26	Copper Dye
B2	#27	Brown Dye
B2	#28	Nickel Seal

In order to obtain approval, the permittee must sample the above-listed tanks in accordance with Section E(3) of this permit.

5. The permittee is strictly prohibited from using portable pumps and/or flexible hose to transfer solutions directly to the pretreatment system or to bypass the pretreatment system and/or discharge solutions directly to the sewer without written approval from the NBC.

D. Pretreatment Requirements:

1. The permittee must provide and maintain an easily accessible sample location downstream of each process discharge specified in Section B(1) of this permit. A total of one (1) sample location must be provided and must collect wastewater from the process operations indicated as follows:

Sample Location #1 - The upflow baffle of the final pH adjustment tank, collecting all process discharges specified in Section B(1)(a through h) of this permit.

The permittee is prohibited from discharging dilution wastestreams, such as sanitary and non-contact cooling water into any process wastewater sampling location. Dilution wastestreams must discharge downstream of the process wastewater sampling location. The discharge through Sample Location #1 must be in compliance with the effluent limitations specified in Section A and Table 1 of this permit.

2. The permittee shall operate and maintain a pretreatment system in conformance with plans submitted to the NBC by AAFCO, Inc. on May 25, 1996, November 2, 1996, June 17, 1997, and January 20, 1999. This pretreatment system shall be fully operational whenever process discharges to the sewer occur.
3. The permittee is responsible for properly operating and maintaining the pretreatment system to achieve and ensure compliance with the conditions of this permit. Proper operation and maintenance shall include but not be limited to: effective performance, adequate funding, adequate operator staffing and training, adequate laboratory and process controls, including appropriate quality assurance procedures.

E. Monitoring Requirements:

1. The permittee shall monitor the pH of the effluent discharge and record it continuously. The permittee shall report the results monthly in a summary report giving the maximum, minimum and average pH readings for each day of operation (see sample copy enclosed). The data must be reported directly from the recording chart to an accuracy of 0.1 standard units. The pH Monitoring Report must be received by the NBC within thirty (30) days from the end of the month in which the data is recorded. The original recording chart must be maintained on site for a period of at least three (3) years.
2. The permittee shall conduct sampling over one (1) full normal operating day during the months of January, February, March, April, May, June, July, August, September, October, November, and December until the expiration date of this permit.
 - a. A composite sample is to be collected which must consist of equal volume grab samples collected at least every half hour over the operating day or collected continuously with a composite sampler. The samples are to be collected from the upflow baffle of the final pH adjustment tank, Sample Location #1. The composite samples collected in April and October are to be collected, preserved, and analyzed in accordance with EPA protocols for the following parameters:

Cadmium (Total)	Lead (Total)	Silver (Total)
Chromium (Total)	Nickel (Total)	Zinc (Total)
Copper (Total)		

The composite samples collected during all other sampling months are to be collected, preserved, and analyzed in accordance with EPA protocols for the following parameters:

Chromium (Total)	Copper (Total)	Zinc (Total)
	Nickel (Total)	

- b. On the same day that the composite samples listed in Section E(2)(a) above are being collected, the permittee shall collect a minimum of four (4) grab samples at equidistant time intervals over the entire operating day from the upflow baffle of the final pH adjustment tank, Sample Location #1 (i.e., one (1) grab sample collected every two (2) hours over an eight (8) hour operating day). Each grab sample must be preserved immediately upon sample collection in accordance with EPA regulations. The grab sample must immediately be tested for residual chlorine with potassium iodide paper. If residual chlorine is present in the sample, then 0.6 grams of ascorbic acid must be added. The sample should then be retested for chlorine residual, and if it is present, the addition of ascorbic acid should be repeated. Once residual chlorine has been eliminated from the sample, the pH of the sample must be checked and elevated to greater than 12.0 standard units by the addition of sodium hydroxide, if necessary. Once the grab sample has been preserved to a pH greater than 12.0 standard units and no chlorine residual is detected, it may be composited with the other grab samples collected on that operating day. The composite of preserved grab samples must be refrigerated until analysis and must be analyzed within fourteen (14) days of collection for **Total Cyanide**.

3. Prior to receiving NBC approval to discharge any of the tanks listed in Section C(4), the permittee must collect a grab sample from the tank. The sample must be collected, preserved, and analyzed in accordance with all EPA protocols for the following parameters:

Aluminum (Total)	Chromium (Total)	Nickel (Total)
Cadmium (Total)	Copper (Total)	Zinc (Total)
	Lead (Total)	

Analytical results must be submitted to the NBC with a properly completed Self-Monitoring Compliance Report and chain of custody documentation requesting permission to discharge the contents of the process tanks. The permittee may only batch discharge the contents of the process tanks once approval is received from the NBC.

Table 2 attached hereto summarizes the sampling requirements for this facility.

4. All water meters measuring flows, which ultimately discharge to the sampling locations specified previously, are to be read at the start of sampling and at the end of sampling. These readings and the resultant total flow are to be submitted with the sampling results.

5. The analytical results for each sampling month listed above must be received by the NBC within thirty (30) days after the end of the month in which the samples are to be collected. All sampling and analyses are to be done in accordance with EPA approved procedures (40 CFR §403 and 40 CFR §136). The permittee must complete and submit a Self-Monitoring Compliance Report (copy enclosed) with each certified laboratory analysis sheet including chain of custody documentation. The laboratory analysis report must indicate the EPA approved test procedure for each parameter listed. All Self-Monitoring Compliance Reports must be signed by the permittee or authorized agent and certify that the information submitted is accurate and complete to the best of their knowledge.
6. The permittee must compare the analytical report results with the NBC's effluent discharge limitations listed in Table 1. If there are any violations of the NBC's standards, the permittee must notify the NBC within twenty-four (24) hours of becoming aware of the violation by contacting pretreatment staff at 461-8848 or by using the twenty-four (24) hour violation notification FAX form and must resample and analyze for the parameter(s) in violation of the NBC's standards, excluding BOD, TSS and pH. The resampling results must be received by the NBC no later than thirty (30) days following the date that the permittee became aware of the initial violation of the standards.
7. The NBC may, at any time, require more frequent monitoring than specified in this permit. Conditions that may result in the imposition of more frequent monitoring include, but are not limited to, the following:
 - a. Failure to meet effluent limitations;
 - b. Change in production processes;
 - c. Expansion or reduction of production;
 - d. Change in water usage;
 - e. Discovery of additional information on monitoring or production unavailable to the NBC at the time this permit was prepared.

F. Record Keeping Requirements:

1. The permittee shall be responsible for maintaining a logbook documenting all records pertaining to the operation of the pretreatment system including, but not limited to, the following:
 - a. Amount of chemicals used on a monthly basis to provide pretreatment;
 - b. Amount of sludge generated on a monthly basis;
 - c. Completed manifest forms for hazardous materials;
 - d. A listing of all batch discharges including the date of the discharge and a description of the tank from which the discharge occurred;

- e. The amount of chemicals added to provide pretreatment of batch discharges;
 - f. pH and chlorine residual readings taken during the course of providing batch treatment of any process wastewater and the amount of sludge generated, where applicable;
 - g. Maintenance performed on the pretreatment system including weekly probe cleaning, monthly probe calibration and other maintenance requests specified by inspectors of the NBC.
2. Records which substantiate any information supplied in permit applications, Self-Monitoring Compliance Reports and any other informational requirements of the Rules and Regulations or any applicable State or Federal law are to be kept by the permittee for a period of at least three (3) years unless a dispute or litigation involving the subject of those records is pending, in which case these records are to be kept by the permittee for a period of at least three (3) years following resolution of such litigation or dispute.

G. Spill and Slug Prevention Control Plan:

The permittee must maintain an approved Spill and Slug Prevention Control Plan and all associated facilities to ensure that incidental and accidental spills are unable to enter the NBC sewer system.

H. Toxic Organic/Solvent Management Plan:

The permittee must ensure that toxic organic compounds are not routinely discharged or spilled into the sewer system and must at all times maintain associated spill control facilities to ensure proper containment and disposal of toxic organic compounds. A list of toxic organic compounds is enclosed.

I. Emergency/Routine Notification Requirements:

1. Emergency Notification of Accidental/Incidental Discharge

In the case of an accidental discharge into the NBC facilities, including any discharge that would violate a Federal prohibition under 40 CFR §403.5(b), it is the responsibility of the permittee to notify the NBC of the incident immediately by calling the Pretreatment Section at 461-8848 or during non-business hours at its twenty-four (24) hour Emergency Hotline Number, 434-6350. Within five (5) days following an accidental discharge, the permittee shall submit to the NBC a detailed written report describing the cause and volume of the discharge and the measures to be taken by the user to prevent similar future occurrences by the permittee.

2. Routine Notification of Operational Changes

The permittee must notify the NBC in writing at least thirty (30) days prior to instituting any changes in operations that may affect the quality or quantity of the process wastestream discharged to the sewer system or may affect the adequacy of spill control measures. Operational changes that may affect the quality or quantity of the process wastestream or the adequacy of spill control measures include, but are not limited to, the following:

- a. Addition, removal, or relocation of process tanks or solutions;
- b. Installation of new wastewater generating process operations;
- c. Relocation of process operation piping or valving resulting in a new or different point of discharge;
- d. Modification of any pretreatment process or procedure;
- e. Installation or modification of pretreatment equipment or associated piping;

Should the permittee be unsure as to whether an operational change requires written NBC notification, it is strongly recommended that the permittee contact the NBC by telephone prior to instituting the proposed change in operations. This will ensure that the proper notification is provided to the NBC. With respect to the thirty (30) day written notification requirement, should the permittee require immediate approval to make an operational change in order to accommodate business, the NBC will make every effort to accommodate the permittee so as to not impede operations at the facility. The discretion used by the NBC with respect to this issue is dependent on the magnitude of the proposed operational changes and the resulting effect on the characteristics of the wastestream and/or the spill control measures at the facility. The permittee may notify the NBC of the following operational changes by telephone rather than in writing as required above:

- f. Change from the hours of facility operation specified in the discharge permit application;
- g. Change in the personnel responsible for the proper operation of pretreatment equipment.

3. Routine Notification of Pretreatment Equipment Malfunctions

In the event of pretreatment equipment failure or malfunction, the permittee must notify the NBC of the incident by the close of the next full business day by calling the NBC's Pretreatment Section at 461-8848. Pretreatment equipment failure includes, but is not limited to, the following:

- a. pH monitoring equipment failure;
- b. pH probe failure;
- c. pH chart recorder failure;
- d. Chemical feed pump failure;
- e. Pretreatment system pump, filter, or mixer failure.

Any equipment failure or malfunction which results in a spill and/or accidental discharge must be reported immediately in accordance with the NBC Emergency Spill Notification Procedure. Should a pretreatment equipment failure or malfunction occur, the permittee is strictly responsible for complying with all other permit conditions, including, but not limited to, maintaining full compliance with effluent limitations and monitoring requirements.

J. Right of Entry:

The NBC, upon presenting identification and appropriate credentials, is authorized to enter the premises of the permittee during working hours and at other reasonable times for the purposes of inspection, sampling, reading water meters, records inspecting and copying and as otherwise authorized under R.I.G.L. §46-25-25.1. Reasonable hours in the context of inspection and sampling include any time the NBC has reason to believe that violation of the permit or of the Rules and Regulations is occurring.

K. Permit Fee:

The permittee agrees to pay an annual permit fee and all sewer user fees assessed by the NBC in accordance with rates and fees approved by the Public Utilities Commission pursuant to R.I.G.L. §39-1-1 et seq. and §46-25-1 et seq. The permittee agrees to reimburse the NBC for the cost of the collection of any and all fees associated with the permit, including reasonable attorney's fees.

L. Authorization To Do Business:

The permittee is a corporation. The permittee shall ensure the corporation be registered with the Rhode Island Secretary of State Corporations Division. Summit Manufacturing Corporation shall remain in good standing with the Rhode Island Secretary of State Corporations Division at all times. In the event Summit Manufacturing Corporation has its charter or existence revoked by the Rhode Island Secretary of State, the permittee shall notify the NBC in writing within thirty (30) days of notice of such revocation.

In the event Summit Manufacturing Corporation is no longer in good standing with the Rhode Island Secretary of State or the charter is revoked for any reason, any individual named as a co-permittee or any individual exercising ownership of Summit Manufacturing Corporation shall be subject to the terms and conditions of the permit as if named herein.

M. Closing, Selling, Moving the Business:

If the permittee intends to close, liquidate, sell or move the permitted premises, located as referenced on page 1 of this permit, the permittee must notify the NBC in writing at least thirty (30) days prior to disposing of any process waste associated with the move or the cessation of business.

N. Transfer of Permit Prohibited:

Wastewater discharge permits are issued to a specific user for a specific operation. This permit may not be reassigned, transferred or sold to a new owner, new user, different premises, or a new or changed operation without the express written permission from the NBC. The permittee shall provide a copy of this permit to any prospective purchaser of said facility referenced on page 1 of this permit at least fourteen (14) days prior to closing on the business or property.

O. Permit Violations:

1. Enforcement Costs

The permittee agrees to reimburse the NBC for the cost of enforcing the permit, including reasonable attorneys' fees, if violations of the permit are found by a hearing officer during the course of an administrative hearing or if such decision is appealed, then in a court of competent jurisdiction.

2. Damage to the Facilities

The permittee agrees to indemnify and hold harmless the NBC from and against any liability, loss, cost, expense or actual damage (including reasonable attorneys' and accountants' fees incurred in defending or prosecuting any claim for any such liability, loss, cost, expense or damage) suffered by the NBC and caused by discharges from the permittee, either singly or by interaction with other wastes.

3. Violations of the NBC's Permit

The permittee agrees to reimburse the NBC for any penalty and additional operating expense incurred by the NBC for violations of the NBC's NPDES, RIPDES, or any other state or federal permit which were caused by discharges from the permittee, either singly or by interaction with other wastes.

4. Penalties for Violations

Article 10 of the NBC's Rules and Regulations provides that any person who violates a permit condition is subject to an administrative or civil penalty of up to \$25,000 per violation per day as defined in R.I.G.L. §46-25-25.2. Willful or criminally negligent violations shall be punishable by the aforementioned fine and/or imprisonment as defined in R.I.G.L. §46-25-25.3.

P. Revocation/Suspension of Permit:

1. Violations of the conditions of this permit, the NBC's Rules and Regulations, Act, and applicable state or Federal regulations may result in the revocation of this permit in accordance with the due process requirements of the NBC's Rules and Regulations. Violations that may result in revocation of this permit include, but are not limited to, the following:
 - a. Failure to accurately report the wastewater constituents and characteristics of the discharge;
 - b. Failure to report changes in operations or wastewater constituents;
 - c. Failure to allow NBC personnel statutorily authorized access for the purposes of inspection or monitoring;
 - d. Failure to adhere to an approved compliance schedule;
 - e. Failure to comply with administrative orders or settlement agreements;
 - f. Failure to pay authorized fees and user charges;
 - g. Violation of any other applicable permit conditions.

This list is for illustrative purposes and is not intended to be inclusive.

2. The Executive Director may suspend this wastewater discharge permit should the permittee cease operations for any period exceeding one (1) month. The suspension will not act as a revocation of the permit, but rather as a temporary suspension of the user's rights under the permit while operations have ceased. During such suspension, the user's connection to the facilities shall be plugged. The user shall still be required to pay the permit fee, since the permit itself will not be revoked. During such suspension, the user shall be disconnected from the facility. The Commission shall have the authority to make periodic inspections during this time to determine whether the user is continuing to discharge regulated wastewater. Such discharge may be considered grounds for revocation of the wastewater discharge permit.

Q. Civil and Criminal Liability:

Nothing in this permit shall be construed to relieve the permittee from civil and/or criminal penalties for noncompliance with the NBC's Rules and Regulations or State or Federal laws or regulations.

R. Duty to Comply:

1. The permittee must comply with all conditions of this permit. Failure to comply with the requirements of this permit may be grounds for enforcement proceedings including administrative, civil and/or criminal penalties, injunctive relief and summary abatements.
2. Compliance with this permit does not relieve the permittee of its obligation to comply with any or all pretreatment regulations, standards or requirements under local, State and Federal laws, including any such regulations, standards, requirements, or laws that may become effective during the term of this permit.

S. Removed Substances:

Solids, sludges, filter residue or other pollutants removed in the course of treatment or control of waters or wastewaters shall be disposed of in accordance with §405 of the Clean Water Act and subtitles C and D of the Resource Conservation and Recovery Act. A Resource Conservation and Recovery Act (RCRA) informational brochure is attached to this permit to inform you of your RCRA obligations.

T. Permit Modification/Renewal:

1. This permit may be modified for various reasons, including but not limited to the following:
 - a. To incorporate any new or revised Federal, State, or local pretreatment standards or requirements;
 - b. Material or substantial alterations or additions to permittee's process operations, discharge volume or discharge characteristics which were not considered in the drafting of this permit;
 - c. A change in any condition regarding either the industrial user or the POTW that requires either a temporary or permanent reduction or elimination of the authorized discharge;

- d. Information indicating that the permitted discharge poses a threat to the NBC collection or treatment system, POTW personnel, the general public, or the receiving waters;
- e. Violation of any terms or conditions of the permit;
- f. Misrepresentation or failure to disclose fully all relevant facts in the permit application or in any required reporting;
- g. Revision of or a grant of variance from such categorical standards pursuant to 40 CFR §403.13;
- h. To correct typographical or other errors in the permit;
- i. To reflect transfer of the facility ownership and/or operation to a new owner/operator;
- j. Upon request of the permittee, provided such request does not create a violation of any applicable requirements, standards, laws, or rules and regulations.

The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

2. If the permittee wishes to continue to discharge after the expiration date of this permit, an application must be filed for a permit renewal in accordance with the requirements of Article 8 of the NBC's Rules and Regulations a minimum of ninety (90) days prior to the expiration date.

U. Integration:

This permit represents the entire agreement and understanding of the parties hereto to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered hereunder. This permit may not be modified or altered except in accordance with the provisions of Article 8 of the Rules and Regulations. All terms used in this permit shall be construed as defined under Article 2 of the Rules and Regulations.

V. Jurisdiction:

This permit shall be administered and interpreted under the laws of the State of Rhode Island. Jurisdiction of litigation arising from this permit shall be in the State of Rhode Island. If any part of this permit is found to be in conflict with applicable laws, such part shall be inoperative, null and void insofar as it is in conflict with said law, but the remainder of this permit shall be in full force and effect.

NPD:NJD:smb

Attachments:

- Self-Monitoring Compliance Report Form
- Continuous pH Monitoring Report Form
- Designation of Authorized Agent Form
- RCRA Handbook
- Twenty-four (24) Hour Violation Notification Fax Form
- List of Licensed Laboratories
- List of Toxic Organic Compounds

Table 1

NBC Effluent Discharge Limitations
Bucklin Point District

<u>Parameter</u>	<u>Limitation (Max)</u>
Total Toxic Organics (TTO)	2.13
Biochemical Oxygen Demand (BOD ₅)	300.00*
Total Suspended Solids (TSS)	300.00*
Total Oil and Grease (Fats, Oils, and Grease)	125.0
Oil and Grease (mineral origin)	25.0
Oil and Grease (animal/vegetable origin)	100.0
pH range (at all times)	5.0 - 11.0 s.u.

<u>Parameter</u>	<u>Daily Maximum Concentration Limit (mg/1)</u>	<u>Monthly Average Concentration (mg/1)</u>
Arsenic (Total)	0.20	0.10
Cadmium (Total)	0.11	0.07
Chromium (Total)	2.77	1.63
Copper (Total)	1.20	1.20
Cyanide (Total)	0.50	0.50
Lead (Total)	0.69	0.29
Mercury (Total)	0.06	0.03
Nickel (Total)	1.62	1.62
Selenium (Total)	0.40	0.20
Silver (Total)	0.40	0.20
Tin (Total)	4.00	2.00
Zinc (Total)	1.67	1.39

All limitations are in units of mg/1 unless otherwise specified.

* Exceeding this discharge limitation may be permitted but would be subject to a surcharge in accordance with rates approved by the Public Utilities Commission and in accordance with R.I.G.L. §39-1-1 et seq.

Table 2

Summit Manufacturing Corporation
Sampling Requirements

	Sample Location #1	
	Upflow Baffle of the Final pH Adjustment Tank	
Month	Composite Sample	Parameters
January	X	Cr, Cu, Ni, Zn
February	X	Cr, Cu, Ni, Zn
March	X	Cr, Cu, Ni, Zn
April	X	Cd, Cr, Cu, Pb, Ni, Ag, Zn, CN
May	X	Cr, Cu, Ni, Zn
June	X	Cr, Cu, Ni, Zn
July	X	Cr, Cu, Ni, Zn
August	X	Cr, Cu, Ni, Zn
September	X	Cr, Cu, Ni, Zn
October	X	Cd, Cr, Cu, Pb, Ni, Ag, Zn, CN
November	X	Cr, Cu, Ni, Zn
December	X	Cr, Cu, Ni, Zn

Legend

Cd - Cadmium Pb - Lead
Cr - Chromium Ni - Nickel
Cu - Copper Ag - Silver
CN - Cyanide Zn - Zinc

CERTIFICATE TO DISCHARGE

the following types of process water:

TREATED ANODIZING WASTEWATERS

into the facilities of the

Narragansett Bay Commission

is hereby granted to:

Summit Manufacturing Corporation

248 Pine Street

Pawtucket, RI 02860

PERMIT NUMBER: B1112-092-0923

PERMIT EXPIRATION DATE: 09/30/2023

The discharge permit must be kept at the above address for inspection. Failure to comply with the rules and regulations of the Narragansett Bay Commission or with the conditions of the discharge permit will subject the permittee to fines of up to \$25,000 per violation per R.I.G.L. 46-25-25.3.

September 21, 2018
Initial Date of Issuance

/s/ Kerry M. Britt
Kerry M. Britt, Pretreatment Manager

***TYPICAL PHARMACEUTICAL
WASTEWATER DISCHARGE PERMIT***



WASTEWATER DISCHARGE PERMIT

Permit Number: B1404-018-0322

Company Name: **DENISON ACQUISITION COMPANY, LLC D/B/A
DENISON PHARMACEUTICALS, LLC**

Facility Address: 1 Powder Hill Road, Lincoln, RI 02865

Mailing Address: 1 Powder Hill Road, Lincoln, RI 02865

Facility President: Mr. Bradley S. Stone

Facility Authorized Agents: Mr. Alfred Silva, Mr. Victor Maia

User Classification: Pharmaceutical Manufacturing Operations

Categorical Standards Applicable: 40 CFR §439.47, Pretreatment Standards for New Sources

By virtue of Rhode Island's General Laws Title 46 Chapter 25 (Act) and in accordance with the Rules And Regulations For The Use Of Wastewater Facilities Within The Narragansett Bay Water Quality Management District (Rules and Regulations), **Mr. Bradley S. Stone and Denison Acquisition Company, LLC d/b/a Denison Pharmaceuticals, LLC**, hereinafter jointly referred to as **Permittee**, is hereby authorized to discharge process wastewater from the above identified facility in accordance with the terms and conditions set forth in this permit.

All discharges authorized herein must be consistent with the effluent limitations, monitoring requirements and other conditions set forth in this permit. The discharge of any pollutant not identified in this permit or any pollutant identified in this permit at a level in excess of that authorized shall constitute a violation of the permit. This permit consists of 19 pages with conditions A - V.

**This permit becomes effective on April 1, 2017
and expires on March 31, 2022.**

Noncompliance with any term or condition of this permit shall constitute a violation of the NBC's Rules and Regulations and may subject the user to an **Administrative or Civil Penalty** of up to \$25,000 per violation per day as defined in R.I.G.L. §46-25-25.2. Willful or criminally negligent violations shall be punishable by the aforementioned fine and/or imprisonment as defined in R.I.G.L. §46-25-25.3.

For the **Narragansett Bay Commission:**

/s/ Kerry M. Britt
Kerry M. Britt, Pretreatment Manager
Narragansett Bay Commission

March 31, 2017
Date

NOTE: The NBC will accept the person(s) named on this permit as the **Permittee's** authorized agent(s) until notified otherwise.

An authorized agent or authorized company representative is a person who is a principal executive officer or other corporate officer with signatory powers as per the **Permittee's** by-laws or per a vote of the directors if the **Permittee** is a corporation; a general partner or proprietor if the **Permittee** is a partnership or sole proprietorship respectively; or a duly authorized representative of an individual designated above if such representative is responsible for the overall operation of the facility and has the authority to sign contracts, permits, permit applications, monitoring results and other documents in the company's name and otherwise bind the **Permittee**. The **Permittee** may designate additional or new authorized agents by completing and submitting the enclosed Designation of Authorized Agent form.

The NBC will not accept documents signed by persons other than the Company's authorized agent(s) or authorized representative(s).

CONDITIONS TO PERMIT

A. Effluent Discharge Limitations:

1. The permittee shall at all times comply with the effluent limitations specified in Table 1 on page 17, attached hereto and incorporated herein.
2. The permittee shall comply with all discharge limitations and prohibitions contained in Article 5 of the NBC's Rules and Regulations, as well as all other provisions of those Rules, and any other applicable State or Federal standards, including but not limited to the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq. and R.I.G.L. §46-12-1 et seq. The permittee shall at all times comply with 40 CFR §403.5 and may not introduce into the NBC's facilities any pollutants which shall violate the general or specific prohibitions including but not limited to discharges resulting in pass through or interference situations at the NBC's facilities.
3. The permittee shall not increase the use of process water or dilute a discharge in any way as a partial or complete substitute for adequate treatment to achieve compliance with the above standards.
4. The permittee is classified as a pharmaceutical manufacturing firm and therefore must at all times comply with EPA Categorical Regulations 40 CFR §439.47, Subpart D, Pretreatment Standards for New Sources. EPA regulations require pharmaceutical manufacturers to maintain full compliance with the maximum daily discharge limit of 20.7 ppm and the monthly average of 8.2 ppm for n-amyl acetate, ethyl acetate, and isopropyl acetate. Subpart D of the pharmaceutical regulations also requires categorical pharmaceutical manufacturers to maintain full compliance with the maximum daily discharge limit of 3.0 ppm and the monthly average limit of 0.7 ppm for methylene chloride. NBC discharge limits for the Bucklin Point Treatment Facility do not exist for n-amyl acetate, ethyl acetate, and isopropyl acetate. The categorical limits are therefore in effect for these parameters. Methylene chloride and acetone are included in the NBC list of Total Toxic Organics and must meet the more stringent local limit of 2.13 mg/L. NBC discharge limits for all other parameters in this permit are more stringent than the EPA categorical limitations. Therefore, NBC local limits will be applied and enforced for all other parameters.

B. Permitted Discharges:

1. The permittee is authorized to discharge the following tanks, solutions or process wastewater streams to the NBC facilities:
 - a. Treated Process Tank Washwater;
 - b. Treated Laboratory Glassware Washwater;
 - c. Reverse Osmosis Reject Wastewater;

- d. Carbon Filter Backwash;
 - e. Softener Regenerant Wastewater;
 - f. Treated Air Compressor Condensate;
 - g. Non-Contact Cooling Water.
2. No other process wastewater is to be discharged to the sewer unless specifically approved by the NBC in writing.

C. Prohibitions:

1. The permittee is strictly prohibited from discharging any prohibited substances detailed in the Rules and Regulations of the Narragansett Bay Commission. Prohibited discharges include, but are not limited to, the following:
- a. Off-specification Product Batches;
 - b. Concentrated Raw Materials and Solutions;
 - c. Acidic Solutions with a pH less than 5.0 standard units;
 - d. Caustic Solutions with a pH greater than 11.0 standard units;
 - e. Degreasing Solutions;
 - f. Solvents;
 - g. Sludges;
 - h. Fuel or Lubricating Oils;
 - i. Laboratory Chemicals.
2. The permittee is strictly prohibited from discharging any process wastewater streams other than those specified in Section B(1) of this permit or wastestreams containing pollutants with concentrations in excess of the effluent limitations specified in Table 1 on page 17, attached hereto and incorporated herein.
3. The permittee may only treat and/or discharge those solutions that were indicated as such on plans submitted to the NBC by the permittee on February 13, 2012. The permittee is strictly prohibited from discharging any other tanks, solutions, chemicals or materials, including all prohibited substances as defined in the Rules and Regulations of the Narragansett Bay Commission, without written approval from the NBC.
4. The permittee is strictly prohibited from using portable pumps and/or flexible hose to transfer solutions directly to the pretreatment system or to bypass the pretreatment system and/or discharge solutions directly to the sewer without written approval from the NBC.

D. Pretreatment Requirements:

1. The permittee must provide and maintain an easily accessible sample location downstream of each process discharge specified in Section B(1) of this permit. A total of one sample location must be provided and must collect wastewater from the process operations indicated as follows:

Sample Location #1 - Effluent monitoring station, collecting all process discharges specified in Section B(1)(a and b) of this permit.

The permittee is prohibited from discharging dilution wastestreams, such as sanitary and non-contact cooling water into any process wastewater sampling location. Dilution wastestreams must discharge downstream of the process wastewater sampling location. The discharge through Sample Location #1 must be in compliance with the effluent limitations specified in Section A and Table 1 of this permit and with the EPA Pharmaceutical Manufacturing Standards referenced in Section A(4) of this permit.

2. The permittee shall provide additional pretreatment of the process wastewater discharges listed in Section B(1) above if determined necessary by the NBC to ensure that effluent limitations are met at all times. Plans of additional pretreatment systems must be submitted to the NBC for approval before beginning construction.
3. The permittee shall operate and maintain a pretreatment system in conformance with plans submitted to the NBC on February 13, 2012. This pretreatment system shall be fully operational whenever process discharges to the sewer occur.
4. The permittee is responsible for properly operating and maintaining the pretreatment system to achieve and ensure compliance with the conditions of this permit. Proper operation and maintenance shall include but not be limited to: effective performance, adequate funding, adequate operator staffing and training, adequate laboratory and process controls, including appropriate quality assurance procedures.

E. Monitoring Requirements:

1. The permittee shall monitor the final pH, and volume of each treated batch discharge and shall record the data in the pretreatment system logbook referenced in Section F(1) of this permit. The final pH, and volume of each batch discharge is to be reported to the NBC monthly on a summary report within thirty (30) days from the end of the month in which the data was recorded. (See sample copy enclosed).

2. During the months of January, April, July, and October, until the expiration date of this permit, the permittee must conduct sampling from the effluent monitoring station, Sample Location #1, while a batch discharge is occurring.

a. During the months of January, April, July, and October, one grab sample is to be collected in a glass container having a total volume greater than 20 ml. The grab sample must be preserved immediately upon sample collection in accordance with EPA Regulations. The grab sample must immediately be tested for residual chlorine with potassium iodide paper. If the sample is known to contain residual chlorine, add sodium thiosulfate preservative (10 mg/40ml) to the empty sample bottles just prior to shipment to the sample site. If the sample is tested and residual chlorine is present then 0.008% by volume of sodium thiosulfate must be added (i.e., 2 mg per 25 ml of sample collected). The sample should then be retested for chlorine residual; if it is present, the addition of sodium thiosulfate should be repeated. Once chlorine residual has been eliminated from the sample, the sample should be stored in the dark and refrigerated at a temperature of 0-4° C until analysis. No air bubbles may be present in any grab sample or that sample must be discarded. The grab sample is to be analyzed within fourteen (14) days of collection by EPA Method 1666 for the following **Volatile Organic Compounds** specific to the Pharmaceutical Manufacturing Industry:

n-Amyl acetate
Ethyl acetate
Isopropyl acetate
Methylene Chloride

b. During the months of January, April, July, and October, during the same batch discharge that samples in Section E(2)(a) are collected, one grab sample is to be collected, preserved, and analyzed in accordance with analytical method number D3695, D4763, 524.2, or 1624 and with EPA protocols for the following parameter:

Acetone

c. During the months of April and October, during the same batch discharge that samples in Section E(2)(a) are collected, one grab sample is to be collected in a glass bottle with a Teflon lined cap with a volume of either 25 or 40 ml. The grab sample must be preserved immediately upon sample collection in accordance with EPA Regulations. The grab sample must immediately be tested for residual chlorine with potassium iodide paper. If residual chlorine is present in the sample, then 0.008% by volume of sodium thiosulfate must be added (i.e., 2 mg per 25 ml of sample collected). The sample should then be retested for chlorine residual; if it is present, the addition of sodium thiosulfate should be repeated. Once chlorine

residual has been eliminated from the sample, the sample should be stored in the dark and refrigerated at a temperature of 0-4° C until analysis. No air bubbles may be present in the grab sample or that sample must be discarded. The grab sample is to be analyzed within three (3) days of collection for the **Volatile Organic Compounds (purgeables)** fraction of the Total Toxic Organics (TTO) list enclosed.

- d. During the months of April and October, during the same batch discharge that samples in Section E(2)(a) are collected, one grab sample is to be collected in a 1000 ml (minimum) glass amber bottle with a Teflon lined cap. The grab sample must be preserved immediately upon sample collection according to EPA Regulations. The sample must be tested for residual chlorine with potassium iodide paper. If chlorine residual is present in the sample, 0.008% by volume of sodium thiosulfate must be added (i.e., 80 mg per liter of sample collected). The sample should then be retested for chlorine residual; if it is present, the addition of sodium thiosulfate shall be repeated. Once chlorine residual has been eliminated from the sample, the pH of the sample must be adjusted to between 6.0 and 9.0 standard units and the sample must be stored in the dark until analysis. The sample must be extracted within seven (7) days of collection and must be analyzed within forty (40) days of extraction for the **Acid, Base and Neutral fraction** of the Total Toxic Organics (TTO) list enclosed.
- e. During the months of January, April, July, and October, until the expiration date of this permit, one grab sample must be collected in a glass bottle. The samples collected during April and October must be collected from the same batch discharge that is being sampled in Section E(2)(a). The sample must be collected and preserved according to EPA protocols and must be analyzed for the following parameter:

Total Oil and Grease (fats, oils, and grease)

- f. During the months of January, April, July, and October, until the expiration date of this permit, the permittee must collect one grab sample. The samples collected during April and October must be collected from the same batch discharge that is being sampled in Section E(2)(a). The grab sample is to be collected, preserved, and analyzed according to EPA protocols for the following parameters:

Copper (Total) Zinc (Total)

- g. During the months of January, April, July, and October, until the expiration date of this permit, the permittee must collect one grab sample. The samples collected during April and October must be collected from the same batch discharge that is being sampled in Section E(2)(a). The grab sample is to be collected, preserved, and analyzed according to EPA protocols for the following parameter:

Biochemical Oxygen Demand (BOD)
Total Suspended Solids (TSS)

Table 3 attached hereto summarizes the sampling requirements for this facility.

3. All water meters measuring flows, which ultimately discharge to the sampling locations specified previously, are to be read at the start of sampling and at the end of sampling. These readings and the resultant total flow are to be submitted with the sampling results.
4. The analytical results for each sampling month listed above must be received by the NBC within thirty (30) days after the end of the month in which the samples are to be collected. All sampling and analyses are to be done in accordance with EPA approved procedures (40 CFR §403 and 40 CFR §136). The permittee must complete and submit a Self-Monitoring Compliance Report (copy enclosed) with each certified laboratory analysis sheet including chain of custody documentation. The laboratory analysis report must indicate the EPA approved test procedure for each parameter listed. All Self-Monitoring Compliance Reports must be signed by the permittee or authorized agent and certify that the information submitted is accurate and complete to the best of their knowledge.
5. The permittee must compare the analytical report results with the NBC's effluent discharge limitations listed in Table 1. If there are any violations of the NBC's standards, the permittee must notify the NBC within twenty-four (24) hours of becoming aware of the violation by contacting pretreatment staff at 461-8848 or by using the twenty-four (24) hour violation notification FAX form and must resample and analyze for the parameter(s) in violation of the NBC's standards, excluding BOD, TSS and pH. The resampling results must be received by the NBC no later than thirty (30) days following the date that the permittee became aware of the initial violation of the standards.
6. The NBC may, at any time, require more frequent monitoring than specified in this permit. Conditions that may result in the imposition of more frequent monitoring include, but are not limited to, the following:
 - a. Failure to meet effluent limitations;
 - b. Change in production processes;
 - c. Expansion or reduction of production;
 - d. Change in water usage;
 - e. Discovery of additional information on monitoring or production unavailable to the NBC at the time this permit was prepared.

F. Record Keeping Requirements:

1. The permittee shall be responsible for maintaining a logbook documenting all records pertaining to the operation of the pretreatment system including, but not limited to, the following:
 - a. Amount of chemicals used on a monthly basis to provide pretreatment;
 - b. Amount of sludge generated on a monthly basis;
 - c. Completed manifest forms for hazardous materials;
 - d. A listing of all batch discharges including the date of the discharge and a description of the tank from which the discharge occurred;
 - e. The amount of chemicals added to provide pretreatment of batch discharges;
 - f. pH and chlorine residual readings taken during the course of providing batch treatment of any process wastewater and the amount of sludge generated, where applicable;
 - g. Maintenance performed on the pretreatment system including weekly probe cleaning, monthly probe calibration and other maintenance requests specified by inspectors of the NBC.

2. Records which substantiate any information supplied in permit applications, Self-Monitoring Compliance Reports and any other informational requirements of the Rules and Regulations or any applicable State or Federal law are to be kept by the permittee for a period of at least three (3) years unless a dispute or litigation involving the subject of those records is pending, in which case these records are to be kept by the permittee for a period of at least three (3) years following resolution of such litigation or dispute.

G. Spill and Slug Prevention Control Plan:

The permittee must maintain an approved Spill and Slug Prevention Control Plan and all associated facilities to ensure that incidental and accidental spills are unable to enter the NBC sewer system.

H. Toxic Organic/Solvent Management Plan:

The permittee must ensure that toxic organic compounds are not routinely discharged or spilled into the sewer system and must at all times maintain associated spill control facilities to ensure proper containment and disposal of toxic organic compounds. A list of toxic organic compounds is enclosed.

I. Emergency/Routine Notification Requirements:

1. Emergency Notification of Accidental/Incidental Discharge

In the case of an accidental discharge into the NBC facilities, including any discharge that would violate a Federal prohibition under 40 CFR 403.5(b), it is the responsibility of the permittee to notify the NBC of the incident immediately by calling the Pretreatment Section at 461-8848 or during non-business hours at its twenty-four (24) hour Emergency Hotline Number, 434-6350. Within five (5) days following an accidental discharge, the permittee shall submit to the NBC a detailed written report describing the cause and volume of the discharge and the measures to be taken by the user to prevent similar future occurrences by the permittee.

2. Routine Notification of Operational Changes

The permittee must notify the NBC in writing at least thirty (30) days prior to instituting any changes in operations that may affect the quality or quantity of the process wastestream discharged to the sewer system or may affect the adequacy of spill control measures. Operational changes that may affect the quality or quantity of the process wastestream or the adequacy of spill control measures include, but are not limited to, the following:

- a. Addition, removal, or relocation of process tanks or solutions;
- b. Installation of new wastewater generating process operations;
- c. Relocation of process operation piping or valving resulting in a new or different point of discharge;
- d. Modification of any pretreatment process or procedure;
- e. Installation or modification of pretreatment equipment or associated piping;

Should the permittee be unsure as to whether an operational change requires written NBC notification, it is strongly recommended that the permittee contact the NBC by telephone prior to instituting the proposed change in operations. This will ensure that the proper notification is provided to the NBC. With respect to the thirty (30) day written notification requirement, should the permittee require immediate approval to make an operational change in order to accommodate business, the NBC will make every effort to accommodate the permittee so as to not impede operations at the facility. The discretion used by the NBC with respect to this issue is dependent on the magnitude of the proposed operational changes and the resulting effect on the characteristics of the wastestream and/or the spill control measures at the facility. The permittee may notify the NBC of the following operational changes by telephone rather than in writing as required above:

- f. Change from the hours of facility operation specified in the discharge permit application;
- g. Change in the personnel responsible for the proper operation of pretreatment equipment.

3. Routine Notification of Pretreatment Equipment Malfunctions

In the event of pretreatment equipment failure or malfunction, the permittee must notify the NBC of the incident by the close of the next full business day by calling the NBC's Pretreatment Section at 461-8848. Pretreatment equipment failure includes, but is not limited to, the following:

- a. pH monitoring equipment failure;
- b. pH probe failure;
- c. pH chart recorder failure;
- d. Chemical feed pump failure;
- e. Pretreatment system pump, filter, or mixer failure.

Any equipment failure or malfunction which results in a spill and/or accidental discharge must be reported immediately in accordance with the NBC Emergency Spill Notification Procedure. Should a pretreatment equipment failure or malfunction occur, the permittee is strictly responsible for complying with all other permit conditions, including, but not limited to, maintaining full compliance with effluent limitations and monitoring requirements.

J. Right of Entry:

The NBC, upon presenting identification and appropriate credentials, is authorized to enter the premises of the permittee during working hours and at other reasonable times for the purposes of inspection, sampling, reading water meters, records inspecting and copying and as otherwise authorized under R.I.G.L. §46-25-25.1. Reasonable hours in the context of inspection and sampling include any time the NBC has reason to believe that violation of the permit or of the Rules and Regulations is occurring.

K. Permit Fee:

The permittee agrees to pay an annual permit fee and all sewer user fees assessed by the NBC in accordance with rates and fees approved by the Public Utilities Commission pursuant to R.I.G.L. §39-1-1 et seq. and §46-25-1 et seq. The permittee agrees to reimburse the NBC for the cost of the collection of any and all fees associated with the permit, including reasonable attorney's fees.

L. Authorization To Do Business:

The permittee is a corporation. The permittee shall ensure the corporation be registered with the Rhode Island Secretary of State Corporations Division. Denison Acquisition Company, LLC d/b/a Denison Pharmaceuticals, LLC shall remain in good standing with the Rhode Island Secretary of State Corporations Division at all times. In the event Denison Acquisition Company, LLC d/b/a Denison Pharmaceuticals, LLC has its charter or existence revoked by the Rhode Island Secretary of State, the permittee shall notify the NBC in writing within thirty (30) days of notice of such revocation.

In the event Denison Acquisition Company, LLC d/b/a Denison Pharmaceuticals, LLC is no longer in good standing with the Rhode Island Secretary of State or the charter is revoked for any reason, any individual named as a co-permittee or any individual exercising ownership of Denison Acquisition Company, LLC d/b/a Denison Pharmaceuticals, LLC shall be subject to the terms and conditions of the permit as if named herein.

M. Closing, Selling, Moving the Business:

If the permittee intends to close, liquidate, sell or move the permitted premises, located as referenced on page 1 of this permit, the permittee must notify the NBC in writing at least thirty (30) days prior to disposing of any process waste associated with the move or the cessation of business.

N. Transfer of Permit Prohibited:

Wastewater discharge permits are issued to a specific user for a specific operation. This permit may not be reassigned, transferred or sold to a new owner, new user, different premises, or a new or changed operation without the express written permission from the NBC. The permittee shall provide a copy of this permit to any prospective purchaser of said facility referenced on page 1 of this permit at least fourteen (14) days prior to closing on the business or property.

O. Permit Violations:

1. Enforcement Costs

The permittee agrees to reimburse the NBC for the cost of enforcing the permit, including reasonable attorneys' fees, if violations of the permit are found by a hearing officer during the course of an administrative hearing or if such decision is appealed, then in a court of competent jurisdiction.

2. Damage to the Facilities

The permittee agrees to indemnify and hold harmless the NBC from and against any liability, loss, cost, expense or actual damage (including reasonable attorneys' and accountants' fees incurred in defending or prosecuting any claim for any such liability, loss, cost, expense or damage) suffered by the NBC and caused by discharges from the permittee, either singly or by interaction with other wastes.

3. Violations of the NBC's Permit

The permittee agrees to reimburse the NBC for any penalty and additional operating expense incurred by the NBC for violations of the NBC's NPDES, RIPDES, or any other state or federal permit which were caused by discharges from the permittee, either singly or by interaction with other wastes.

4. Penalties for Violations

Article 10 of the NBC's Rules and Regulations provides that any person who violates a permit condition is subject to an administrative or civil penalty of up to \$25,000 per violation per day as defined in R.I.G.L. §46-25-25.2. Willful or criminally negligent violations shall be punishable by the aforementioned fine and/or imprisonment as defined in R.I.G.L. §46-25-25.3.

P. Revocation/Suspension of Permit:

1. Violations of the conditions of this permit, the NBC's Rules and Regulations, Act, and applicable state or Federal regulations may result in the revocation of this permit in accordance with the due process requirements of the NBC's Rules and Regulations. Violations that may result in revocation of this permit include, but are not limited to, the following:
 - a. Failure to accurately report the wastewater constituents and characteristics of the discharge;
 - b. Failure to report changes in operations or wastewater constituents;
 - c. Failure to allow NBC personnel statutorily authorized access for the purposes of inspection or monitoring;
 - d. Failure to adhere to an approved compliance schedule;
 - e. Failure to comply with administrative orders or settlement agreements;
 - f. Failure to pay authorized fees and user charges;
 - g. Violation of any other applicable permit conditions.

This list is for illustrative purposes and is not intended to be inclusive.

2. The Executive Director may suspend this wastewater discharge permit should the permittee cease operations for any period exceeding one (1) month. The suspension will not act as a revocation of the permit, but rather as a temporary suspension of the user's rights under the permit while operations have ceased. During such suspension, the user's connection to the facilities shall be plugged. The user shall still be required to pay the permit fee, since the permit itself will not be revoked. During such suspension, the user shall be disconnected from the facility. The Commission shall have the authority to make periodic inspections during this time to determine whether the user is continuing to discharge regulated wastewater. Such discharge may be considered grounds for revocation of the wastewater discharge permit.

Q. Civil And Criminal Liability:

Nothing in this permit shall be construed to relieve the permittee from civil and/or criminal penalties for noncompliance with the NBC's Rules and Regulations or State or Federal laws or regulations.

R. Duty To Comply:

1. The permittee must comply with all conditions of this permit. Failure to comply with the requirements of this permit may be grounds for enforcement proceedings including administrative, civil and/or criminal penalties, injunctive relief and summary abatements.
2. Compliance with this permit does not relieve the permittee of its obligation to comply with any or all pretreatment regulations, standards or requirements under local, State and Federal laws, including any such regulations, standards, requirements, or laws that may become effective during the term of this permit.

S. Removed Substances:

Solids, sludges, filter residue or other pollutants removed in the course of treatment or control of waters or wastewaters shall be disposed of in accordance with §405 of the Clean Water Act and subtitles C and D of the Resource Conservation and Recovery Act. A Resource Conservation and Recovery Act (RCRA) informational brochure is attached to this permit to inform you of your RCRA obligations.

T. Permit Modification/Renewal:

1. This permit may be modified for various reasons, including but not limited to the following:
 - a. To incorporate any new or revised Federal, State, or local pretreatment standards or requirements;
 - b. Material or substantial alterations or additions to permittee's process operations, discharge volume or discharge characteristics which were not considered in the drafting of this permit;
 - c. A change in any condition regarding either the industrial user or the POTW that requires either a temporary or permanent reduction or elimination of the authorized discharge;
 - d. Information indicating that the permitted discharge poses a threat to the NBC collection or treatment system, POTW personnel, the general public, or the receiving waters;
 - e. Violation of any terms or conditions of the permit;
 - f. Misrepresentation or failure to disclose fully all relevant facts in the permit application or in any required reporting;
 - g. Revision of or a grant of variance from such categorical standards pursuant to 40 CFR §403.13;
 - h. To correct typographical or other errors in the permit;
 - i. To reflect transfer of the facility ownership and/or operation to a new owner/operator;
 - j. Upon request of the permittee, provided such request does not create a violation of any applicable requirements, standards, laws, or rules and regulations.

The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

2. If the permittee wishes to continue to discharge after the expiration date of this permit, an application must be filed for a permit renewal in accordance with the requirements of Article 8 of the NBC's Rules and Regulations a minimum of ninety (90) days prior to the expiration date.

U. Integration:

This permit represents the entire agreement and understanding of the parties hereto to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered hereunder. This permit may not be modified or altered except in accordance with the provisions of Article 8 of the Rules and Regulations. All terms used in this permit shall be construed as defined under Article 2 of the Rules and Regulations.

V. Jurisdiction:

This permit shall be administered and interpreted under the laws of the State of Rhode Island. Jurisdiction of litigation arising from this permit shall be in the State of Rhode Island. If any part of this permit is found to be in conflict with applicable laws, such part shall be inoperative, null and void insofar as it is in conflict with said law, but the remainder of this permit shall be in full force and effect.

NPD:NJD:smb

Attachments:

- Self-Monitoring Compliance Report Form
- Batch pH Monitoring Report Form
- Designation of Authorized Agent Form
- RCRA Handbook
- Twenty-four (24) Hour Violation Notification Fax Form
- List of Licensed Laboratories
- List of Toxic Organic Compounds

Table 1

NBC Effluent Discharge Limitations
Bucklin Point District

<u>Parameter</u>	<u>Limitation (Max)</u>
Total Toxic Organics (TTO)	2.13
Biochemical Oxygen Demand (BOD ₅)	300.00*
Total Suspended Solids (TSS)	300.00*
Total Oil and Grease (fats, oils and grease)	125.0
Oil and Grease (mineral origin)	25.0
Oil and Grease (animal/vegetable origin)	100.0
pH range (at all times)	5.0 - 11.0 s.u.

<u>Parameter</u>	Daily Maximum Concentration Limit (<u>mg/l</u>)	Monthly Average Concentration (<u>mg/l</u>)
Arsenic (Total)	0.20	0.10
Cadmium (Total)	0.11	0.07
Chromium (Total)	2.77	1.63
Copper (Total)	1.20	1.20
Cyanide (Total)	0.50	0.50
Lead (Total)	0.69	0.29
Mercury (Total)	0.06	0.03
Nickel (Total)	1.62	1.62
Selenium (Total)	0.40	0.20
Silver (Total)	0.40	0.20
Tin	4.00	2.00
Zinc (Total)	1.67	1.39

All limitations are in units of mg/l unless otherwise specified.

* Exceeding this discharge limitation may be permitted but would be subject to a surcharge in accordance with rates approved by the Public Utilities Commission and in accordance with R.I.G.L. §39-1-1 et seq.

Table 2

Denison Acquisition Company, LLC d/b/a
Denison Pharmaceuticals, LLC

Pharmaceutical Manufacturing
Pretreatment Standards for New Sources (PSNS)
40 CFR §439.47

Subpart D		
PSNS for Mixing, Compounding, and Formulating Subcategory D		
Pollutant or Pollutant Property	Maximum for Any One Day (mg/L)	Maximum for Monthly Average (mg/L)
n-Amyl acetate	20.7	8.2
Ethyl acetate	20.7	8.2
Isopropyl acetate	20.7	8.2
Acetone*	20.7	8.2
Methylene Chloride*	3.0	0.7

*Must meet the combined total TTO discharge limit of 2.13 mg/L.

Table 3

Denison Acquisition Company, LLC d/b/a
Denison Pharmaceuticals, LLC
Sampling Requirements

Sample Location #1		
Effluent Monitoring Station		
Month	Grab Sample	Parameters
January	X	Cu, Zn, O&G, Acetone, n-Amyl Acetate, Ethyl Acetate, Isopropyl Acetate, Methylene Chloride, BOD, TSS
February		
March		
April	X	Cu, Zn, O&G, VOC, EXT, Acetone, n-Amyl Acetate, Ethyl Acetate, Isopropyl Acetate, Methylene Chloride, BOD, TSS
May		
June		
July	X	Cu, Zn, O&G, Acetone, n-Amyl Acetate, Ethyl Acetate, Isopropyl Acetate, Methylene Chloride, BOD, TSS
August		
September		
October	X	Cu, Zn, O&G, VOC, EXT, Acetone, n-Amyl Acetate, Ethyl Acetate, Isopropyl Acetate, Methylene Chloride, BOD, TSS
November		
December		

Legend

Cd - Cadmium Pb - Lead BOD - Biochemical Oxygen Demand
Cr - Chromium Ni - Nickel TSS - Total Suspended Solids
Cu - Copper Ag - Silver O&G - Total Oil and Grease (fats, oils, and grease)
CN - Cyanide Zn - Zinc VOC - Volatile Organic compounds Portion of TTO List
EXT - Extractable Portion of TTO List

CERTIFICATE TO DISCHARGE

the following types of process water:

TREATED PROCESS TANK WASHWATER, LABORATORY GLASSWARE WASHWATER, REVERSE OSMOSIS WASTEWATER, AIR COMPRESSOR CONDENSATE, NON-CONTACT COOLING WATER

into the facilities of the

Narragansett Bay Commission

is hereby granted to:

Denison Acquisition Company, LLC d/b/a Denison Pharmaceuticals, LLC

1 Powder Hill Road

Lincoln, RI 02865

PERMIT NUMBER: B1404-018-0322

PERMIT EXPIRATION DATE: 03/31/2022

The discharge permit must be kept at the above address for inspection. Failure to comply with the rules and regulations of the Narragansett Bay Commission or with the conditions of the discharge permit will subject the permittee to fines of up to \$25,000 per violation per R.I.G.L. 46-25-25.3.

March 31, 2017
Initial Date of Issuance

/s/ Kerry M. Britt
Kerry M. Britt, Pretreatment Manager

***TYPICAL METAL FORMER
WASTEWATER DISCHARGE PERMIT***



WASTEWATER DISCHARGE PERMIT

Permit Number: B1506-017-0423

Company Name: **TIFFANY AND COMPANY**

Facility Address: 300 Maple Ridge Drive, Cumberland, RI 02864

Mailing Address: 300 Maple Ridge Drive, Cumberland, RI 02864

Facility President: Mr. Alessandro Bogliolo

Facility Authorized Agents: Mr. Christopher Lepore, Mr. Timothy LaLonde, Mr. Daniel Brouillard,
Mr. Luc DeSmet

User Classification: Non-Ferrous Precious Metal Forming Operations

Categorical Standards Applicable: 40 CFR §471.45, Pretreatment Standards for New Sources

By virtue of Rhode Island's General Laws Title 46 Chapter 25 (Act) and in accordance with the Rules And Regulations For The Use Of Wastewater Facilities Within The Narragansett Bay Water Quality Management District (Rules and Regulations), **Mr. Alessandro Bogliolo and Tiffany and Company**, hereinafter jointly referred to as **Permittee**, is hereby authorized to discharge process wastewater from the above identified facility in accordance with the terms and conditions set forth in this permit.

All discharges authorized herein must be consistent with the effluent limitations, monitoring requirements and other conditions set forth in this permit. The discharge of any pollutant not identified in this permit or any pollutant identified in this permit at a level in excess of that authorized shall constitute a violation of the permit. This permit consists of 19 pages with conditions A - W and Attachment A.

**This permit is effective on May 1, 2018
and expires on April 30, 2023.**

Noncompliance with any term or condition of this permit shall constitute a violation of the NBC's Rules and Regulations and may subject the user to an **Administrative or Civil Penalty** of up to \$25,000 per violation per day as defined in R.I.G.L. §46-25-25.2. Willful or criminally negligent violations shall be punishable by the aforementioned fine and/or imprisonment as defined in R.I.G.L. §46-25-25.3.

For the **Narragansett Bay Commission:**

/s/ Kerry M. Britt
Kerry M. Britt, Pretreatment Manager
Narragansett Bay Commission

April 27, 2018
Date

NOTE: The NBC will accept the person(s) named on this permit as the **Permittee's** authorized agent(s) until notified otherwise.

An authorized agent or authorized company representative is a person who is a principal executive officer or other corporate officer with signatory powers as per the **Permittee's** by-laws or per a vote of the directors if the **Permittee** is a corporation; a general partner or proprietor if the **Permittee** is a partnership or sole proprietorship respectively; or a duly authorized representative of an individual designated above if such representative is responsible for the overall operation of the facility and has the authority to sign contracts, permits, permit applications, monitoring results and other documents in the company's name and otherwise bind the **Permittee**. The **Permittee** may designate additional or new authorized agents by completing and submitting the enclosed Designation of Authorized Agent form.

The NBC will not accept documents signed by persons other than the Company's authorized agent(s) or authorized representative(s).

CONDITIONS TO PERMIT

A. Effluent Discharge Limitations:

1. The permittee shall at all times comply with the effluent limitations specified in Table 1 on page 17, attached hereto and incorporated herein.
2. The permittee shall comply with all discharge limitations and prohibitions contained in Article 5 of the NBC's Rules and Regulations, as well as all other provisions of those Rules, and any other applicable State or Federal standards, including but not limited to the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq. and R.I.G.L. §46-12-1 et seq. The permittee shall at all times comply with 40 CFR §403.5 and may not introduce into the NBC's facilities any pollutants which shall violate the general or specific prohibitions including but not limited to discharges resulting in pass through or interference situations at the NBC's facilities.
3. The permittee shall not increase the use of process water or dilute a discharge in any way as a partial or complete substitute for adequate treatment to achieve compliance with the above standards.
4. The permittee is classified as a non-ferrous precious metal former and, therefore, must at all times comply with EPA Categorical Regulations 40 CFR §471.45, Pretreatment Standards for New Sources. EPA regulations require that non-ferrous precious metal formers maintain production and flow data to ensure full compliance with categorical limitations for cadmium, copper, cyanide, and silver. Table 2 attached to the permit provides concentration based limits calculated from EPA production based limitations and facility production and flow data. The calculations are outlined in Attachment A. Since the EPA limitations in Table 2 are more stringent than the NBC limitations in Table 1, the EPA limitations will be enforced at the final discharge location. Local limitations will be enforced for all other parameters as categorical limitations do not apply.

B. Permitted Discharges:

1. The permittee is authorized to discharge the following tanks, solutions, or process wastewater streams to the NBC's facilities:
 - a. Treated Pickling Rinsewaters;
 - b. Treated Backwash from Filters;
 - c. Treated Investing Wastewaters;
 - d. Treated Divesting Wastewaters;
 - e. Treated Sanding and Grinding Area Floor Spills;
 - f. Treated Wastewater Treatment Room Floor Spills;
 - g. Treated Hand Wash Sink Wastewaters;
 - h. Treated Annealing Quench Contact Cooling Water;
 - i. Treated Shot Casting Contact Cooling Water;

- j. Non-Contact Cooling Water;
 - k. Air Compressor Condensate;
 - l. Eye Wash Station Discharge.
2. No other process wastewater is to be discharged to the sewer unless specifically approved by the NBC in writing.

C. Prohibitions:

1. The permittee is strictly prohibited from discharging any prohibited substances detailed in the Rules and Regulations of the Narragansett Bay Commission. Prohibited discharges include, but are not limited to, the following:
- a. Concentrated Pickling Solutions;
 - b. Mass Finishing Wastewaters;
 - c. Soak Cleaner Solutions;
 - d. Soak Cleaner Rinsewaters;
 - e. Ultrasonic Cleaner Solutions;
 - f. Ultrasonic Cleaner Rinsewaters;
 - g. Wet Air Scrubber Wastewater;
 - h. Casting Department Chiller Unit Solutions;
 - i. Stamp & Strike Annealing Oven Non-Contact Cooling Water;
 - j. Wet Grinding/Sanding Wastewaters;
 - k. Filtered Polishing Wastewaters;
 - l. Cooling Tower Discharges;
 - m. Electroplating Solutions;
 - n. Acetone Dip Tank Solutions;
 - o. Isopropyl Alcohol;
 - p. Isopropyl Alcohol-Castor Oil Solutions;
 - q. Cyanide Solutions;
 - r. Acidic Solutions with a pH less than 5.0 standard units;
 - s. Caustic Solutions with a pH greater than 11.0 standard units;
 - t. Degreasing Solutions;
 - u. Solvents;
 - v. Sludges;
 - w. Fuel or Lubricating Oils.
2. The permittee is strictly prohibited from discharging any process wastewater streams other than those specified in Section B(1) of this permit or wastestreams containing pollutants with concentrations in excess of the effluent limitations specified in Table 1 on page 17, attached hereto and incorporated herein.

3. The permittee may only treat and/or discharge those solutions that were indicated as such on plans received by the NBC from the permittee on August 15, 2000, April 24, 2002, June 2, 2003, January 29, 2004, October 20, 2009, March 25, 2010, August 16, 2010, December 15, 2010, March 5, 2012, May 31, 2012, July 16, 2012, December 12, 2012, April 12, 2013, May 1, 2013, September 5, 2013, June 16, 2014, January 13, 2015, August 14, 2015, November 30, 2015, December 3, 2015, April 11, 2016, August 4, 2016 and February 27, 2017. The permittee is strictly prohibited from discharging any other tanks, solutions, chemicals, or materials, including all prohibited substances as defined in the Rules and Regulations of the Narragansett Bay Commission, without written approval from the NBC.
4. The permittee is strictly prohibited from using portable pumps and/or flexible hose to transfer solutions directly to the pretreatment system or to bypass the pretreatment system and/or discharge solutions directly to the sewer without written approval from the NBC.

D. Pretreatment Requirements:

1. The permittee must provide and maintain an easily accessible sample location downstream of each process discharge specified in Section B(1) of this permit. A total of two (2) sample locations must be provided and must collect wastewater from the process operations indicated as follows:

Sample Location #1 - Sample port on the discharge line of the final pH adjustment tank, collecting all process discharges specified in Section B(1) (a through j) of this permit.

Sample Location #2 - Sample port on the discharge line of the oil/water separator in the Mechanical Room, collecting all process discharges specified in Section B(1)(i) of this permit.

The permittee is prohibited from discharging dilution wastestreams, such as sanitary and non-contact cooling water into any process wastewater sampling location. Dilution wastestreams must discharge downstream of the process wastewater sampling location. The discharge through Sample Locations #1 and #2 must be in compliance with the effluent limitations specified in Section A and Table 1 of this permit. The discharge through Sample Location #1 must be in compliance with the EPA Non-Ferrous Precious Metal Former Standards referenced in Section A(4) and Table 2 of this permit.

2. The permittee shall operate and maintain a pretreatment system in conformance with plans received by the NBC on April 24, 2002, January 29, 2004, October 19, 2006, July 16, 2012 and February 27, 2017. This pretreatment system shall be fully operational whenever process discharges to the sewer occur.

3. The permittee is responsible for properly operating and maintaining the pretreatment system to achieve and ensure compliance with the conditions of this permit. Proper operation and maintenance shall include but not be limited to: effective performance, adequate funding, adequate operator staffing and training, adequate laboratory and process controls, including appropriate quality assurance procedures.

E. Zero Discharge/Recycle Operation Requirements:

1. The permittee shall operate and maintain a zero process wastewater recycle system as illustrated in the plans that have been received by the NBC on January 29, 2004, October 12, 2004, October 19, 2006, March 18, 2008, July 10, 2009, August 31, 2009, March 23, 2010, December 15, 2010, July 11, 2011, December 2, 2011, July 2, 2012, May 1 2013, September 5, 2013, June 16, 2014, January 13, 2015, December 3, 2015, April 11, 2016 and February 27, 2017. This system shall be used specifically for the purpose of recycling wastewater or eliminating discharges from the following operations:
 - a. Ultrasonic Cleaner Rinsing Operations;
 - b. Soak Cleaner Rinsewaters;
 - c. Mass Finishing Wastewaters;
 - d. Casting Department Chiller Units;
 - e. Wet Grinding/Sanding Operations;
 - f. Filtered Polishing Operations;
 - g. Polishing Department Cleaning Lines;
 - h. Solvent Cleaning Unit Operations;
 - i. Annealing Oven Non-Contact Cooling Water;
 - j. Castor Oil-Isopropyl Alcohol Operations;
 - k. Acetone Dip Tank Operations;
 - l. CNC Cooling Oils.
2. The permittee shall make no changes to the process tanks or zero discharge system without first submitting plans to the NBC for approval. Only those solutions indicated as being discharged to the zero discharge system on the plans received by the NBC on dates referenced in section E(1) above may be treated on-site in the pretreatment equipment.
3. If any problems with the zero discharge systems arise, or if the permittee would like to connect to the sewer for the purpose of discharging wastestreams referenced in Section E(1) above, the permittee must notify the NBC, in writing, and obtain written approval from the NBC before resuming discharge or making any physical changes to the process tanks, recycle systems, evaporation systems, or associated piping.
4. The permittee has capped off and sealed all sewer drain lines associated with the process operations identified in Section E(1) above. They must remain capped off and sealed so that no process wastewater may be discharged to the sewer through sanitary or any other sewer connections from the zero discharge operations.

5. The permittee shall post signs at all sanitary sewer connections stating the following: "Discharge of Chemicals Prohibited by Rhode Island Law".
6. Failure to notify NBC personnel prior to resuming process wastewater discharges to the sewer from the process operations listed in Section E(1) above may be considered an intentional violation of the NBC's Rules and Regulations and may subject the permittee to civil and/or criminal penalties as defined in R.I.G.L. §46-25-25.2 and §46-25-25.3.

F. Monitoring Requirements:

1. The permittee shall monitor the pH of the effluent discharge and record it continuously. The permittee shall report the results monthly in a summary report giving the maximum, minimum and average pH readings for each day of operation (see sample copy enclosed). The data must be reported directly from the recording chart to an accuracy of 0.1 standard units. The permittee must submit the pH Monitoring Report within thirty (30) days from the end of the month in which the data is recorded. The original recording chart must be maintained on site for a period of at least three (3) years.
2. The permittee shall conduct sampling over one (1) full normal operating day during the months of February, April, June, August, October, and December until the expiration date of this permit.
 - a. A composite sample is to be collected which must consist of equal volume grab samples collected at least every half hour over the operating day or collected continuously with a composite sampler. The samples are to be collected from the sample port on the discharge line of the final pH adjustment tank, Sample Location #1. The composite samples collected in April and October are to be preserved and analyzed in accordance with EPA protocols for the following parameters:

Cadmium (Total)	Lead (Total)	Silver (Total)
Chromium (Total)	Nickel (Total)	Zinc (Total)
Copper (Total)		

The composite samples collected during all other sampling months are to be preserved and analyzed in accordance with EPA protocols for the following parameters:

Copper (Total)	Silver (Total)
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- b. During the months of April and October, on the same day that the composite samples listed in Section F(2)(a) above are being collected, the permittee shall collect a minimum of four (4) grab samples at equidistant time intervals over the entire operating day from the sample port on the discharge line of the final pH adjustment tank, Sample Location #1 (i.e., one (1) grab sample collected every two (2) hours over an eight (8) hour operating day). Each grab sample must be

preserved immediately upon sample collection in accordance with EPA regulations. The grab sample must immediately be tested for residual chlorine with potassium iodide paper. If residual chlorine is present in the sample, then 0.6 grams of ascorbic acid must be added. The sample should then be retested for chlorine residual, and if it is present, the addition of ascorbic acid should be repeated. Once residual chlorine has been eliminated from the sample, the pH of the sample must be checked and elevated to greater than 12.0 standard units by the addition of sodium hydroxide, if necessary. Once the grab sample has been preserved to a pH greater than 12.0 standard units and no chlorine residual is detected, it may be composited with the other grab samples collected on that operating day. The composite of preserved grab samples must be refrigerated until analysis and must be analyzed within fourteen (14) days of collection for **Total Cyanide**.

3. During the month of October, until the expiration date of this permit, the permittee shall collect one (1) grab sample from the sample port on the discharge line of the oil/water separator in the Mechanical Room, Sample Location #2. The grab sample for each month is to be collected in a glass bottle and must be preserved and analyzed in accordance with EPA protocols for the following parameter:

Total Oil and Grease (fats, oils, and grease)

Table 3 attached hereto summarizes the sampling requirements for this facility.

4. All water meters measuring flows, which ultimately discharge to the sampling locations specified previously, are to be read at the start of sampling and at the end of sampling. These readings and the resultant total flow are to be submitted with the sampling results.
5. The analytical results for each sampling month listed above must be received by the NBC within thirty (30) days after the end of the month in which the samples are to be collected. All sampling and analyses are to be done in accordance with EPA approved procedures (40 CFR §403 and 40 CFR §136). The permittee must complete and submit a Self-Monitoring Compliance Report (copy enclosed) with each certified laboratory analysis sheet including chain of custody documentation. The laboratory analysis report must indicate the EPA approved test procedure for each parameter listed. All Self-Monitoring Compliance Reports must be signed by the permittee or authorized agent and certify that the information submitted is accurate and complete to the best of their knowledge.
6. The permittee must compare the analytical report results with the NBC's effluent discharge limitations listed in Table 1. If there are any violations of the NBC's standards, the permittee must notify the NBC within twenty-four (24) hours of becoming aware of the violation by contacting pretreatment staff at 461-8848 or by using the twenty-four (24) hour violation notification FAX form and must resample and analyze for the parameter(s) in violation of the NBC's standards, excluding BOD, TSS and pH. The resampling results must be received by the NBC no later than thirty (30) days following the date that the permittee became aware of the initial violation of the standards.

7. The NBC may, at any time, require more frequent monitoring than specified in this permit. Conditions that may result in the imposition of more frequent monitoring include, but are not limited to, the following:
 - a. Failure to meet effluent limitations;
 - b. Change in production processes;
 - c. Expansion or reduction of production;
 - d. Change in water usage;
 - e. Discovery of additional information on monitoring or production unavailable to the NBC at the time this permit was prepared.

G. Record Keeping Requirements:

1. The permittee shall be responsible for maintaining a logbook documenting all records pertaining to the operation of the pretreatment system including, but not limited to, the following:
 - a. Amount of chemicals used on a monthly basis to provide pretreatment;
 - b. Amount of sludge generated on a monthly basis;
 - c. Completed manifest forms for hazardous materials;
 - d. Maintenance performed on the pretreatment system including weekly probe cleaning, monthly probe calibration and other maintenance requests specified by inspectors of the NBC.
2. The permittee shall be responsible for maintaining production and flow data for all categorical processes, as defined in 40 CFR §471.45 which discharge to the sewer. These records must be maintained at the facility and be available at all times for NBC review. The permittee shall report the production and flow data monthly to the NBC within thirty (30) days from the end of the month in which the data is recorded.
3. Records which substantiate any information supplied in permit applications, Self-Monitoring Compliance Reports and any other informational requirements of the Rules and Regulations or any applicable State or Federal law are to be kept by the permittee for a period of at least three (3) years unless a dispute or litigation involving the subject of those records is pending, in which case these records are to be kept by the permittee for a period of at least three (3) years following resolution of such litigation or dispute.

H. Spill and Slug Prevention Control Plan:

The permittee must maintain an approved Spill and Slug Prevention Control Plan and all associated facilities to ensure that incidental and accidental spills are unable to enter the NBC sewer system.

I. Toxic Organic/Solvent Management Plan:

The permittee must maintain an approved Toxic Organic/Solvent Management Plan to ensure that toxic organic compounds are not routinely discharged or spilled into the sewer system and must at all times maintain associated spill control facilities to ensure proper containment and disposal of toxic organic compounds. A list of toxic organic compounds is enclosed.

J. Emergency/Routine Notification Requirements:

1. Emergency Notification of Accidental/Incidental Discharge

In the case of an accidental discharge into the NBC facilities, including any discharge that would violate a Federal prohibition under 40 CFR §403.5(b), it is the responsibility of the permittee to notify the NBC of the incident immediately by calling the Pretreatment Section at 461-8848 or during non-business hours at its twenty-four (24) hour Emergency Hotline Number, 434-6350. Within five (5) days following an accidental discharge, the permittee shall submit to the NBC a detailed written report describing the cause and volume of the discharge and the measures to be taken by the user to prevent similar future occurrences by the permittee.

2. Routine Notification of Operational Changes

The permittee must notify the NBC in writing at least thirty (30) days prior to instituting any changes in operations that may affect the quality or quantity of the process wastestream discharged to the sewer system or may affect the adequacy of spill control measures. Operational changes that may affect the quality or quantity of the process wastestream or the adequacy of spill control measures include, but are not limited to, the following:

- a. Addition, removal, or relocation of process tanks or solutions;
- b. Installation of new wastewater generating process operations;
- c. Relocation of process operation piping or valving resulting in a new or different point of discharge;
- d. Modification of any pretreatment process or procedure;
- e. Installation or modification of pretreatment equipment or associated piping;

Should the permittee be unsure as to whether an operational change requires written NBC notification, it is strongly recommended that the permittee contact the NBC by telephone prior to instituting the proposed change in operations. This will ensure that the proper notification is provided to the NBC. With respect to the thirty (30) day written notification requirement, should the permittee require immediate approval to make an operational change in order to accommodate business, the NBC will make every effort to accommodate the permittee so as to not impede operations at the facility.

The discretion used by the NBC with respect to this issue is dependent on the magnitude of the proposed operational changes and the resulting effect on the characteristics of the wastestream and/or the spill control measures at the facility. The permittee may notify the NBC of the following operational changes by telephone rather than in writing as required above:

- f. Change from the hours of facility operation specified in the discharge permit application;
- g. Change in the personnel responsible for the proper operation of pretreatment equipment.

3. Routine Notification of Pretreatment Equipment Malfunctions

In the event of pretreatment equipment failure or malfunction, the permittee must notify the NBC of the incident by the close of the next full business day by calling the NBC's Pretreatment Section at 461-8848. Pretreatment equipment failure includes, but is not limited to, the following:

- a. pH monitoring equipment failure;
- b. pH probe failure;
- c. pH chart recorder failure;
- d. Chemical feed pump failure;
- e. Pretreatment system pump, filter, or mixer failure.

Any equipment failure or malfunction which results in a spill and/or accidental discharge must be reported immediately in accordance with the NBC Emergency Spill Notification Procedure. Should a pretreatment equipment failure or malfunction occur, the permittee is strictly responsible for complying with all other permit conditions, including, but not limited to, maintaining full compliance with effluent limitations and monitoring requirements.

K. Right of Entry:

The NBC, upon presenting identification and appropriate credentials, is authorized to enter the premises of the permittee during working hours and at other reasonable times for the purposes of inspection, sampling, reading water meters, records inspecting and copying and as otherwise authorized under R.I.G.L. §46-25-25.1. Reasonable hours in the context of inspection and sampling include any time the NBC has reason to believe that violation of the permit or of the Rules and Regulations is occurring.

L. Permit Fee:

The permittee agrees to pay an annual permit fee and all sewer user fees assessed by the NBC in accordance with rates and fees approved by the Public Utilities Commission pursuant to R.I.G. L. §39-1-1 et seq. and §46-25-1 et seq. The permittee agrees to reimburse the NBC for the cost of the collection of any and all fees associated with the permit, including reasonable attorney's fees.

M. Authorization To Do Business:

The permittee is a corporation. The permittee shall ensure the corporation be registered with the Rhode Island Secretary of State Corporations Division. Tiffany and Company shall remain in good standing with the Rhode Island Secretary of State Corporations Division at all times. In the event Tiffany and Company has its charter or existence revoked by the Rhode Island Secretary of State, the permittee shall notify the NBC in writing within thirty (30) days of notice of such revocation.

In the event Tiffany and Company is no longer in good standing with the Rhode Island Secretary of State or the charter is revoked for any reason, any individual named as a co-permittee or any individual exercising ownership of Tiffany and Company shall be subject to the terms and conditions of the permit as if named herein.

N. Closing, Selling, Moving the Business:

If the permittee intends to close, liquidate, sell or move the permitted premises, located as referenced on page 1 of this permit, the permittee must notify the NBC in writing at least thirty (30) days prior to disposing of any process waste associated with the move or the cessation of business.

O. Transfer of Permit Prohibited:

Wastewater discharge permits are issued to a specific user for a specific operation. This permit may not be reassigned, transferred or sold to a new owner, new user, different premises, or a new or changed operation without the express written permission from the NBC. The permittee shall provide a copy of this permit to any prospective purchaser of said facility referenced on page 1 of this permit at least fourteen (14) days prior to closing on the business or property.

P. Permit Violations:

1. Enforcement Costs

The permittee agrees to reimburse the NBC for the cost of enforcing the permit, including reasonable attorneys' fees, if violations of the permit are found by a hearing officer during the course of an administrative hearing or if such decision is appealed, then in a court of competent jurisdiction.

2. Damage to the Facilities

The permittee agrees to indemnify and hold harmless the NBC from and against any liability, loss, cost, expense or actual damage (including reasonable attorneys' and accountants' fees incurred in defending or prosecuting any claim for any such liability, loss, cost, expense or damage) suffered by the NBC and caused by discharges from the permittee, either singly or by interaction with other wastes.

3. Violations of the NBC's Permit

The permittee agrees to reimburse the NBC for any penalty and additional operating expense incurred by the NBC for violations of the NBC's NPDES, RIPDES, or any other state or federal permit which were caused by discharges from the permittee, either singly or by interaction with other wastes.

4. Penalties for Violations

Article 10 of the NBC's Rules and Regulations provides that any person who violates a permit condition is subject to an administrative or civil penalty of up to \$25,000 per violation per day as defined in R.I.G.L. §46-25-25.2. Willful or criminally negligent violations shall be punishable by the aforementioned fine and/or imprisonment as defined in R.I.G.L. §46-25-25.3.

Q. Revocation/Suspension of Permit:

1. Violations of the conditions of this permit, the NBC's Rules and Regulations, Act, and applicable state or Federal regulations may result in the revocation of this permit in accordance with the due process requirements of the NBC's Rules and Regulations. Violations that may result in revocation of this permit include, but are not limited to, the following:

- a. Failure to accurately report the wastewater constituents and characteristics of the discharge;
- b. Failure to report changes in operations or wastewater constituents;
- c. Failure to allow NBC personnel statutorily authorized access for the purposes of inspection or monitoring;

- d. Failure to adhere to an approved compliance schedule;
- e. Failure to comply with administrative orders or settlement agreements;
- f. Failure to pay authorized fees and user charges;
- g. Violation of any other applicable permit conditions.

This list is for illustrative purposes and is not intended to be inclusive.

2. The Executive Director may suspend this wastewater discharge permit should the permittee cease operations for any period exceeding one (1) month. The suspension will not act as a revocation of the permit, but rather as a temporary suspension of the user's rights under the permit while operations have ceased. During such suspension, the user's connection to the facilities shall be plugged. The user shall still be required to pay the permit fee, since the permit itself will not be revoked. During such suspension, the user shall be disconnected from the facility. The Commission shall have the authority to make periodic inspections during this time to determine whether the user is continuing to discharge regulated wastewater. Such discharge may be considered grounds for revocation of the wastewater discharge permit.

R. Civil and Criminal Liability:

Nothing in this permit shall be construed to relieve the permittee from civil and/or criminal penalties for noncompliance with the NBC's Rules and Regulations or State or Federal laws or regulations.

S. Duty to Comply:

1. The permittee must comply with all conditions of this permit. Failure to comply with the requirements of this permit may be grounds for enforcement proceedings including administrative, civil and/or criminal penalties, injunctive relief and summary abatements.
2. Compliance with this permit does not relieve the permittee of its obligation to comply with any or all pretreatment regulations, standards or requirements under local, State and Federal laws, including any such regulations, standards, requirements, or laws that may become effective during the term of this permit.

T. Removed Substances:

Solids, sludges, filter residue or other pollutants removed in the course of treatment or control of waters or wastewaters shall be disposed of in accordance with §405 of the Clean Water Act and subtitles C and D of the Resource Conservation and Recovery Act. A Resource Conservation and Recovery Act (RCRA) informational brochure is attached to this permit to inform you of your RCRA obligations.

U. Permit Modification/Renewal:

1. This permit may be modified for various reasons, including but not limited to the following:
 - a. To incorporate any new or revised Federal, State, or local pretreatment standards or requirements;
 - b. Material or substantial alterations or additions to permittee's process operations, discharge volume or discharge characteristics which were not considered in the drafting of this permit;
 - c. A change in any condition regarding either the industrial user or the POTW that requires either a temporary or permanent reduction or elimination of the authorized discharge;
 - d. Information indicating that the permitted discharge poses a threat to the NBC collection or treatment system, POTW personnel, the general public, or the receiving waters;
 - e. Violation of any terms or conditions of the permit;
 - f. Misrepresentation or failure to disclose fully all relevant facts in the permit application or in any required reporting;
 - g. Revision of or a grant of variance from such categorical standards pursuant to 40 CFR §403.13;
 - h. To correct typographical or other errors in the permit;
 - i. To reflect transfer of the facility ownership and/or operation to a new owner/operator;
 - j. Upon request of the permittee, provided such request does not create a violation of any applicable requirements, standards, laws, or rules and regulations.

The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

2. If the permittee wishes to continue to discharge after the expiration date of this permit, an application must be filed for a permit renewal in accordance with the requirements of Article 8 of the NBC's Rules and Regulations a minimum of ninety (90) days prior to the expiration date.

V. Integration:

This permit represents the entire agreement and understanding of the parties hereto to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered hereunder. This permit may not be modified or altered except in accordance with the provisions of Article 8 of the Rules and Regulations. All terms used in this permit shall be construed as defined under Article 2 of the Rules and Regulations.

W. Jurisdiction:

This permit shall be administered and interpreted under the laws of the State of Rhode Island. Jurisdiction of litigation arising from this permit shall be in the State of Rhode Island. If any part of this permit is found to be in conflict with applicable laws, such part shall be inoperative, null and void insofar as it is in conflict with said law, but the remainder of this permit shall be in full force and effect.

AE:NJD:ad

Attachments:

- Self Monitoring Compliance Report Form
- Continuous pH Monitoring Report Form
- Designation of Authorized Agent Form
- RCRA Handbook
- Twenty-Four (24) Hour Violation Notification Fax Form
- List of Licensed Laboratories
- List of Toxic Organic Compounds

Table 1

NBC Effluent Discharge Limitations
Bucklin Point District

<u>Parameter</u>	<u>Limitation (Max)</u>
Total Toxic Organics (TTO)	2.13
Biochemical Oxygen Demand (BOD ₅)	300.00*
Total Suspended Solids (TSS)	300.00*
Total Oil and Grease (Fats, Oils, and Grease)	125.0
Oil and Grease (mineral origin)	25.0
Oil and Grease (animal/vegetable origin)	100.0
pH range (at all times)	5.0 - 11.0 s.u.

<u>Parameter</u>	<u>Daily Maximum Concentration Limit (mg/l)</u>	<u>Monthly Average Concentration (mg/l)</u>
Arsenic (Total)	0.20	0.10
Cadmium (Total)	0.11	0.07
Chromium (Total)	2.77	1.63
Copper (Total)	1.20	1.20
Cyanide (Total)	0.50	0.50
Lead (Total)	0.69	0.29
Mercury (Total)	0.06	0.03
Nickel (Total)	1.62	1.62
Selenium (Total)	0.40	0.20
Silver (Total)	0.40	0.20
Tin (Total)	4.00	2.00
Zinc (Total)	1.67	1.39

All limitations are in units of mg/l unless otherwise specified.

* Exceeding this discharge limitation may be permitted but would be subject to a surcharge in accordance with rates approved by the Public Utilities Commission and in accordance with R.I.G.L. §39-1-1 et seq.

Table 2
Tiffany and Company

US EPA Effluent Discharge Limitations for
Parameters with Categorical Standards

Parameter	Daily Max. (mg/L)	Monthly Average (mg/L)
Cadmium (Total)	0.07	0.05
Copper (Total)	0.80	0.79
Cyanide (Total)	0.33	0.33
Silver (Total)	0.26	0.13

EPA discharge limits are based upon average production and flow data for the facility and the Non-Ferrous Precious Metal Forming Pretreatment Standards for New Sources 40CFR §471.45 and combined wastestream formula detailed below. See Attachment A of this permit for more details.

The US EPA Categorical Discharge Limitations are more stringent than NBC Effluent Discharge Limitations listed in Table 1. These categorical discharge limitations may be revised as a result of periodic reviews of production and flow data. Permittee will be periodically reviewed and discharge limitations may change as production and water usage change.

Combined Wastestream Formula (CWF)

Alternative Mass Limit Formula

$$M_{cwf} = (\sum M_i) * ((F_t - F_d) / (\sum F_i))$$

M_{cwf} = alternate mass limit for pollutant

M_i = categorical pretreatment standard mass limit for pollutant in stream i

F_i = average daily flow of stream i (minimum 30 day average)

F_d = average daily flow of dilute wastestream (minimum 30 day average)

F_t = average daily flow through the combined treatment facility (minimum 30 day average)

Categorical Discharge Limitation in mg/L

$$C = M_{cwf} / F_t$$

F = Average monthly flow through the combined treatment facility

Table 3

Tiffany and Company
Sampling Requirements

Month	Sample Location #1 Sample Port on the Discharge Line of the Final pH Adjustment Tank		Sample Location #2 Sample Port on the Discharge Line of the Oil/Water Separator in the Mechanical Room	
	Composite Sample	Parameters	Grab Sample	Parameters
January				
February	X	Cu, Ag		
March				
April	X	Cd, Cr, Cu, Pb, Ni, Ag, Zn, CN		
May				
June	X	Cu, Ag		
July				
August	X	Cu, Ag		
September				
October	X	Cd, Cr, Cu, Pb, Ni, Ag, Zn, CN	X	O&G
November				
December	X	Cu, Ag		

Legend

Cd - Cadmium Pb - Lead O&G - Total Oil and Grease (fats, oils, and grease)
Cr - Chromium Ni - Nickel
Cu - Copper Ag - Silver
CN - Cyanide Zn - Zinc

Attachment A

Tiffany and Company Basis for EPA Discharge Limitations

Production Based Standards

Subpart D PSNS for Surface Treatment Rinse		
Pollutant or Pollutant Property	Maximum for Any One (1) Day	Maximum for Monthly Average
	mg/off-kg (pounds per million off-pounds) of precious metals surface treated	
Cadmium	0.21	0.093
Copper	1.17	0.616
Cyanide	0.179	0.074
Silver	0.253	0.105

Subpart D PSNS for Heat Treatment Contact Cooling Water		
Pollutant or Pollutant Property	Maximum for Any One (1) Day	Maximum for Monthly Average
	mg/off-kg (pounds per million off-pounds) of precious metals surface treated	
Cadmium	0.142	0.063
Copper	0.793	0.417
Cyanide	0.121	0.050
Silver	0.171	0.071

Subpart D PSNS for Shot Casting Contact Cooling Water		
Pollutant or Pollutant Property	Maximum for Any One (1) Day	Maximum for Monthly Average
	mg/off-kg (pounds per million off-pounds) of precious metals surface treated	
Cadmium	0.125	0.055
Copper	0.698	0.367
Cyanide	0.107	0.044
Silver	0.151	0.0631

Attachment A
(continued)

Tiffany and Company
Basis for EPA Discharge Limitations

Combined Wastestream Formula (CWF)

Alternative Mass Limit Formula

$$M_{cwf} = (\sum M_i) * ((F_t - F_d) / (\sum F_i))$$

M_{cwf} = alternate mass limit for pollutant

M_i = categorical pretreatment standard mass limit for pollutant in stream i

F_i = average daily flow of stream i (minimum 30 day average)

F_d = average daily flow of dilute wastestream (minimum 30 day average)

F_t = average daily flow through the combined treatment facility (minimum 30 day average)

Categorical Discharge Limitation in mg/L

$$C = M_{cwf} / F_t$$

F = Average monthly flow through the combined treatment facility

CERTIFICATE TO DISCHARGE

the following types of process water:

TREATED NON-FERROUS PRECIOUS METAL FORMING WASTEWATER

into the facilities of the

Narragansett Bay Commission

is hereby granted to:

Tiffany and Company

300 Maple Ridge Drive

Cumberland, RI 02964

PERMIT NUMBER: B1506-017-0423

PERMIT EXPIRATION DATE: 04/30/2023

The discharge permit must be kept at the above address for inspection. Failure to comply with the rules and regulations of the Narragansett Bay Commission or with the conditions of the discharge permit will subject the permittee to fines of up to \$25,000 per violation per R.I.G.L. 46-25-25.3.

April 27, 2018

Initial Date of Issuance

/s/ Kerry M. Britt

Kerry M. Britt, Pretreatment Manager

***TYPICAL STEAM ELECTRIC POWER
GENERATOR WASTEWATER
DISCHARGE PERMIT***



WASTEWATER DISCHARGE PERMIT

Permit Number: B1604-008-0422

Company Name: **PAWTUCKET POWER ASSOCIATES, L.P.**

Facility Address: 181 Concord Street, Pawtucket, RI 02860

Mailing Address: 181 Concord Street, Pawtucket, RI 02860

Facility Vice-President: Mr. Dwayne Dychkowski

Facility Authorized Agents: Mr. Todd Annarummo, Ms. Susan Flash

User Classification: Steam Electric Power Generation

Categorical Standards Applicable: 40 CFR §423.17, Pretreatment Standards for New Sources

By virtue of Rhode Island's General Laws Title 46 Chapter 25 (Act) and in accordance with the Rules And Regulations For The Use Of Wastewater Facilities Within The Narragansett Bay Water Quality Management District (Rules and Regulations), **Mr. Dwayne Dychkowski and Pawtucket Power Associates, L.P.**, hereinafter jointly referred to as **Permittee**, is hereby authorized to discharge process wastewater from the above identified facility in accordance with the terms and conditions set forth in this permit.

All discharges authorized herein must be consistent with the effluent limitations, monitoring requirements and other conditions set forth in this permit. The discharge of any pollutant not identified in this permit or any pollutant identified in this permit at a level in excess of that authorized shall constitute a violation of the permit. This permit consists of 20 pages with conditions A - W and Attachment A.

**This permit becomes effective on May 1, 2017
and expires on April 30, 2022.**

Noncompliance with any term or condition of this permit shall constitute a violation of the NBC's Rules and Regulations and may subject the user to an **Administrative or Civil Penalty** of up to \$25,000 per violation per day as defined in R.I.G.L. §46-25-25.2. Willful or criminally negligent violations shall be punishable by the aforementioned fine and/or imprisonment as defined in R.I.G.L. §46-25-25.3.

For the **Narragansett Bay Commission:**

/s/ Kerry M. Britt
Kerry M. Britt, Pretreatment Manager
Narragansett Bay Commission

April 28, 2017
Date

NOTE: The NBC will accept the person(s) named on this permit as the **Permittee's** authorized agent(s) until notified otherwise.

An authorized agent or authorized company representative is a person who is a principal executive officer or other corporate officer with signatory powers as per the **Permittee's** by-laws or per a vote of the directors if the **Permittee** is a corporation; a general partner or proprietor if the **Permittee** is a partnership or sole proprietorship respectively; or a duly authorized representative of an individual designated above if such representative is responsible for the overall operation of the facility and has the authority to sign contracts, permits, permit applications, monitoring results and other documents in the company's name and otherwise bind the **Permittee**. The **Permittee** may designate additional or new authorized agents by completing and submitting the enclosed Designation of Authorized Agent form.

The NBC will not accept documents signed by persons other than the Company's authorized agent(s) or authorized representative(s).

CONDITIONS TO PERMIT

A. Effluent Discharge Limitations:

1. The permittee shall at all times comply with the effluent limitations specified in Table 1 on page 18, attached hereto and incorporated herein.
2. The permittee shall comply with all discharge limitations and prohibitions contained in Article 5 of the NBC's Rules and Regulations, as well as all other provisions of those Rules, and any other applicable State or Federal standards, including but not limited to the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq. and R.I.G.L. §46-12-1 et seq. The permittee shall at all times comply with 40 CFR §403.5 and may not introduce into the NBC's facilities any pollutants which shall violate the general or specific prohibitions including but not limited to discharges resulting in pass through or interference situations at the NBC's facilities.
3. The permittee shall not increase the use of process water or dilute a discharge in any way as a partial or complete substitute for adequate treatment to achieve compliance with the above standards.
4. The permittee is classified as a Steam Electric Power Generator and, therefore must at all times comply with EPA Categorical Regulations 40 CFR §423.17, Pretreatment Standards for New Sources. EPA regulations require that Steam Electric Power Generators maintain full compliance with the EPA Total Copper maximum limit of 1.0 ppm for chemical metal cleaning wastes. In addition, EPA regulations require that the 126 pollutants listed in Table 2 of this permit shall not be discharged in any detectable amount in cooling tower blowdown as a result of cooling tower chemical additives, with exception to Total Chromium and Total Zinc. Cooling tower wastestreams contaminated with Chromium or Zinc as a result of chemical additives must be in full compliance with the EPA Total Chromium maximum limit of 0.2 ppm and the EPA Total Zinc maximum limit of 1.0 ppm for all cooling tower blowdown discharges. To demonstrate compliance with this requirement, the permittee may conduct an engineering study to verify that the chemicals added to the cooling tower will not result in the 126 pollutants listed in Table 2 of this permit being detectable in the cooling tower blowdown. If the engineering study is submitted and determined to be acceptable to the NBC, then the NBC local discharge limitations specified in Table 1 would become more stringent and the permittee must then maintain full compliance with these limits.
5. EPA Categorical Standards require that 126 Pollutants listed in Table 2 of this permit shall not be discharged in any detectable amount in the cooling tower blowdown as the result of cooling tower chemicals added. In lieu of monitoring, the permittee last submitted an engineering study in August 2012 demonstrating that the chemicals added to the cooling tower will not result in the 126 pollutants listed in Table 2 of this permit being detectable in the cooling tower blowdown. A revised study must be completed and received by May 30, 2017. Therefore the permittee must maintain full compliance with the NBC local limits specified in Table 1 of this permit which are more stringent.

B. Permitted Discharges:

1. The permittee is authorized to discharge the following tanks, solutions, or process wastewater streams to the NBC's facilities:
 - a. Treated Regenerant from Demineralization Equipment;
 - b. Heat Recovery Steam Generator (HRSG) Blowdown;
 - c. Auxiliary Boiler Blowdown;
 - d. Equipment Washdown;
 - e. Floor Washdown;
 - f. Carbon Filter Backwash;
 - g. Cooling Tower Discharges.
2. The permittee may continuously purge up to 60,000 gallons per day of cooling tower wastewater to the NBC's facilities provided that the discharge criteria referenced in Section A(4) are met at all times.
3. No other process wastewater is to be discharged to the sewer unless specifically approved by the NBC in writing.

C. Prohibitions:

1. The permittee is strictly prohibited from discharging any prohibited substances detailed in the Rules and Regulations of the Narragansett Bay Commission. Prohibited discharges include, but are not limited to, the following:
 - a. Polychlorinated Biphenyl Compounds (PCB);
 - b. Fly Ash Transport Wastewaters;
 - c. Chemical Metal Cleaning Wastewaters;
 - d. Acidic Solutions with a pH less than 5.0 standard units;
 - e. Caustic Solutions with a pH greater than 11.0 standard units;
 - f. Degreasing Solutions;
 - g. Solvents;
 - h. Sludges;
 - i. Fuel or Lubricating Oils.
2. The permittee is prohibited from batch discharging the entire contents of the cooling tower or greater than 60,000 gallons per day of cooling tower wastewater without first obtaining approval from the NBC. In order to obtain approval, the contents of the cooling tower must be sampled in accordance with Section F(6) of this permit.
3. The permittee is prohibited from batch discharging the entire contents of the heat recovery steam generator without first obtaining approval from the NBC. In order to obtain approval, the contents of the heat recovery steam generator must be sampled in accordance with Section F(7) of this permit.

4. The permittee is strictly prohibited from discharging any process wastewater streams other than those specified in Section B(1) of this permit or wastestreams containing pollutants with concentrations in excess of the effluent limitations specified in Table 1 on page 18, attached hereto and incorporated herein.
5. The permittee may only treat and/or discharge those solutions that were indicated as such on plans received by the NBC from the permittee on February 17, 1994. The permittee is strictly prohibited from discharging any other tanks, solutions, chemicals, or materials, including all prohibited substances as defined in the Rules and Regulations of the Narragansett Bay Commission, without written approval from the NBC.
6. The permittee is strictly prohibited from using portable pumps and/or flexible hose to transfer solutions directly to the pretreatment system or to bypass the pretreatment system and/or discharge solutions directly to the sewer without written approval from the NBC.

D. Pretreatment Requirements:

1. The permittee must provide and maintain an easily accessible sample location downstream of each process discharge specified in Section B(1) of this permit. A total of five (5) sample locations must be provided and must collect wastewater from the process operations indicated as follows:

Sample Location #1 - Sample port on the effluent discharge pipe of the oil/water separator, collecting all process discharges specified in Section B(1)(b, c, d, and e) of this permit.

Sample Location #2 - Final pH adjustment tank sample port, collecting all process discharges specified in Section B(1)(a) of this permit.

Sample Location #3 - Sample port on the effluent discharge pipe of the carbon filter backwash line, collecting all process discharges specified in Section B(1)(f) of this permit.

Sample Location #4 - Sample port on the discharge pipe of the cooling tower, collecting all process discharges specified in Section B(1)(g) of this permit.

Sample Location #5 - Sample port on the discharge pipe of the heat recovery steam generator blowdown line, collecting all process discharges specified in Section B(1)(b and c) of this permit.

The permittee is prohibited from discharging dilution wastestreams, such as sanitary and non-contact cooling water into any process wastewater sampling location. Dilution wastestreams must discharge downstream of the process wastewater sampling location. The discharge through Sample Locations #1, #2, #3, #4, and #5 must be in compliance with the effluent limitations specified in Section A and Table 1 of this permit. The discharge through Sample Location #4 must be in compliance with the EPA Steam Electric Power Generating Standards referenced in Sections A(4) and A(5) of the permit.

2. The permittee shall operate and maintain a pretreatment system in conformance with plans received by the NBC on February 14, 1994, October 27, 1995, and December 18, 1995. This pretreatment system shall be fully operational whenever process discharges to the sewer occur.
3. The permittee is responsible for properly operating and maintaining the pretreatment system to achieve and ensure compliance with the conditions of this permit. Proper operation and maintenance shall include but not be limited to: effective performance, adequate funding, adequate operator staffing and training, adequate laboratory and process controls, including appropriate quality assurance procedures.

E. Cooling Tower Blowdown Requirements:

1. The permittee shall submit written certification monthly stating that the permittee has made no changes to the chemicals or dosage of chemicals routinely added to the cooling tower, as documented to the NBC in the engineering study referenced in Section A of this permit, during the previous one (1) month period. This certification must be made on the form designated Cooling Tower Chemical Certification, Attachment A.
2. Whenever the permittee changes the cooling tower chemicals, or alters the dosage of cooling tower chemicals added to the cooling tower, the permittee must conduct an engineering study to determine if the chemicals added to the cooling tower will cause detectable amounts in the cooling tower blowdown of the 126 pollutants listed in Table 2 of this permit.

F. Monitoring Requirements:

1. The permittee shall monitor the pH of the effluent discharge through Sample Locations #1 and #2 and record it continuously. The permittee shall report the results monthly in a summary report for each location giving the maximum, minimum and average pH readings for each day of operation (see sample copy enclosed). The data must be reported directly from the recording chart to an accuracy of 0.1 standard units. The pH Monitoring Reports must be received by the NBC within thirty (30) days from the end of the month in which the data is recorded. The original recording charts must be maintained on site for a period of at least three (3) years.

2. The permittee shall conduct sampling over one (1) full normal operating day during the months of January, April, July, and October, until the expiration date of this permit.

a. A composite sample is to be collected which must consist of equal volume grab samples collected at least every half hour over the operating day or collected continuously with a composite sampler. The samples are to be collected from the sample port on the effluent discharge pipe of the oil/water separator, Sample Location #1. The composite samples are to be collected, preserved and analyzed in accordance with EPA protocols for the following parameters:

Cadmium (Total)	Copper (Total)	Nickel (Total)
Chromium (Total)	Lead (Total)	Zinc (Total)

b. On the same day that the composite sampling listed in Section F(2)(a) is being conducted, the permittee shall collect four (4) grab samples from the sample port on the effluent discharge pipe of the oil/water separator, Sample Location #1. The grab samples must be collected in glass bottles, preserved and analyzed separately in accordance with EPA protocols for the following parameter:

Total Oil and Grease (fats, oils and grease)

The mathematical average of the four grab samples will be used to determine compliance with the NBC discharge limitation for Total Oil and Grease (fats, oils, and grease).

If no discharges occur from heat recovery/steam generating, equipment washing, and/or floor washing operations during the required sampling month, the permittee must notify the NBC in writing and sample the next heat recover/steam generating, equipment washing, and/or floor washing event.

3. During the months of January, April, July, and October, until the expiration date of the permit, the permittee shall collect one (1) grab sample from the final pH adjustment tank sample port, Sample Location #2. The grab sample must be collected, preserved, and analyzed in accordance with EPA protocols for the following parameters:

Cadmium (Total)	Copper (Total)	Nickel (Total)
Chromium (Total)	Lead (Total)	Zinc (Total)

If the tank is not discharged during the required sampling month, the permittee must notify the NBC in writing and sample during the next discharge of the tank.

4. During the months of January, April, July, and October, until the expiration date of the permit, the permittee shall collect one (1) grab sample from the sample port on the effluent discharge pipe of the carbon filter backwash line, Sample Location #3. The grab sample must be collected, preserved, and analyzed in accordance with EPA protocols for the following parameters:

Cadmium (Total)	Copper (Total)	Nickel (Total)
Chromium (Total)	Lead (Total)	Zinc (Total)

If no discharges occur from backwashing operations during the required sampling month, the permittee must notify the NBC in writing and sample during the next backwash event.

5. The permittee shall conduct sampling of the cooling tower over one full operating day during the months of January, April, July, and October, until the expiration date of the permit. A composite sample is to be collected which must consist of equal volume grab samples collected at least every half hour over the operating day or collected continuously with a composite sampler. The samples are to be collected from the sample port on the discharge pipe of the cooling tower, Sample Location #4. The composite samples are to be collected, preserved and analyzed in accordance with EPA protocols for the following parameters:

Cadmium (Total)	Copper (Total)	Nickel (Total)
Chromium (Total)	Lead (Total)	Zinc (Total)

If the cooling tower is not discharged during the required sampling month, the permittee must notify the NBC in writing and sample during the next discharge of the cooling tower.

6. Prior to batch discharging the contents of the cooling tower or greater than 60,000 gallons per day of cooling tower wastewater, the permittee must collect one (1) grab sample from the sample port on the discharge pipe of the cooling tower, Sample Location #4. The grab sample must be collected, preserved, and analyzed in accordance with EPA protocols for the following parameters:

Cadmium (Total)	Copper (Total)	Nickel (Total)
Chromium (Total)	Lead (Total)	Zinc (Total)

Analytical results must be submitted to the NBC with a properly completed Self-Monitoring Compliance Report and chain of custody documentation requesting permission to discharge the contents of the cooling tower. The permittee may only batch discharge the contents of the cooling tower once approval is received from the NBC.

7. Prior to batch discharging the contents of the heat recovery steam generator, the permittee must collect two (2) grab samples from the sample port on the discharge pipe of the heat recovery steam generator blowdown line, Sample Location #5. One grab sample must be collected, preserved, and analyzed in accordance with EPA protocols for the following parameters:

Cadmium (Total)	Copper (Total)	Nickel (Total)
Chromium (Total)	Lead (Total)	Zinc (Total)

The other grab sample must be collected in a glass bottle, preserved, and analyzed separately in accordance with EPA protocols for the following parameter:

Total Oil and Grease (fats, oils, and grease)

Analytical results must be submitted to the NBC with a properly completed Self-Monitoring Compliance Report and chain of custody documentation requesting permission to discharge the contents of the heat recovery steam generator. The permittee may only batch discharge the contents of the heat recovery steam generator once approval is received from the NBC.

Table 3 attached hereto summarizes the sampling requirements for this facility.

8. All water meters measuring flows, which ultimately discharge to the sampling locations specified previously, are to be read at the start of sampling and at the end of sampling. These readings and the resultant total flow are to be submitted with the sampling results.
9. The analytical results for each sampling month listed above must be received by the NBC within thirty (30) days after the end of the month in which the samples are to be collected. All sampling and analyses are to be done in accordance with EPA approved procedures (40 CFR §403 and 40 CFR §136). The permittee must complete and submit a Self-Monitoring Compliance Report (copy enclosed) with each certified laboratory analysis sheet including chain of custody documentation. The laboratory analysis report must indicate the EPA approved test procedure for each parameter listed. All Self-Monitoring Compliance Reports must be signed by the permittee or authorized agent and certify that the information submitted is accurate and complete to the best of their knowledge.
10. The permittee must compare the analytical report results with the NBC's effluent discharge limitations listed in Table 1. If there are any violations of the NBC's standards, the permittee must notify the NBC within twenty-four (24) hours of becoming aware of the violation by contacting pretreatment staff at 461-8848 or by using the twenty-four (24) hour violation notification FAX form and must resample and analyze for the parameter(s) in violation of the NBC's standards, excluding BOD, TSS and pH. The resampling results must be submitted to the NBC no later than thirty (30) days following the date that the permittee became aware of the initial violation of the standards.
11. The NBC may, at any time, require more frequent monitoring than specified in this permit. Conditions that may result in the imposition of more frequent monitoring include, but are not limited to, the following:

- a. Failure to meet effluent limitations;
- b. Change in production processes;
- c. Expansion or reduction of production;
- d. Change in water usage;
- e. Discovery of additional information on monitoring or production unavailable to the NBC at the time this permit was prepared.

G. Record Keeping Requirements:

1. The permittee shall be responsible for maintaining a logbook documenting all records pertaining to the operation of the pretreatment system including, but not limited to, the following:
 - a. Amount of chemicals used on a monthly basis to provide pretreatment;
 - b. Amount of sludge generated on a monthly basis;
 - c. Completed manifest forms for hazardous materials;
 - d. A listing of all batch discharges including the date of the discharge and a description of the tank from which the discharge occurred;
 - e. The amount of chemicals added to provide pretreatment of batch discharges;
 - f. Maintenance performed on the pretreatment system including probe cleaning and calibration and other maintenance requests specified by inspectors of the NBC.
2. Records which substantiate any information supplied in permit applications, Self-Monitoring Compliance Reports and any other informational requirements of the Rules and Regulations or any applicable State or Federal law are to be kept by the permittee for a period of at least three (3) years unless a dispute or litigation involving the subject of those records is pending, in which case these records are to be kept by the permittee for a period of at least three (3) years following resolution of such litigation or dispute.

H. Spill and Slug Prevention Control Plan:

The permittee must maintain an approved Spill and Slug Prevention Control Plan and all associated facilities to ensure that incidental and accidental spills are unable to enter the NBC sewer system.

I. Toxic Organic/Solvent Management Plan:

The permittee must ensure that toxic organic compounds are not routinely discharged or spilled into the sewer system and must at all times maintain associated spill control facilities to ensure proper containment and disposal of toxic organic compounds. A list of toxic organic compounds is enclosed.

J. Emergency/Routine Notification Requirements:

1. Emergency Notification of Accidental/Incidental Discharge

In the case of an accidental discharge into the NBC facilities, including any discharge that would violate a Federal prohibition under 40 CFR §403.5(b), it is the responsibility of the permittee to notify the NBC of the incident immediately by calling the Pretreatment Section at 461-8848 or during non-business hours at its twenty-four (24) hour Emergency Hotline Number, 434-6350. Within five (5) days following an accidental discharge, the permittee shall submit to the NBC a detailed written report describing the cause and volume of the discharge and the measures to be taken by the user to prevent similar future occurrences by the permittee.

2. Routine Notifications of Operational Changes

The permittee must notify the NBC in writing at least thirty (30) days prior to instituting any changes in operations that may affect the quality or quantity of the process wastestream discharged to the sewer system or may affect the adequacy of spill control measures. Operational changes that may affect the quality or quantity of the process wastestream or the adequacy of spill control measures include, but are not limited to, the following:

- a. Addition, removal, or relocation of process tanks or solutions;
- b. Installation of new wastewater generating process operations;
- c. Relocation of process operation piping or valving resulting in a new or different point of discharge;
- d. Modification of any pretreatment process or procedure;
- e. Installation or modification of pretreatment equipment or associated piping;

Should the permittee be unsure as to whether an operational change requires written NBC notification, it is strongly recommended that the permittee contact the NBC by telephone prior to instituting the proposed change in operations. This will ensure that the proper notification is provided to the NBC. With respect to the thirty (30) day written notification requirement, should the permittee require immediate approval to make an operational change in order to accommodate business, the NBC will make every effort to accommodate

the permittee so as to not impede operations at the facility. The discretion used by the NBC with respect to this issue is dependent on the magnitude of the proposed operational changes and the resulting effect on the characteristics of the wastestream and/or the spill control measures at the facility. The permittee may notify the NBC of the following operational changes by telephone rather than in writing as required above:

- f. Change from the hours of facility operation specified in the discharge permit application;
- g. Change in the personnel responsible for the proper operation of pretreatment equipment.

3. Routine Notification of Pretreatment Equipment Malfunctions

In the event of pretreatment equipment failure or malfunction, the permittee must notify the NBC of the incident by the close of the next full business day by calling the NBC's Pretreatment Section at 461-8848. Pretreatment equipment failure includes, but is not limited to, the following:

- a. pH monitoring equipment failure;
- b. pH probe failure;
- c. pH chart recorder failure;
- d. Chemical feed pump failure;
- e. Pretreatment system pump, filter, or mixer failure.

Any equipment failure or malfunction which results in a spill and/or accidental discharge must be reported immediately in accordance with the NBC Emergency Spill Notification Procedure. Should a pretreatment equipment failure or malfunction occur, the permittee is strictly responsible for complying with all other permit conditions, including, but not limited to, maintaining full compliance with effluent limitations and monitoring requirements.

K. Right of Entry:

The NBC, upon presenting identification and appropriate credentials, is authorized to enter the premises of the permittee during working hours and at other reasonable times for the purposes of inspection, sampling, reading water meters, records inspecting and copying and as otherwise authorized under R.I.G.L. §46-25-25.1. Reasonable hours in the context of inspection and sampling include any time the NBC has reason to believe that violation of the permit or of the Rules and Regulations is occurring.

L. Permit Fee:

The permittee agrees to pay an annual permit fee and all sewer user fees assessed by the NBC in accordance with rates and fees approved by the Public Utilities Commission pursuant to R.I.G.L. §39-1-1 et seq. and §46-25-1 et seq. The permittee agrees to reimburse the NBC for the cost of the collection of any and all fees associated with the permit, including reasonable attorney's fees.

M. Authorization To Do Business:

The permittee is a limited partnership. The permittee shall ensure the limited partnership be registered with the Rhode Island Secretary of State Corporations Division. Pawtucket Power Associates, L.P. shall remain in good standing with the Rhode Island Secretary of State Corporations Division at all times. In the event Pawtucket Power Associates, L.P. has its charter or existence revoked by the Rhode Island Secretary of State, the permittee shall notify the NBC in writing within thirty (30) days of notice of such revocation.

In the event Pawtucket Power Associates, L.P. is no longer in good standing with the Rhode Island Secretary of State or the charter is revoked for any reason, any individual named as a co-permittee or any individual exercising ownership of Pawtucket Power Associates, L.P. shall be subject to the terms and conditions of the permit as if named herein.

N. Closing, Selling, Moving the Business:

If the permittee intends to close, liquidate, sell or move the permitted premises, located as referenced on page 1 of this permit, the permittee must notify the NBC in writing at least thirty (30) days prior to disposing of any process waste associated with the move or the cessation of business.

O. Transfer of Permit Prohibited:

Wastewater discharge permits are issued to a specific user for a specific operation. This permit may not be reassigned, transferred or sold to a new owner, new user, different premises, or a new or changed operation without the express written permission from the NBC. The permittee shall provide a copy of this permit to any prospective purchaser of said facility referenced on page 1 of this permit at least fourteen (14) days prior to closing on the business or property.

P. Permit Violations:

1. Enforcement Costs

The permittee agrees to reimburse the NBC for the cost of enforcing the permit, including reasonable attorneys' fees, if violations of the permit are found by a hearing officer during the course of an administrative hearing or if such decision is appealed, then in a court of competent jurisdiction.

2. Damage to the Facilities

The permittee agrees to indemnify and hold harmless the NBC from and against any liability, loss, cost, expense or actual damage (including reasonable attorneys' and accountants' fees incurred in defending or prosecuting any claim for any such liability, loss, cost, expense or damage) suffered by the NBC and caused by discharges from the permittee, either singly or by interaction with other wastes.

3. Violations of the NBC's Permit

The permittee agrees to reimburse the NBC for any penalty and additional operating expense incurred by the NBC for violations of the NBC's NPDES, RIPDES, or any other state or federal permit which were caused by discharges from the permittee, either singly or by interaction with other wastes.

4. Penalties for Violations

Article 10 of the NBC's Rules and Regulations provides that any person who violates a permit condition is subject to an administrative or civil penalty of up to \$25,000 per violation per day as defined in R.I.G.L. §46-25-25.2. Willful or criminally negligent violations shall be punishable by the aforementioned fine and/or imprisonment as defined in R.I.G.L. §46-25-25.3.

Q. Revocation/Suspension of Permit:

1. Violations of the conditions of this permit, the NBC's Rules and Regulations, Act, and applicable state or Federal regulations may result in the revocation of this permit in accordance with the due process requirements of the NBC's Rules and Regulations. Violations that may result in revocation of this permit include, but are not limited to, the following:
 - a. Failure to accurately report the wastewater constituents and characteristics of the discharge;
 - b. Failure to report changes in operations or wastewater constituents;

- c. Failure to allow NBC personnel statutorily authorized access for the purposes of inspection or monitoring;
- d. Failure to adhere to an approved compliance schedule;
- e. Failure to comply with administrative orders or settlement agreements;
- f. Failure to pay authorized fees and user charges;
- g. Violation of any other applicable permit conditions.

This list is for illustrative purposes and is not intended to be inclusive.

2. The Executive Director may suspend this wastewater discharge permit should the permittee cease operations for any period exceeding one (1) month. The suspension will not act as a revocation of the permit, but rather as a temporary suspension of the user's rights under the permit while operations have ceased. During such suspension, the user's connection to the facilities shall be plugged. The user shall still be required to pay the permit fee, since the permit itself will not be revoked. During such suspension, the user shall be disconnected from the facility. The Commission shall have the authority to make periodic inspections during this time to determine whether the user is continuing to discharge regulated wastewater. Such discharge may be considered grounds for revocation of the wastewater discharge permit.

R. Civil and Criminal Liability:

Nothing in this permit shall be construed to relieve the permittee from civil and/or criminal penalties for noncompliance with the NBC's Rules and Regulations or State or Federal laws or regulations.

S. Duty to Comply:

1. The permittee must comply with all conditions of this permit. Failure to comply with the requirements of this permit may be grounds for enforcement proceedings including administrative, civil and/or criminal penalties, injunctive relief and summary abatements.
2. Compliance with this permit does not relieve the permittee of its obligation to comply with any or all pretreatment regulations, standards or requirements under local, State and Federal laws, including any such regulations, standards, requirements, or laws that may become effective during the term of this permit.

T. Removed Substances:

Solids, sludges, filter residue or other pollutants removed in the course of treatment or control of waters or wastewaters shall be disposed of in accordance with §405 of the Clean Water Act and subtitles C and D of the Resource Conservation and Recovery Act. A Resource Conservation and Recovery Act (RCRA) informational brochure is attached to this permit to inform you of your RCRA obligations.

U. Permit Modification/Renewal:

1. This permit may be modified for various reasons, including but not limited to the following:
 - a. To incorporate any new or revised Federal, State, or local pretreatment standards or requirements;
 - b. Material or substantial alterations or additions to permittee's process operations, discharge volume or discharge characteristics which were not considered in the drafting of this permit;
 - c. A change in any condition regarding either the industrial user or the POTW that requires either a temporary or permanent reduction or elimination of the authorized discharge;
 - d. Information indicating that the permitted discharge poses a threat to the NBC collection or treatment system, POTW personnel, the general public, or the receiving waters;
 - e. Violation of any terms or conditions of the permit;
 - f. Misrepresentation or failure to disclose fully all relevant facts in the permit application or in any required reporting;
 - g. Revision of or a grant of variance from such categorical standards pursuant to 40 CFR §403.13;
 - h. To correct typographical or other errors in the permit;
 - i. To reflect transfer of the facility ownership and/or operation to a new owner/operator;
 - j. Upon request of the permittee, provided such request does not create a violation of any applicable requirements, standards, laws, or rules and regulations.

The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

2. If the permittee wishes to continue to discharge after the expiration date of this permit, an application must be filed for a permit renewal in accordance with the requirements of Article 8 of the NBC's Rules and Regulations a minimum of ninety (90) days prior to the expiration date.

V. Integration:

This permit represents the entire agreement and understanding of the parties hereto to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered hereunder. This permit may not be modified or altered except in accordance with the provisions of Article 8 of the Rules and Regulations. All terms used in this permit shall be construed as defined under Article 2 of the Rules and Regulations.

W. Jurisdiction:

This permit shall be administered and interpreted under the laws of the State of Rhode Island. Jurisdiction of litigation arising from this permit shall be in the State of Rhode Island. If any part of this permit is found to be in conflict with applicable laws, such part shall be inoperative, null and void insofar as it is in conflict with said law, but the remainder of this permit shall be in full force and effect.

KL:AB:smb

Attachments:

- Self-Monitoring Compliance Report Form
- Continuous pH Monitoring Report Form
- Designation of Authorized Agent Form
- RCRA Handbook
- Twenty-four (24) Hour Violation Notification Fax Form
- List of Licensed Laboratories
- List of Toxic Organic Compounds

Table 1
NBC Effluent Discharge Limitations
Bucklin Point District

<u>Parameter</u>	<u>Limitation (Max)</u>
Total Toxic Organics (TTO)	2.13
Biochemical Oxygen Demand (BOD ₅)	300.00*
Total Suspended Solids (TSS)	300.00*
Total Oil and Grease (Fats, Oils, and Grease)	125.0
Oil and Grease (mineral origin)	25.0
Oil and Grease (animal/vegetable origin)	100.0
pH range (at all times)	5.0 - 11.0 s.u.

<u>Parameter</u>	<u>Daily Maximum Concentration Limit (mg/l)</u>	<u>Monthly Average Concentration (mg/l)</u>
Arsenic (Total)	0.20	0.10
Cadmium (Total)	0.11	0.07
Chromium (Total)	2.77	1.63
Copper (Total)	1.20	1.20
Cyanide (Total)	0.50	0.50
Lead (Total)	0.69	0.29
Mercury (Total)	0.06	0.03
Nickel (Total)	1.62	1.62
Selenium (Total)	0.40	0.20
Silver (Total)	0.40	0.20
Tin (Total)	4.00	2.00
Zinc (Total)	1.67	1.39

All limitations are in units of mg/l unless otherwise specified.

* Exceeding this discharge limitation may be permitted but would be subject to a surcharge in accordance with rates approved by the Public Utilities Commission and in accordance with R.I.G.L. §39-1-1 et seq.

Table 2
List of 126 Priority Pollutants
40 CFR §423.17 Appendix A

Volatiles	Base/Neutral	Pesticides
Acrolein	Acenaphthene*	aldrin
Acrylonitrile	Acenaphthylene*	alpha – BHC
Benzene	Anthracene*	beta – BHC
Bromoform	Benzidine	gamma – BHC
carbon tetrachloride	benzo (a) anthracene*	delta – BHC
Chlorobenzene	benzo (a) pyrene*	chlordan
Chlorodibromomethane	3,4-benzofluoranthene*	4,4' – DDT
Chloroethane	benzo (ghi) perylene*	4,4' – DDE
2-chloroethylvinyl ether	benzo (k) fluoranthene	4,4' – DDD
Chloroform	Bis (2-chloroethoxy) methane	dieldrin
Dichlorobromomethane	Bis (2-chloroethyl) ether	alpha-endosulfan
1,1-dichloroethane	Bis (2-chloroisopropyl) ether	beta-endosulfan
1,2-dichloroethane	Bis (2-ethylhexyl) phthalate	endosulfan sulfate
1,1-dichloroethylene	4-bromophenyl phenyl ether	endrin
1,2-dichloropropane	butylbenzyl phthalate	endrin aldehyde
1,3-dichloropropylene	2-chloronaphthalene	heptachlor
Ethylbenzene	4-chlorophenyl phenyl ether	heptachlor epoxide
methyl bromide	Chrysene*	toxaphene
methyl chloride	dibenzo (a, h) anthracene*	
methylene chloride	1,2-dichlorobenzene	Polychlorinated Biphenyls
1,1,2,2-tetrachloroethane	1,3-dichlorobenzene	PCB-1242
Tetrachloroethylene	1,4-dichlorobenzene	PCB-1254
Toluene	3,3-dichlorobenzidine	PCB-1221
1,2-trans-dichloroethylene	diethyl phthalate	PCB-1232
1,1,1-trichloroethane	dimethyl phthalate	PCB-1248
1,1,2-trichloroethane	di-n-butyl phthalate	PCB-1260
Trichloroethylene	2,4-dinitrotoluene	PCB-1016
vinyl chloride	2,6-dinitrotoluene	
	di-n-octyl phthalate	Other Toxic Pollutants and
	1,2-diphenylhydrazine	Total Phenol
	(as azobenzene)	Antimony, Total
	fluoranthene*	Arsenic, Total
	fluorene*	Beryllium, Total
	hexachlorobenzene	Cadmium, Total
	hexachlorobutadiene	Chromium, Total
	hexachlorocyclopentadiene	Chromium, Hexavalent
	hexachloroethane	Copper, Total
	indeno (1,2,3-cd) pyrene*	Lead, Total
	isophorone	Mercury, Total
	nitrobenzene	Nickel, Total
	n-nitrosodimethylamine	Selenium, Total
	n-nitrosodi-n-propylamine	Silver, Total
	n-nitrosodiphenylamine	Thallium, Total
	Phenanthrene*	Zinc, Total
	Pyrene*	Asbestos
	1,2,4-trichlorobenzene	Cyanide, Total
	Naphthalene*	Phenols, Total
		TCDD (Dioxin)
	* = Polynuclear Aromatic	
	Hydrocarbons	

Table 3

Pawtucket Power Associates, L.P.
Sampling Requirements

Month	Sample Location #1 Sample Port on the Effluent Discharge Pipe of the Oil/Water Separator				Sample Location #2 Final pH Adjustment Tank Sample Port		Sample Location #3 Sample Port on the Effluent Discharge Pipe of the Carbon Filter Backwash Line		Sample Location #4 Sample Port on the Discharge Pipe of the Cooling Tower	
	Composite Sample	Parameters	Grab Sample*	Parameters	Grab Sample	Parameters	Grab Sample	Parameters	Composite Sample	Parameters
January	X	Cd, Cr, Cu, Pb Ni, Zn	X	O & G	X	Cd, Cr, Cu, Pb Ni, Zn	X	Cd, Cr, Cu, Pb Ni, Zn	X	Cd, Cr, Cu, Pb Ni, Zn
February										
March										
April	X	Cd, Cr, Cu, Pb Ni, Zn	X	O & G	X	Cd, Cr, Cu, Pb Ni, Zn	X	Cd, Cr, Cu, Pb Ni, Zn	X	Cd, Cr, Cu, Pb Ni, Zn
May										
June										
July	X	Cd, Cr, Cu, Pb Ni, Zn	X	O & G	X	Cd, Cr, Cu, Pb Ni, Zn	X	Cd, Cr, Cu, Pb Ni, Zn	X	Cd, Cr, Cu, Pb Ni, Zn
August										
September										
October	X	Cd, Cr, Cu, Pb Ni, Zn	X	O & G	X	Cd, Cr, Cu, Pb Ni, Zn	X	Cd, Cr, Cu, Pb Ni, Zn	X	Cd, Cr, Cu, Pb Ni, Zn
November										
December										

Legend

Cd - Cadmium Pb - Lead O & G – Total Oil and Grease (fats, oils, and grease)
 Cr - Chromium Ni - Nickel
 Cu - Copper Ag - Silver
 CN - Cyanide Zn - Zinc

*These grab samples are to be collected on the same day that the composite sample is collected. Each grab must be collected, preserved, and analyzed separately.

Attachment A

Cooling Tower Chemical Certification

For the Month of _____, 20__

Company Name: _____

Address: _____

RETURN TO:
Narragansett Bay Commission
Pretreatment Program
2 Ernest Street
Providence, RI 02905-5502

I, _____, as authorized representative of
_____, do hereby decree that the cooling
tower

chemicals used and the cooling tower chemical dosages were not altered in any way during the
past

month. I am aware that if the chemicals used or the additive dosages are altered, then an
engineering

study must be immediately conducted to demonstrate that the changes will not cause detectable
amounts of the 126 priority pollutants in the cooling tower blowdown.

I certify under penalty of law that this document and all attachments were properly prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for known violations.

Authorized Representative Signature

Date

CERTIFICATE TO DISCHARGE

the following types of process water:

STEAM ELECTRIC POWER GENERATION WASTEWATER

into the facilities of the

Narragansett Bay Commission

is hereby granted to:

Pawtucket Power Associates, L.P.

181 Concord Street

Pawtucket, RI 02860

PERMIT NUMBER: B1604-008-0422

PERMIT EXPIRATION DATE: 04/30/2022

The discharge permit must be kept at the above address for inspection. Failure to comply with the rules and regulations of the Narragansett Bay Commission or with the conditions of the discharge permit will subject the permittee to fines of up to \$25,000 per violation per R.I.G.L. 46-25-25.3.

April 28, 2017

Initial Date of Issuance

/s/ Kerry M. Britt

Kerry M. Britt, Pretreatment Manager

***TYPICAL LANDFILL LEACHATE
WASTEWATER DISCHARGE PERMIT***



WASTEWATER DISCHARGE PERMIT

Permit Number: P3412-004-1019

Company Name: **RHODE ISLAND RESOURCE RECOVERY CORPORATION**

Facility Address: 65 Shun Pike, Johnston, R.I. 02919

Mailing Address: 65 Shun Pike, Johnston, R.I. 02919

Facility Executive Director: Mr. Michael O'Connell

Facility Authorized Agents: Mr. William Anderson, Mr. Peter Connell, Mr. Brian Card

User Classification: Landfill Operations

Categorical Standards Applicable: None

By virtue of Rhode Island's General Laws Title 46 Chapter 25 (Act) and in accordance with the Rules And Regulations For The Use Of Wastewater Facilities Within The Narragansett Bay Commission (NBC) District (Rules and Regulations), **Mr. Michael O'Connell**, in his capacity as Executive Director of Rhode Island Resource Recovery Corporation, and **Rhode Island Resource Recovery Corporation.**, hereinafter jointly referred to as **Permittee**, is hereby authorized to discharge process wastewater from the above identified facility in accordance with the terms and conditions set forth in this permit.

All discharges authorized herein must be consistent with the effluent limitations, monitoring requirements and other conditions set forth in this permit. The discharge of any pollutant not identified in this permit or any pollutant identified in this permit at a level in excess of that authorized shall constitute a violation of the permit. This permit consists of 23 pages with conditions A - U and Attachments 1 and 2.

**This permit is effective upon receipt
and expires on October 31, 2019.**

Noncompliance with any term or condition of this permit shall constitute a violation of the NBC's Rules and Regulations and may subject the user to an **Administrative or Civil Penalty** of up to \$25,000 per violation per day as defined in R.I.G.L. §46-25-25.2. Willful or criminally negligent violations shall be punishable by the aforementioned fine and/or imprisonment as defined in R.I.G.L. §46-25-25.3.

For the **Narragansett Bay Commission:**

/s/ Kerry M. Britt
Kerry M. Britt, Pretreatment Manager
Narragansett Bay Commission

November 7, 2014
Date

Michael O'Connell, in his capacity as Executive Director of Rhode Island Resource Recovery Corporation, and Rhode Island Resource Recovery Corporation hereby consent to all requirements and wastewater discharge limitations detailed within this Wastewater Discharge Permit. In so consenting, the appropriate officers of Rhode Island Resource Recovery Corporation have personally read and understand each of the provisions and wastewater discharge limitations in this Wastewater Discharge Permit. This permit allows Rhode Island Resource Recovery Corporation to discharge sanitary and permitted discharges specified in Section B(1) of this permit from landfill operations to the Narragansett Bay Commission sewer system.

Michael O'Connell, Executive Director
Rhode Island Resource Recovery Corporation

Signature

Date

I have read and understood the NBC Rules and Regulations and the conditions and procedures contained in this permit.

NOTE: The NBC will accept the person(s) named on this permit as the **Permittee's** authorized agent(s) until notified otherwise.

An authorized agent or authorized company representative is a person who is a principal executive officer or other corporate officer with signatory powers as per the **Permittee's** by-laws or per a vote of the directors if the **Permittee** is a corporation; a general partner or proprietor if the **Permittee** is a partnership or sole proprietorship respectively; or a duly authorized representative of an individual designated above if such representative is responsible for the overall operation of the facility and has the authority to sign contracts, permits, permit applications, monitoring results and other documents in the company's name and otherwise bind the **Permittee**. The **Permittee** may designate additional or new authorized agents by completing and submitting the enclosed Designation of Authorized Agent form.

The NBC will not accept documents signed by persons other than the Company's authorized agent(s) or authorized representative(s).

CONDITIONS TO PERMIT

A. Effluent Discharge Limitations:

1. The Permittee shall at all times comply with the effluent limitations specified in Table 1 on page 19, and Table 2 on page 20, attached hereto and incorporated herein.
2. The Permittee shall comply with all discharge limitations and prohibitions contained in Article 5 of the NBC's Rules and Regulations, as well as all other provisions of those Rules, and any other applicable State or Federal standards, including but not limited to the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq. and R.I.G.L. §46-12-1 et seq. The Permittee shall at all times comply with 40 CFR §403.5 and may not introduce into the NBC's facilities any pollutants which shall violate the general or specific prohibitions including but not limited to discharges resulting in pass through or interference situations at the NBC's facilities.
3. The Permittee shall not increase the use of process water or dilute a discharge in any way as a partial or complete substitute for adequate treatment to achieve compliance with the above standards.
4. The Permittee shall not discharge more than 464,000 gallons per day. The Permittee shall not exceed a maximum discharge flow rate of 30,000 gallons per hour. The daily average flow rate shall not exceed 22,500 gallons per hour. The Permittee agrees not to exceed the specified maximum daily and hourly flow restrictions and must notify the NBC in advance of any exceedances of the aforementioned flow rates.
5. The Permittee shall comply with interim discharge limitations specified in this section. The NBC may revise the interim limitations at any time. The NBC is performing a local discharge limitation analysis to determine parameter concentrations that will replace the interim limitations. Until such time the local discharge limitations for the Field's Point district are established by the NBC and approved by the DEM, the Permittee must comply with the interim limitations in effect. The Permittee shall comply with the following interim discharge limitations:

	<u>Daily Maximum Limitation</u>	<u>Monthly Average</u>
Arsenic (Total)	0.60 mg/L	0.40 mg/L
Ammonia*	5.0 mg/L	
Nitrate + Nitrite*	10.0 mg/L	
Non-Biodegradable Organic Nitrogen*	100.0 mg/L	

*The interim effluent discharge limitations for Ammonia, Nitrate+Nitrite and Non-Biodegradable Organic Nitrogen are seasonal limitations. These interim limits are effective May 1st through October 31st of every year.

The interim discharge limitations are specified in Table 2 on page 20.

B. Permitted Discharges:

1. The Permittee is authorized to discharge the following tanks, solutions, or process wastewater streams to the NBC's facilities:
 - a. Treated Landfill Leachate;
 - b. Treated Discharges from the OU1/Phase 1 Site;
 - c. Gas Line Condensate;
 - d. Oil/Water Separator Discharges.
2. No other process wastewater is to be discharged to the sewer unless specifically approved by the NBC in writing.

C. Prohibitions:

1. The Permittee is strictly prohibited from discharging any prohibited substances detailed in the Rules and Regulations of the Narragansett Bay Commission. Prohibited discharges include, but are not limited to, the following:
 - a. Electroplating Solutions;
 - b. Cyanide Solutions;
 - c. Acidic Solutions with a pH less than 5.0 standard units;
 - d. Caustic Solutions with a pH greater than 11.0 standard units;
 - e. Degreasing Solutions;
 - f. Solvents;
 - g. Sludges;
 - h. Fuel or Lubricating Oils;
 - i. Gasoline;
 - j. Benzene;
 - k. Radioactive Wastes;
 - l. Hazardous Wastes;
 - m. Trucked or hauled waste of any type.
2. The Permittee is strictly prohibited from accepting wastewater from the combustion condensate and gas conditioning and compression operations conducted by Rhode Island LFG Genco, LLC without receiving written approval from the NBC. The valve in Manhole Number 5 must remain locked out at all times.
3. The Permittee is strictly prohibited from accepting and treating wastewater from any other source or business through Pump Station #1 or the SBR pretreatment system without first obtaining written approval from the NBC on any such discharge.

4. New or existing companies located on Rhode Island Resource Recovery Corporation property are strictly prohibited from connecting to the NBC sewer system without obtaining a NBC Sewer Connection Permit or discharging to the NBC system via the Rhode Island Resource Recovery Corporation discharge system without prior NBC approval.
5. The Permittee is strictly prohibited from discharging any process wastewater streams other than those specified in Section B(1) of this permit or waste streams containing pollutants with concentrations in excess of the effluent limitations specified in Table 1 on page 19, and Table 2 on page 20, attached hereto and incorporated herein.
6. The Permittee may only treat and/or discharge those solutions that were indicated as such on plans submitted to the NBC by the Permittee on July 14, 2014, September 19, 2014, and September 26, 2014. The Permittee is strictly prohibited from discharging any other tanks, solutions, chemicals, or materials, including all prohibited substances as defined in the Rules and Regulations of the Narragansett Bay Commission, without written approval from the NBC.
7. The Permittee is strictly prohibited from using portable pumps and/or flexible hose to transfer solutions directly to the pretreatment system or to bypass the pretreatment system and/or discharge solutions directly to the sewer without written approval from the NBC.

D. Pretreatment Requirements:

1. The Permittee must provide and maintain an easily accessible sample location downstream of each process discharge specified in Section B(1) of this permit. A total of three sample locations must be provided and must collect wastewater from the process operations indicated as follows:

Sample Location #1 - Sample port on the discharge line of the final equalization tank, collecting all process discharges specified in Section B(1) (a and b) of this permit.

Sample Location #2 - Sample port on the discharge line of the oil/water separator located near the SBR Administration Building, collecting all process discharges specified in Section B(1)(c) of this permit.

Sample Location #3 - Interim Sample Location at Pump Station #1, collecting all process discharges specified in Section B(1)(a and b) of this permit.

The Permittee is prohibited from discharging dilution waste streams into any process wastewater sampling location. Dilution wastestreams must discharge downstream of the process wastewater sampling location. The discharge through Sample Locations #1, #2 and #3 must be in compliance with the effluent limitations specified in Section A, Table 1 and Table 2 of this permit.

2. The Permittee shall install, operate, and maintain pretreatment systems in conformance with plans submitted to the NBC on July 14, 2014, September 19, 2014, and September 26, 2014. The sequencing batch reactor pretreatment system shall be fully operational by April 30, 2015.
3. The Permittee shall add a carbon source to the SBR pretreatment system throughout April of each year to accelerate biological nutrient removal processes and shall operate the system to the fullest extent necessary to achieve and maintain compliance with the interim discharge limitations for nitrogen compounds specified in Table 2 of this permit.
4. The Permittee has installed a resettable magnetic water meter on Pump Station #1. This magnetic water meter will be used for NBC billing purposes and is prohibited from being reset by Rhode Island Resource Recovery Corporation. The reset code for the magnetic meter must be given solely to the NBC Customer Service Section. This meter is approved for billing purposes from the effective date of this permit until the SBR pretreatment system is operational. A mechanical, non-resettable discharge meter is required to be installed on the discharge line of the SBR pretreatment system.
5. The Permittee is responsible for properly operating and maintaining the pretreatment systems to achieve and ensure compliance with the conditions of this permit. Proper operation and maintenance shall include but not be limited to: effective performance, adequate funding, adequate operator staffing and training, adequate laboratory and process controls, including appropriate quality assurance procedures.

E. Monitoring Requirements:

1. The Permittee shall monitor the pH of the effluent discharge and record it continuously. The Permittee shall report the results monthly in a summary report giving the maximum, minimum, and average pH readings for each day of operation (see sample copy enclosed). The data must be reported directly from the recording chart to an accuracy of 0.1 standard units. The Permittee shall record the volume of landfill leachate discharged to the NBC sewer system on a daily basis on the pH Monitoring Report. The pH Monitoring Report must be received by the NBC within thirty (30) days from the end of the month in which the data is recorded. The original recording chart must be maintained on site for a period of at least three (3) years.

2. **Initial Start-Up Monitoring Requirements:** During the first full normal week of discharge into the NBC system, the Permittee shall conduct wastewater sampling on the first four (4) consecutive operating days from the Interim Sample Location at Pump Station #1, Sample Location #3. The samples must be collected, preserved, and analyzed separately in accordance with EPA protocols for the following parameters:

Metals:

Arsenic (Total)	Copper (Total)	Nickel (Total)
Cadmium (Total)	Lead (Total)	Silver (Total)
Chromium (Total)	Mercury (Total)	Zinc (Total)

Nitrogen Parameters:

Ammonia (Total)	Nitrate + Nitrite Total Nitrogen	Total Kjeldahl Nitrogen
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Other Parameters:

Cyanide
Total Oil & Grease (fats, oils, and grease)
Total Toxic Organics (TTO)
Biochemical Oxygen Demand (BOD₅)
Total Suspended Solids (TSS)

The sampling protocols for the parameters listed above are detailed in Attachment 1 of this permit.

The analytical results are to be received by the NBC by December 30, 2014. All sampling and analyses are to be done in accordance with EPA approved procedures (40 CFR §403 and 40 CFR §136). These results are to be accompanied by a certified laboratory analysis sheet including chain of custody documentation, indicating the EPA approved test procedure for each parameter listed. A completed Self-Monitoring Compliance Report form must also accompany each set of results (see sample copy enclosed).

3. **Intermediate Monitoring Requirements:** Effective December 2014 and continuing until the SBR pretreatment system becomes operational, the Permittee shall conduct composite sampling from the Interim Sample Location at Pump Station #1, Sample Location #3, one day each week for arsenic and nitrogen compounds and one day each month for the other parameters. Composite samples must be collected one day each week, preserved, and analyzed separately in accordance with EPA protocols for the following parameters:

Metals:

Arsenic (Total)*

Nitrogen Parameters:

Ammonia (Total)	Nitrate + Nitrite Total Nitrogen	Total Kjeldahl Nitrogen
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Samples must be collected one day each month, preserved, and analyzed in accordance with EPA protocols for the following parameters:

Metals:

Cadmium (Total)	Lead (Total)	Nickel (Total)
Chromium (Total)	Mercury (Total)	Silver (Total)
Copper (Total)		Zinc (Total)

Other Parameters:

Cyanide
Total Oil & Grease (fats, oils, and grease)
Total Toxic Organics (TTO)
Biochemical Oxygen Demand (BOD₅)
Total Suspended Solids (TSS)

The sampling protocols for the parameters listed above are detailed in Attachment 1 of this permit.

*The sampling conducted for the Arsenic Study may be used to satisfy the weekly sampling requirements for Arsenic (Total).

Table 3 attached hereto summarizes the sampling requirements for this facility for the period of December 2014 until the SBR pretreatment system is operational.

4. ***SBR Pretreatment System Start-Up Monitoring Requirements:*** During the first full normal week of operations of the SBR pretreatment system, the Permittee shall conduct wastewater sampling on the first four (4) consecutive operating days from the sample port on the discharge line of the final equalization tank, Sample Location #1. The samples must be collected, preserved, and analyzed separately in accordance with EPA protocols for the following parameters:

Metals:

Arsenic (Total)	Copper (Total)	Nickel (Total)
Cadmium (Total)	Lead (Total)	Silver (Total)
Chromium (Total)	Mercury (Total)	Zinc (Total)

Nitrogen Parameters:

Ammonia (Total)	Nitrate + Nitrite Total Nitrogen	Total Kjeldahl Nitrogen
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Other Parameters:

Cyanide
Total Oil & Grease (fats, oils, and grease)
Total Toxic Organics (TTO)
Biochemical Oxygen Demand (BOD₅)
Total Suspended Solids (TSS)

The sampling protocols for the parameters listed above are detailed in Attachment 1 of this permit.

The analytical results are to be received by the NBC by June 30, 2015. All sampling and analyses are to be done in accordance with EPA approved procedures (40 CFR §403 and 40 CFR §136). These results are to be accompanied by a certified laboratory analysis sheet including chain of custody documentation, indicating the EPA approved test procedure for each parameter listed. A completed Self-Monitoring Compliance Report form must also accompany each set of results (see sample copy enclosed).

5. ***Routine Monitoring Requirements:*** Upon completion of the four day SBR Pretreatment System Start-Up monitoring, the Permittee shall conduct routine monitoring from the sample port on the discharge line of the final equalization tank, Sample Location #1, one day each week for arsenic and nitrogen compounds and monthly for other parameters. The weekly composite samples must be collected, preserved, and analyzed separately in accordance with EPA protocols for the following parameters:

Metals:

Arsenic (Total)*

Nitrogen Parameters:

Ammonia (Total)	Nitrate + Nitrite Total Nitrogen	Total Kjeldahl Nitrogen
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The monthly samples must be collected, preserved, and analyzed in accordance with EPA protocols for the following parameters:

Metals:

Cadmium (Total)	Lead (Total)	Nickel (Total)
Chromium (Total)	Mercury (Total)	Silver (Total)
Copper (Total)		Zinc (Total)

Other Parameters:

Cyanide
Total Oil & Grease (fats, oils, and grease)
Total Toxic Organics (TTO)
Biochemical Oxygen Demand (BOD₅)
Total Suspended Solids (TSS)

The sampling protocols for the parameters listed above are detailed in Attachment 1 of this permit.

*The sampling conducted for the Arsenic Study may be used to satisfy the weekly sampling requirements for Arsenic (Total).

Table 4 attached hereto summarizes the sampling requirements for this facility.

8. All discharge meters measuring flows, which ultimately discharge to the sampling locations specified previously, are to be read at the start of sampling and at the end of sampling. These readings and the resultant total flow are to be submitted with the sampling results.
9. The analytical results for each sampling month listed above must be received by the NBC within thirty (30) days after the end of the month in which the samples are to be collected. All sampling and analyses are to be done in accordance with EPA approved procedures (40 CFR §403 and 40 CFR §136). The Permittee must complete and submit a Self-Monitoring Compliance Report (copy enclosed) with each certified laboratory analysis sheet including chain of custody documentation. The laboratory analysis report must indicate the EPA approved test procedure for each parameter listed. All Self-Monitoring Compliance Reports must be signed by the Permittee or authorized agent and certify that the information submitted is accurate and complete to the best of their knowledge.
10. The Permittee must compare the analytical report results with the NBC effluent discharge limitations listed in Table 1 and Table 2. If there are any violations of the NBC's standards, the Permittee must notify the NBC within twenty-four (24) hours of becoming aware of the violation by contacting pretreatment staff at 461-8848 or by using the twenty-four (24) hour violation notification FAX form and must resample and analyze for the parameter(s) in violation of the NBC's standards, excluding BOD, TSS and pH. The resampling results must be received by the NBC no later than thirty (30) days following the date that the Permittee became aware of the initial violation of the standards.
11. The NBC may, at any time, require more frequent monitoring than specified in this permit. Conditions that may result in the imposition of more frequent monitoring include, but are not limited to, the following:
 - a. Failure to meet effluent limitations;
 - b. Change in production processes;
 - c. Expansion or reduction of production;
 - d. Change in wastewater flows;
 - e. Discovery of additional information on monitoring or production unavailable to the NBC at the time this permit was prepared.

F. Arsenic Study Requirements:

1. The Permittee has agreed to conduct a study to evaluate the impact of arsenic discharges from Rhode Island Resource Recovery Corporation to the Field's Point Wastewater Treatment Facility and the Providence River as outlined in the plan dated June 10, 2014. The study is attached hereto and incorporated herein as Attachment 2. All requirements of the study must be completed in accordance with the timeline outlined in the study.

2. The Permittee agrees to conduct monitoring at the Rhode Island Resource Recovery Corporation facility and of influent and effluent at the Field's Point Wastewater Treatment Facility in accordance with the Arsenic Study. The monitoring at Rhode Island Resource Recovery Corporation and the Field's Point Wastewater Treatment Facility must be conducted on the same day. The Permittee must coordinate the Arsenic Study sampling with the NBC Environmental Monitoring Manager. The NBC will provide split samples of the Field's Point influent and effluent to the Permittee. Table 5 attached hereto summarizes the sampling requirements of the Arsenic Study.
3. The Permittee shall submit quarterly Arsenic Study status reports to the Narragansett Bay Commission. The reports are to be submitted by the last day of February 2015, May 2015, August 2015, November 2015, and February 2016. The status reports are to include the analytical data collected during the quarter, an evaluation of the data and the steps to be taken during the next quarter.
4. The Permittee shall submit a summary report to the Narragansett Bay Commission and the Rhode Island Department of Environmental Management after the SBR pretreatment system is fully operational. The report shall evaluate the impact of Rhode Island Resource Recovery Corporation discharges on the Field's Point Wastewater Treatment Facility as they relate to arsenic. The report shall be submitted by the last day of May 2016.

G. Record Keeping Requirements:

1. The Permittee shall be responsible for maintaining a logbook documenting all records pertaining to the operation of the pretreatment system including, but not limited to, the following:
 - a. Amount of chemicals used on a monthly basis to provide pretreatment;
 - b. Amount of sludge generated on a monthly basis;
 - c. Completed manifest forms for hazardous materials;
 - d. Maintenance performed on the pretreatment system including weekly probe cleaning, monthly probe calibration and other maintenance requests specified by inspectors of the NBC.
2. Records which substantiate any information supplied in permit applications, Self-Monitoring Compliance Reports and any other informational requirements of the Rules and Regulations or any applicable State or Federal law are to be kept by the Permittee for a period of at least three (3) years unless a dispute or litigation involving the subject of those records is pending, in which case these records are to be kept by the Permittee for a period of at least three (3) years following resolution of such litigation or dispute.

H. Spill and Slug Prevention Control Plan:

The Permittee must maintain an approved Spill and Slug Prevention Control Plan and all associated facilities to ensure that incidental and accidental spills are unable to enter the NBC sewer system.

I. Emergency/Routine Notification Requirements:

1. Emergency Notification of Accidental/Incidental Discharge

In the case of an accidental discharge into the NBC facilities, including any discharge that would violate a Federal prohibition under 40 CFR 403.5(b), it is the responsibility of the Permittee to notify the NBC of the incident immediately by calling the Pretreatment Section at 461-8848 or during non-business hours at its twenty-four (24) hour Emergency Hotline Number, 434-6350. Within five (5) days following an accidental discharge, the Permittee shall submit to the NBC a detailed written report describing the cause and volume of the discharge and the measures to be taken by the user to prevent similar future occurrences by the Permittee.

2. Routine Notification of Operational Changes

The Permittee must notify the NBC in writing at least thirty (30) days prior to instituting any changes in operations that may affect the quality or quantity of the process wastestream discharged to the sewer system or may affect the adequacy of spill control measures. Operational changes that may affect the quality or quantity of the process wastestream or the adequacy of spill control measures include, but are not limited to, the following:

- a. Addition, removal, or relocation of process tanks or solutions;
- b. Installation of new wastewater generating process operations;
- c. Relocation of process operation piping or valving resulting in a new or different point of discharge;
- d. Modification of any pretreatment process or procedure;
- e. Installation or modification of pretreatment equipment or associated piping;

Should the Permittee be unsure as to whether an operational change requires written NBC notification, it is strongly recommended that the Permittee contact the NBC by telephone prior to instituting the proposed change in operations. This will ensure that the proper notification is provided to the NBC. With respect to the thirty (30) day written notification requirement, should the Permittee require immediate approval to make an operational change in order to accommodate business, the NBC will make every effort to accommodate the Permittee so as to not impede operations at the facility. The discretion used by the

NBC with respect to this issue is dependent on the magnitude of the proposed operational changes and the resulting effect on the characteristics of the wastestream and/or the spill control measures at the facility. The Permittee may notify the NBC of the following operational changes by telephone rather than in writing as required above:

- f. Change from the hours of facility operation specified in the discharge permit application;
- g. Change in the personnel responsible for the proper operation of pretreatment equipment.

3. Routine Notification of Pretreatment Equipment Malfunctions

In the event of pretreatment equipment failure or malfunction, the Permittee must notify the NBC of the incident by the close of the next full business day by calling the NBC's Pretreatment Section at 461-8848. Pretreatment equipment failure includes, but is not limited to, the following:

- a. pH monitoring equipment failure;
- b. pH probe failure;
- c. pH chart recorder failure;
- d. Chemical feed pump failure;
- e. Pretreatment system pump, filter, or mixer failure;
- f. Carbon treatment unit failure;
- g. Cell liner failure.

Any equipment failure or malfunction which results in a spill and/or accidental discharge must be reported immediately in accordance with the NBC Emergency Spill Notification Procedure. Should a pretreatment equipment failure or malfunction occur, the Permittee is strictly responsible for complying with all other permit conditions, including, but not limited to, maintaining full compliance with effluent limitations and monitoring requirements.

J. Right of Entry:

The NBC, upon presenting identification and appropriate credentials, is authorized to enter the premises of the Permittee during working hours and at other reasonable times for the purposes of inspection, sampling, reading water meters, records inspecting and copying and as otherwise authorized under R.I.G.L. §46-25-25.1. Reasonable hours in the context of inspection and sampling include any time the NBC has reason to believe that violation of the permit or of the Rules and Regulations is occurring.

K. Permit Fee:

The Permittee agrees to pay an annual permit fee and all sewer user fees assessed by the NBC in accordance with rates and fees approved by the Public Utilities Commission pursuant to R.I.G.L. §39-1-1 et seq. and §46-25-1 et seq. The Permittee agrees to reimburse the NBC for the cost of the collection of any and all fees associated with the permit, including reasonable attorney's fees.

L. Closing, Selling, Moving the Business:

If the Permittee intends to close, liquidate, sell or move the permitted premises, located as referenced on page 1 of this permit, the Permittee must notify the NBC in writing at least thirty (30) days prior to disposing of any process waste associated with the move or the cessation of business.

M. Transfer of Permit Prohibited:

Wastewater discharge permits are issued to a specific user for a specific operation. This permit may not be reassigned, transferred or sold to a new owner, new user, different premises, or a new or changed operation without the express written permission from the NBC. The Permittee shall provide a copy of this permit to any prospective purchaser of said facility referenced on page 1 of this permit at least fourteen (14) days prior to closing on the business or property.

N. Permit Violations:

1. Enforcement Costs

The Permittee agrees to hold harmless and indemnify and/or reimburse the NBC for the cost of enforcing the permit, including reasonable attorneys' fees, if violations of the permit are found by a hearing officer during the course of an administrative hearing or if such decision is appealed, then in a court of competent jurisdiction.

2. Damage to the Facilities

The Permittee agrees to hold harmless and indemnify and/or reimburse the NBC from and against any liability, loss, cost, expense or actual damage (including reasonable attorneys' and accountants' fees incurred in defending or prosecuting any claim for any such liability, loss, cost, expense or damage) suffered by the NBC and caused by discharges from the Permittee, either individually or by interaction with other wastes.

3. Violations of the NBC's Permit

The Permittee agrees to hold harmless and indemnify and/or reimburse the NBC for any penalty and additional operating expense incurred by the NBC for violations of the NBC's NPDES, RIPDES, or any other state or federal permit which were caused by discharges from the Permittee, either individually or by interaction with other wastes.

4. Penalties for Violations

Article 10 of the NBC's Rules and Regulations provides that any person who violates a permit condition is subject to an administrative or civil penalty of up to \$25,000 per violation per day as defined in R.I.G.L. §46-25-25.2. Willful or criminally negligent violations shall be punishable by the aforementioned fine and/or imprisonment as defined in R.I.G.L. §46-25-25.3.

O. Revocation/Suspension of Permit:

1. Violations of the conditions of this permit, the NBC's Rules and Regulations, Act, and applicable state or Federal regulations may result in the revocation of this permit in accordance with the due process requirements of the NBC's Rules and Regulations. Violations that may result in revocation of this permit include, but are not limited to, the following:

- a. Failure to accurately report the wastewater constituents and characteristics of the discharge;
- b. Failure to report changes in operations or wastewater constituents;
- c. Failure to allow NBC personnel statutorily authorized access for the purposes of inspection or monitoring;
- d. Failure to adhere to an approved compliance schedule;
- e. Failure to comply with administrative orders or settlement agreements;
- f. Failure to pay authorized fees and user charges;
- g. Violation of any other applicable permit conditions.

This list is for illustrative purposes and is not intended to be inclusive.

2. The Executive Director may suspend this wastewater discharge permit should the Permittee cease operations for any period exceeding one (1) month. The suspension will not act as a revocation of the permit, but rather as a temporary suspension of the user's rights under the permit while operations have ceased. During such suspension, the user's connection to the facilities shall be plugged. The user shall still be required to pay the permit fee, since the permit itself will not be revoked. During such suspension, the user shall be disconnected from the facility. The Narragansett Bay Commission shall have the authority to make periodic inspections during this time to determine whether the user is continuing to discharge regulated wastewater. Such discharge may be considered grounds for revocation of the wastewater discharge permit.

P. Civil And Criminal Liability:

Nothing in this permit shall be construed to relieve the Permittee from civil and/or criminal penalties for noncompliance with the NBC's Rules and Regulations or State or Federal laws or regulations.

Q. Duty To Comply:

1. The Permittee must comply with all conditions of this permit. Failure to comply with the requirements of this permit may be grounds for enforcement proceedings including administrative, civil and/or criminal penalties, injunctive relief and summary abatements.
2. Compliance with this permit does not relieve the Permittee of its obligation to comply with any or all pretreatment regulations, standards or requirements under local, State and Federal laws, including any such regulations, standards, requirements, or laws that may become effective during the term of this permit.

R. Removed Substances:

Solids, sludges, filter residue or other pollutants removed in the course of treatment or control of waters or wastewaters shall be disposed of in accordance with §405 of the Clean Water Act and subtitles C and D of the Resource Conservation and Recovery Act. A Resource Conservation and Recovery Act (RCRA) informational brochure is attached to this permit to inform you of your RCRA obligations.

S. Permit Modification/Renewal:

1. This permit may be modified for various reasons, including but not limited to the following:
 - a. To incorporate any new or revised Federal, State, or local pretreatment standards or requirements;
 - b. Material or substantial alterations or additions to Permittee's process operations, discharge volume or discharge characteristics which were not considered in the drafting of this permit;
 - c. A change in any condition regarding either the industrial user or the POTW that requires either a temporary or permanent reduction or elimination of the authorized discharge;

- d. Information indicating that the permitted discharge poses a threat to the NBC collection or treatment system, POTW personnel, the general public, or the receiving waters;
- e. Violation of any terms or conditions of the permit;
- f. Misrepresentation or failure to disclose fully all relevant facts in the permit application or in any required reporting;
- g. Revision of or a grant of variance from such categorical standards pursuant to 40 CFR §403.13;
- h. To correct typographical or other errors in the permit;
- i. To reflect transfer of the facility ownership and/or operation to a new owner/operator;
- j. Upon request of the Permittee, provided such request does not create a violation of any applicable requirements, standards, laws, or rules and regulations.

The filing of a request by the Permittee for a permit modification, revocation and reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

2. If the Permittee wishes to continue to discharge after the expiration date of this permit, an application must be filed for a permit renewal in accordance with the requirements of Article 8 of the NBC's Rules and Regulations a minimum of ninety (90) days prior to the expiration date.

T. Integration:

This permit represents the entire agreement and understanding of the parties hereto to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered hereunder. This permit may not be modified or altered except in accordance with the provisions of Article 8 of the Rules and Regulations. All terms used in this permit shall be construed as defined under Article 2 of the Rules and Regulations.

U. Jurisdiction:

This permit shall be administered and interpreted under the laws of the State of Rhode Island. Jurisdiction of litigation arising from this permit shall be in the State of Rhode Island. If any part of this permit is found to be in conflict with applicable laws, such part shall be inoperative, null and void insofar as it is in conflict with said law, but the remainder of this permit shall be in full force and effect.

NPD:KMB:smb

Attachments:

- Self-Monitoring Compliance Report Form
- Continuous pH Monitoring Report Form
- Designation of Authorized Agent Form
- RCRA Handbook
- Twenty-four (24) Hour Violation Notification Fax Form
- List of Licensed Laboratories

Table 1

NBC Effluent Discharge Limitations
Field's Point District

<u>Parameter</u>	<u>Limitation (Max)</u>
Total Toxic Organics (TTO)	2.13
Biochemical Oxygen Demand (BOD ₅)	300.00*
Total Suspended Solids (TSS)	300.00*
Total Oil and Grease (fats, oils and grease)	125.0
Oil and Grease (mineral origin)	25.0
Oil and Grease (animal/vegetable origin)	100.0
pH range (at all times)	5.0 - 11.0 s.u.

<u>Parameter</u>	Daily Maximum Composite for 1 day (<u>mg/l</u>)	Average 10 day (<u>mg/l</u>)
Cadmium (Total)	0.11	0.07
Chromium (Total)	2.77	1.71
Copper (Total)	1.20	1.20
Cyanide (Total)	0.58	0.58
Lead (Total)	0.60	0.40
Mercury (Total)	0.005	0.005
Nickel (Total)	1.62	1.62
Silver (Total)	0.43	0.24
Zinc (Total)	2.61	1.48

All limitations are in units of mg/l unless otherwise specified.

* Exceeding this discharge limitation may be permitted but may be subject to a surcharge in accordance with rates approved by the Public Utilities Commission and in accordance with R.I.G.L. §39-1-1 et seq.

Table 2

NBC Interim Effluent Discharge Limitations

<u>Parameter</u>	<u>Daily Maximum Limitation</u>	<u>Monthly Average</u>
Arsenic (Total)	0.60 mg/L	0.40 mg/L
Ammonia*	5.0 mg/L	
Nitrate + Nitrite*	10.0 mg/L	
Non-Biodegradable Organic Nitrogen*	100.0 mg/L	
Maximum Daily Flow	464,000 gallons/day	
Maximum Flow Rate	30,000 gallons/hour	
Daily Average Flow Rate	22,500 gallons/hour	

*The interim effluent discharge limitations for Ammonia, Nitrate+Nitrite and Non-Biodegradable Organic Nitrogen are seasonal limitations. These interim limits are effective May 1st through October 31st of every year.

Table 3

Rhode Island Resource Recovery Corporation
Sampling Requirements for November 2014 to the Start-Up of the SBR Pretreatment System

Sample Location #3				
Interim Sample Location at Pump Station #1				
		Monthly		
Month	Composite Sample	Parameters	Composite Sample	Parameters
November 2014	X	Cd, Cr, Cu, Pb, Hg, Ni, Ag, Zn, CN*, O&G*, TTO, BOD, TSS	X	As, Ammonia, Nitrate+Nitrite, TKN, TN
December 2014	X	Cd, Cr, Cu, Pb, Hg, Ni, Ag, Zn, CN*, O&G*, TTO, BOD, TSS	X	As, Ammonia, Nitrate+Nitrite, TKN, TN
January 2015	X	Cd, Cr, Cu, Pb, Hg, Ni, Ag, Zn, CN, O&G, TTO, BOD, TSS	X	As, Ammonia, Nitrate+Nitrite, TKN, TN
February 2015	X	Cd, Cr, Cu, Pb, Hg, Ni, Ag, Zn, CN, O&G, TTO, BOD, TSS	X	As, Ammonia, Nitrate+Nitrite, TKN, TN
March 2015	X	Cd, Cr, Cu, Pb, Hg, Ni, Ag, Zn, CN, O&G, TTO, BOD, TSS	X	As, Ammonia, Nitrate+Nitrite, TKN, TN
April 2015	X	Cd, Cr, Cu, Pb, Hg, Ni, Ag, Zn, CN, O&G, TTO, BOD, TSS	X	As, Ammonia, Nitrate+Nitrite, TKN, TN

Legend

Cd – Cadmium	Hg – Mercury	O&G - Total Oil & Grease (fats, oils & grease)
Cr – Chromium	Ni – Nickel	BOD - Biochemical Oxygen Demand
Cu – Copper	Ag - Silver (Total)	TSS - Total Suspended Solids
CN – Cyanide	Zn - Zinc (Total)	TTO - Total Toxic Organics
Pb – Lead		TKN - Total Kjeldahl Nitrogen
		TN - Total Nitrogen

*Cyanide and Total Oil & Grease samples are to be collected as four grab samples over the course of the day in accordance with Attachment 1.

Table 4

Rhode Island Resource Recovery Corporation
Sampling Requirements Upon Start-Up of SBR Pretreatment System

Sample Location #1				
Sample Port on the Discharge Line of the Final Equalization Tank				
Monthly			Weekly	
Month	Composite Sample	Parameters	Composite Sample	Parameters
January	X	As, Cd, Cr, Cu, Pb, Hg, Ni, Ag, Zn, CN, O&G, TTO, BOD, TSS, Ammonia, Nitrate+Nitrite, TKN, TN	X	As, Ammonia, Nitrate+Nitrite, TKN, TN
February	X	As, Cd, Cr, Cu, Pb, Hg, Ni, Ag, Zn, CN, O&G, TTO, BOD, TSS, Ammonia, Nitrate+Nitrite, TKN, TN	X	As, Ammonia, Nitrate+Nitrite, TKN, TN
March	X	As, Cd, Cr, Cu, Pb, Hg, Ni, Ag, Zn, CN, O&G, TTO, BOD, TSS, Ammonia, Nitrate+Nitrite, TKN, TN	X	As, Ammonia, Nitrate+Nitrite, TKN, TN
April	X	As, Cd, Cr, Cu, Pb, Hg, Ni, Ag, Zn, CN, O&G, TTO, BOD, TSS, Ammonia, Nitrate+Nitrite, TKN, TN	X	As, Ammonia, Nitrate+Nitrite, TKN, TN
May	X	As, Cd, Cr, Cu, Pb, Hg, Ni, Ag, Zn, CN, O&G, TTO, BOD, TSS, Ammonia, Nitrate+Nitrite, TKN, TN	X	As, Ammonia, Nitrate+Nitrite, TKN, TN
June	X	As, Cd, Cr, Cu, Pb, Hg, Ni, Ag, Zn, CN, O&G, TTO, BOD, TSS, Ammonia, Nitrate+Nitrite, TKN, TN	X	As, Ammonia, Nitrate+Nitrite, TKN, TN
July	X	As, Cd, Cr, Cu, Pb, Hg, Ni, Ag, Zn, CN, O&G, TTO, BOD, TSS, Ammonia, Nitrate+Nitrite, TKN, TN	X	As, Ammonia, Nitrate+Nitrite, TKN, TN
August	X	As, Cd, Cr, Cu, Pb, Hg, Ni, Ag, Zn, CN, O&G, TTO, BOD, TSS, Ammonia, Nitrate+Nitrite, TKN, TN	X	As, Ammonia, Nitrate+Nitrite, TKN, TN
September	X	As, Cd, Cr, Cu, Pb, Hg, Ni, Ag, Zn, CN, O&G, TTO, BOD, TSS, Ammonia, Nitrate+Nitrite, TKN, TN	X	As, Ammonia, Nitrate+Nitrite, TKN, TN
October	X	As, Cd, Cr, Cu, Pb, Hg, Ni, Ag, Zn, CN, O&G, TTO, BOD, TSS, Ammonia, Nitrate+Nitrite, TKN, TN	X	As, Ammonia, Nitrate+Nitrite, TKN, TN
November	X	As, Cd, Cr, Cu, Pb, Hg, Ni, Ag, Zn, CN, O&G, TTO, BOD, TSS, Ammonia, Nitrate+Nitrite, TKN, TN	X	As, Ammonia, Nitrate+Nitrite, TKN, TN
December	X	As, Cd, Cr, Cu, Pb, Hg, Ni, Ag, Zn, CN, O&G, TTO, BOD, TSS, Ammonia, Nitrate+Nitrite, TKN, TN	X	As, Ammonia, Nitrate+Nitrite, TKN, TN

Legend

Cd – Cadmium
 Cr – Chromium
 Cu – Copper
 CN – Cyanide
 Pb – Lead

Hg – Mercury
 Ni – Nickel
 Ag - Silver (Total)
 Zn - Zinc (Total)

O&G - Total Oil & Grease (fats, oils & grease)
 BOD – Biochemical Oxygen Demand
 TSS – Total Suspended Solids
 TTO – Total Toxic Organics
 TKN - Total Kjeldahl Nitrogen
 TN - Total Nitrogen

*Cyanide and Total Oil & Grease samples are to be collected as four grab samples over the course of the day in accordance with Attachment 1.

Table 5

Rhode Island Resource Recovery Corporation
Sampling Requirements for Arsenic Study

	RIRRC				Field's Point WWTF			
	Total Arsenic		Speciation		Total Arsenic		Speciation	
	Influent Frequency	Effluent Frequency	Influent Frequency	Effluent Frequency	Influent Frequency	Effluent Frequency	Influent Frequency	Effluent Frequency
November 2014		1x/week			1x/week	1x/month		1x/month
December 2014		1x/week			1x/week	1x/month		1x/month
January 2015		1x/week			1x/week	1x/month		1x/month
February 2015		1x/week			1x/week	1x/month		1x/month
March 2015		1x/week			1x/week	1x/month		1x/month
April 2015		1x/week			1x/week	1x/month		1x/month
May 2015	1x/week	2x/week		1x/month	1x/week	1x/week	1x/month	1x/month
June 2015	1x/week	2x/week			1x/week	1x/week		
July 2015	1x/week	2x/week		1x/month	1x/week	1x/week	1x/month	1x/month
August 2015	1x/week	2x/week			1x/week	1x/week		
September 2015	1x/week	2x/week		1x/month	1x/week	1x/week	1x/month	1x/month
October 2015	1x/week	2x/week			1x/week	1x/week		
November 2015	1x/week	2x/week		1x/month	1x/week	1x/week	1x/month	1x/month
December 2015	1x/week	2x/week			1x/week	1x/week		
January 2016	1x/week	2x/week		1x/month	1x/week	1x/week	1x/month	1x/month
February 2016	1x/week	2x/week			1x/week	1x/week		
March 2016	1x/week	2x/week		1x/month	1x/week	1x/week	1x/month	1x/month
April 2016	1x/week	2x/week			1x/week	1x/week		

Arsenic Study sampling at RIRRC for each month must be conducted on the same day as the sampling at the Field's Point Wastewater Treatment Facility. The monthly sampling is to be coordinated with the NBC Environmental Monitoring Manager. The NBC will provide RIRRC with split samples from the influent and effluent of the Field's Point Wastewater Treatment Facility.

Attachment 1

Monitoring Protocols

There are two types of samples that can be collected, composites and grab samples.

Composite samples are to consist of equal volume grab samples collected every half hour or collected continuously with a composite sampler.

Grab samples are samples collected at one time.

Metals samples are to be collected as composite samples. The pH of the metals sample is to be adjusted to below 2.0 standard units (s.u.) by the addition of nitric or sulfuric acid and refrigerated until analysis. The parameters for metals analysis are:

Arsenic (Total)	Copper (Total)	Nickel (Total)
Cadmium (Total)	Lead (Total)	Silver (Total)
Chromium (Total)	Mercury (Total)	Zinc (Total)

Nutrient samples are to be collected as composite samples. Nutrient samples are to be preserved immediately upon collection by adding sulfuric acid to the sample to lower the pH to below 2.0 s.u. The samples must be refrigerated until analysis which must be completed within 28 days. The parameters that must be analyzed are:

Ammonia (Total)	Nitrate + Nitrite	Total Kjeldahl Nitrogen
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Samples for Biochemical Oxygen Demand (BOD₅) and Total Suspended Solids (TSS) are to be collected as composite samples. No preservation chemicals are needed for these parameters.

The Permittee may collect one composite sample for the aforementioned parameters. The composite sample may be poured off into three separate bottles. One bottle each for metals, nutrient, and BOD/TSS.

Cyanide: Four (4) grab samples shall be collected at equidistant time intervals over the entire operating day (i.e. one (1) sample every two (2) hours over the course of an eight (8) hour operating day). Each grab sample must be preserved immediately upon sample collection in accordance with EPA regulations. The grab sample must immediately be tested for residual chlorine with potassium iodide paper. If residual chlorine is present in the sample, then 0.6 grams of ascorbic acid must be added. The sample should then be retested for chlorine residual, and if it is present, the addition of ascorbic acid should be repeated. Once residual chlorine has been eliminated from the sample, the pH of the sample must be checked and elevated to greater than 12.0 standard units by the addition of sodium hydroxide, if necessary. Once the grab sample has been preserved to a pH greater than 12.0 standard units and no chlorine residual is

detected, it may be composited with the other grab samples collected on that operating day. The composite of the four (4) preserved grab samples must be refrigerated until analysis and must be analyzed within fourteen (14) days of collection.

Total Oil and Grease (fats, oils, and grease): Four (4) grab samples shall be collected at equidistant time periods over the entire operating day (i.e. one (1) sample every two (2) hours over the course of an eight (8) hour operating day). Each grab sample must be collected in a glass bottle, preserved, and analyzed separately in accordance with EPA protocols. The mathematical average of the four results must be reported to determine compliance with the NBC discharge limitation of 125 ppm for Total Oil and Grease.

Total Toxic Organics (TTO) shall be conducted by collecting two separate samples according to the following procedures:

- a. ***Volatile Organic Compounds Sampling*** - Four (4) grab samples are to be collected at equidistant time periods over the entire operating day (i.e. one (1) sample every two (2) hours over the course of an eight (8) hour operating day). Each grab sample is to be collected in a glass bottle with a Teflon lined cap with a volume of either 25 or 40 ml. Each grab sample must immediately be tested for residual chlorine with potassium iodide paper. If residual chlorine is present in the sample, then 0.008% by volume of sodium thiosulfate must be added (i.e. 2 mg per 25 ml of sample collected). The sample should then be retested for chlorine residual; if it is present, the addition of sodium thiosulfate should be repeated. Once chlorine residual has been eliminated from the sample, the sample should be stored in the dark and refrigerated at a temperature of 0 - 4°C until analysis. No air bubbles may be present in any grab sample or that sample must be discarded. Each grab sample is to be analyzed separately and the mathematical average reported. Alternatively, the grab samples may be composited in the laboratory at a temperature of 0 - 4°C immediately before analysis. All samples must be analyzed within three (3) days of collection for the Volatile Organic Compounds (purgeables) fraction of the Total Toxic Organics (TTO) list enclosed.
- b. ***Acid, Base, and Neural Fraction Sampling*** - Collect a composite sample, which is to consist of equal volume grab samples collected at least every half hour over the operating day or collected continuously with a composite sampler. A minimum of 1,000 ml (1L) of wastewater is to be collected in an amber glass bottle with a Teflon lined cap and submitted for analysis. Each grab sample must be preserved immediately upon sample collection according to EPA protocols prior to compositing with other preserved grab samples. If an automatic composite sampler is used, it must be as free as possible of plastic tubing and other potential sources of contamination; if the sampler includes a peristaltic pump, use a minimum length of properly cleaned

silicone rubber tubing. The sampler must utilize glass sampling containers. The samples must be refrigerated to a temperature of 0-4°C during sample collection and must be immediately preserved once the sample collection process is completed. The samples must be tested for residual chlorine with potassium iodide paper. If chlorine residual is present in the sample, then 0.008% by volume of sodium thiosulfate must be added (i.e. 80mg per liter of sample collected). The sample should then be retested for chlorine residual, if it is present, the addition of sodium thiosulfate should be repeated. Once chlorine residual has been eliminated from the sample, the sample must be stored in the dark until analysis. All samples must be extracted within seven (7) days of collection and must be analyzed within forty (40) days of extraction for the **Acid, Base and Neutral** fraction of the Total Toxic Organics (TTO) list enclosed.

Attachment 2

Proposed Work Plan Evaluation of Impacts on NBC Field's Point WWTF Effluent and Evaluation of Pretreatment Alternatives Arsenic in Wastewater Generated at Central Landfill

Introduction

Starting in November 2014, the Rhode Island Resource Recovery Corporation (RIRRC) will begin discharging its wastewater to the Narragansett Bay Commission's (NBC) collection system for treatment at the Field's Point wastewater treatment facility (WWTF). RIRRC's wastewater will initially be discharged untreated until it completes construction and start-up of its new Pretreatment Plant. During the interim period, RIRRC will discharge a maximum of 325,000 gallons per day (gpd) of wastewater to the NBC and control flow using two new storage tanks with a total capacity of 1.5 million gallons.

RIRRC's Pretreatment Plant is scheduled to be operational in May 2015 and is designed to remove nitrogen-containing compounds to acceptable concentrations and loadings for discharge to the Field's Point WWTF. It is designed for a maximum flow of 650,000 gpd at the concentrations of nitrogen compounds anticipated over the next 20 years of RIRRC's landfilling operations. The higher design flow anticipates increased wastewater flows from RIRRC as new landfill cells are constructed as approved by the Rhode Island Department of Environmental Management (RIDEM).

RIRRC has prepared this draft Work Plan at the request of NBC and RIDEM to establish a process: (1) to evaluate the potential for RIRRC's wastewater to cause NBC's effluent to exceed the water quality standards for arsenic as flow increases over time; and (2) to evaluate whether arsenic removal is necessary and, if it is necessary, to evaluate the efficacy of pre-treatment alternatives to address arsenic.

Approach

As an initial step in developing this Work Plan, CDM Smith Inc. (CDM Smith) reviewed the extensive available historic data on arsenic concentrations both at the Field's Point WWTF and in RIRRC's wastewater. Table 1, below, shows the recent concentrations of arsenic in RIRRC's wastewater. Monthly average flow rates are provided as well. Previously, some preliminary calculations performed by RIDEM, NBC and RIRRC, considered the potential for RIRRC's wastewater to cause an exceedance of the established water quality standard for arsenic in the receiving water for the Field's Point WWTF when at maximum flow levels.

CDM Smith's calculations, based on this extensive historic data, show that the concentration of arsenic in the Field's Point WWTF receiving water will be in compliance with the arsenic water quality standard for at least several years after addition of RIRRC's wastewater. This multi-year window provides an opportunity to assess arsenic within the Pretreatment Plant and the Field's Point WWTF system. If removal of arsenic from RIRRC's wastewater is required at a future date, RIRRC will have both specific information [based on actual data from measurements of the impact of both the Pretreatment Plant and the Field's Point WWTF on the RIRRC effluent] and adequate time to design and implement a supplemental treatment system at the Pretreatment Plant based on the new effluent, if necessary.

Table 1
Summary of Recent Historic Flow and Arsenic Data in RIRRC Wastewater since January 2013

Year	Month	Average Flow Rate (gallons/day)	Average Arsenic Concentration (mg/L)	Loading (Pounds per day) (Note 2)
2013	January	265,279	0.28	0.62
	February	300,942	0.24	0.60
	March	257,027	0.28	0.60
	April	237,313	0.29	0.57
	May	206,107	0.33	0.57
	June	275,368	0.31	0.71
	July	231,317	0.21	0.41
	August	218,524	0.38	0.69
	September	207,124	0.40	0.69
	October	173,261	0.46	0.66
	November	160,108	0.48	0.64
	December	212,188	0.36	0.64
2014	January	264,445	0.27	0.60
	February	264,989	0.28	0.62
	March	256,477	0.3	0.64
	April	304,239	0.25	0.63
Average Monthly		239,669	0.32	0.62

Notes

1. Monthly flows and arsenic concentrations as shown on averages from daily total readings (flow) and from weekly samples collected during the month (arsenic concentration).
2. Loading calculated from monthly average flows and concentrations.

The Work Plan to evaluate the arsenic discharges, as summarized below, will consist of two steps.

First, starting in the summer of 2014, RIRRC will conduct a focused sampling and analysis program to assess the concentrations of arsenic both from RIRRC and at the Field's Point WWTF. This program is intended to confirm the assumptions used to estimate effluent concentrations and the form of arsenic (e.g., organic or inorganic) in the Field's Point effluent. This information will then be used to evaluate whether RIRRC's wastewater will potentially cause water quality standard violations related to arsenic.

Second, if additional treatment is determined to be required, RIRRC will evaluate alternative treatment approaches to reduce arsenic loadings from the Pretreatment Plant. RIRRC will initiate this work six months after the Pretreatment Plant is operational and treating the nitrogen compounds to the permit standard. The work will initially include bench scale evaluations of treatment alternatives in an effort to determine the best treatment technology, followed by a pilot scale evaluation, and then the development of a conceptual and final design for a supplemental treatment system.

The details of the Work Plan items are provided below.

Figure 1 is provided with the Work Plan to provide a schematic of the combined system at RIRRC as its wastewater is collected from the landfill-related sources, the location of the on-site equalization tanks and Pretreatment Plant currently under construction, and the Field's Point WWTF.

As RIRRC works with NBC to implement this Work Plan, there will be a series of alternative outcomes that may be implemented based on the results of the proposed tasks. CDM Smith has prepared Figure 2 which outlines an overall decision-tree and schedule for the proposed tasks to outline outcomes from each of the two tasks.

Estimated Arsenic Concentrations in Field's Point WWTF Effluent Discharge

CDM Smith has prepared the following calculation of the anticipated concentrations of arsenic in the Field's Point WWTF effluent and overall water quality standard in the receiving water after it begins to receive effluent from RIRRC.

Peak flows will be attenuated by the use of the on-site storage tanks. Based on detailed flow analysis performed by RIRRC and CDM Smith, the three future flow scenarios for RIRRC's wastewater are summarized in Table 2.

Table 2
Summary of Flow Scenarios of RIRRC Wastewater

Scenario	Average Daily Flow (gpd)	Peak Daily Flow (gpd)	Basis
Current Flow Conditions Including operation of Pretreatment Plant starting in May 2015 (Nov 2014 through May 2016)	240,000	325,000	Review of historic data for last two years incorporating use of new storage tanks to attenuate peaks
Initial Pretreatment Plant Operations and Initial Area of Phase VI Liner On-Line (May 2016 through Summer 2019)	320,000	450,000	Historic data review plus anticipated increases for initial Phase VI cell incorporating use of storage tanks
Long-Term Conditions (2019 to completion of Phase VI)	390,000	650,000	Long-term design flows for Pretreatment Plant

Note: Current flows rounded to nearest thousand.

Figure 1
Schematic Component Flowchart – RIRRC Wastewater and NBC System

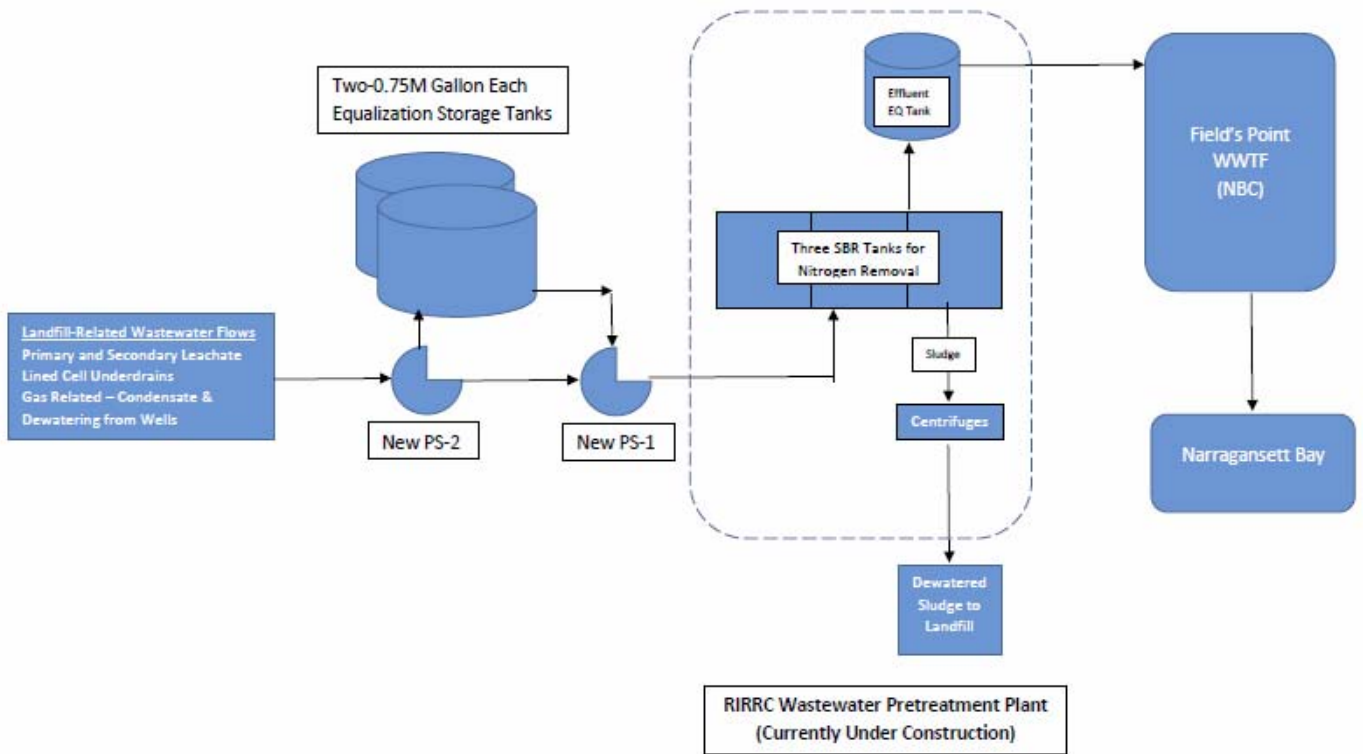
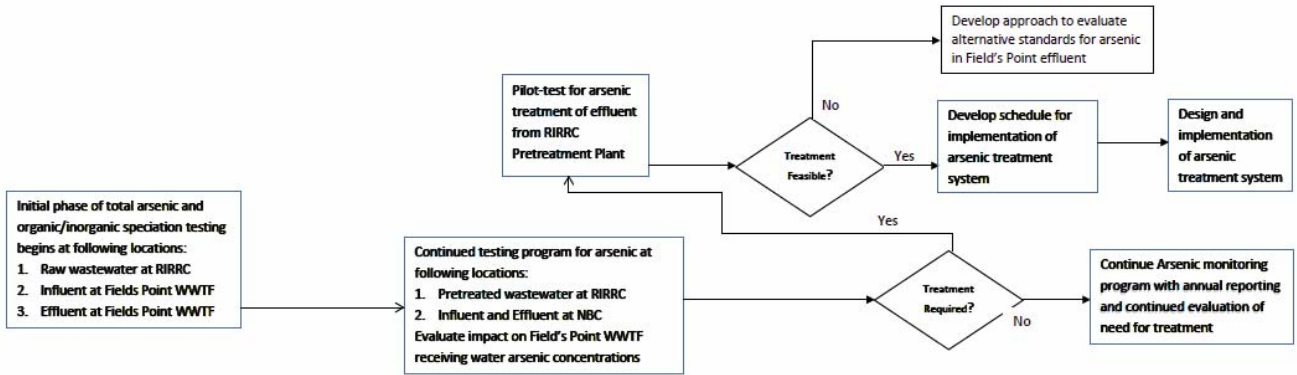


Figure 2
Decision Flowchart – Arsenic in RIRRC Wastewater and Impacts on NBC Fields Point WPCF Effluent



Timeline



Currently, the NBC samples for total arsenic in its influent and effluent at Field's Point WWTF at a frequency of one sample per week (influent) and one sample per month (effluent). Based on the NBC's published monitoring reports¹, the highest arsenic concentration in the discharge in the last two years is 1.49 µg/L, with typical levels being approximately 1.1 µg/L. The average flow at Field's Point WWTF in 2012 and 2013 is 40.06 and 42.7 million gallons per day (MGD), respectively. Using the 2013 average flow and the peak concentration of arsenic detected over the past two years, the estimated current amount of arsenic being discharged by the Field's Point WWTF is calculated as follows:

$$\text{Flow (MGD)} \times \text{Concentration (mg/L)} \times 8.34 \text{ conversion factor} = \text{pounds arsenic per day discharged}$$

$$(42.7 \text{ MGD}) \times (.00149 \text{ mg/L}) \times 8.34 = \underline{0.53 \text{ pounds arsenic per day discharged by Field's Point WWTF}}$$

Using the assumptions outlined in Table 3, below, CDM Smith estimated that the future allowable concentration of arsenic in the effluent from the NBC Field's Point WWTF is 3.54 µg/L. This estimate correlates to the separate prior calculations performed by NBC and RIDEM.²

Table 3

Summary of Assumptions Used to Develop Allowable Field's Point Effluent Concentrations for Arsenic

Calculation Criteria	Value	Basis
Background Concentration in Receiving Water	1.14 µg/L	RIDEM Letter dated June 10, 2011
Dilution Factor	20	
Allocation Factor	90%	
Water Quality Criteria	1.4 µg/L	Human Health criteria for Aquatic Organisms Only listed in Table 1, RIDEM's Ambient Water Quality Criteria and Guidelines Water Quality Regulations July 2006, Amended April 2013.
Removal of Arsenic in Field's Point WWTF or RIRRC Pretreatment Plant	10%	Conservative assumption based on current NBC data and results of RIRRC pilot tests

The estimated concentrations of the effluent from the Field's Point WWTF for the varying flow scenarios of RIRRC's wastewater is shown on Table 4 below. For the current flow condition, the arsenic loading from RIRRC was calculated based on the monthly average loading of arsenic since January 2013.

¹ Pretreatment Program Annual Reports Field's Point and Bucklin Point Districts, January 1, 2012 - December 31, 2012 and January 1, 2013 - December 31, 2013 (NBC, March 2013 and 2014, respectively).

² RIDEM Letter to Raymond Marshall, NBC Executive Director dated June 10, 2011 and NBC Memorandum to Thomas P. Uva, NBC Director for Planning, Policy & Regulation from James Kelly, Assistant Environmental Monitoring Manager dated March 14, 2013.

Estimated future loadings of arsenic from RIRRC are calculated using the average daily flow shown on Table 2 and a proportion of the current monthly average loading.

This conservative analysis indicates that the NBC will be in compliance with the effluent standard for arsenic during the initial two flow stages (see Table 2) that RIRRC will operate at over the next several years. Even if the maximum current loading is utilized for the existing average flows from RIRRC, NBC will remain within the allowable effluent limit.

Table 4
Summary of Estimated Final Concentration of Arsenic in Field's Point WWTF Receiving Water

Scenario	Average Daily Flow (gpd)	Loading of Arsenic from RIRRC (pound/day)	Calculated Final Concentration of Arsenic in NBC Field's Point Effluent (µg/L)	Field's Point WWTF Effluent in Compliance for Arsenic?
Current Flow Conditions Including operation of Pretreatment Plant starting in May 2015 (Nov 2014 through May 2016)	240,000	0.62	3.0	Yes
Initial Pretreatment Plant Operations and Initial Area of Phase VI Liner On-Line (May 2016 through Summer 2019)	320,000	$0.62 \times (320,000/240,000) = 0.83$	3.5	Yes
Long-Term Conditions (2019 to completion of Phase VI)	390,000	$0.62 \times (390,000/240,000) = 1.01$	4.0	Potentially No

Based on these estimates, CDM Smith believes that the effluent from the NBC's Field's Point WWTF will be in compliance with the RIDEM established regulatory standard for arsenic when the initial lined cells from Phase VI become operational.

Detailed Work Plan

The following details the work proposed by RIRRC to assess the potential for arsenic in RIRRC's wastewater to cause an exceedance in NBC's effluent as RIRRC's wastewater flows increase to the maximum discharge level.

Task 1: Future Wastewater Monitoring Program

RIRRC's current wastewater discharge permit with the City of Cranston requires extensive sampling of the RIRRC's wastewater. Over the past several years, RIRRC has performed significant sampling of the

individual sources that comprise the total wastewater flow as well as specific speciation testing of the combined influent arsenic to determine if the arsenic is in an inorganic form or bound with organic molecules. Separately, NBC has been conducting sampling of its influent and effluent for total arsenic on a weekly and monthly frequency, respectively. This effort provides a significant database on the current arsenic concentrations seen at the Field's Point WWTF. The information collected to date by both RIRRC and NBC has been used to develop the estimates of future arsenic discharges provided above.

CDM Smith proposes to augment the current program for arsenic testing of wastewater streams at both RIRRC and Field's Point as RIRRC connects to the NBC system, to fulfill the following objectives:

1. Confirm the assumptions made in the calculations presented above regarding the incremental impact of RIRRC's wastewater on meeting the regulatory water quality standard for arsenic in the Field's Point WWTF receiving water. Estimate an approximate timeline when increased flows from RIRRC caused by additional lined landfill cells coming on-line may create a water quality standard violation at the NBC discharge;
2. Develop an understanding of the changes in the type of arsenic (e.g., organic or inorganic) that occur as RIRRC's wastewater is treated at both Field's Point WWTF and the Pretreatment Plant;
3. Utilize the additional sampling to determine a removal efficiency for each treatment plant, since information from the pilot-testing performed at RIRRC, for the new pre-treatment plant, and a review of the data collected by NBC indicates that the treatment plant(s) will remove some amount of arsenic from the influent streams.
4. Determine acceptable arsenic loading conditions from RIRRC to keep NBC effluent in compliance by using the arsenic information gathered during the augmented monitoring program.
5. Augment the currently available information to evaluate potential treatment technologies that could be evaluated as part of a bench- and/or pilot-scale program.

The sampling program at both the Field's Point WWTF and RIRRC's Pretreatment Plant as proposed by CDM Smith is summarized in Table 5.

As the data is being collected and presented, RIRRC will provide NBC with a status report on a quarterly (e.g., every three months) frequency. These status reports will provide the data collected to date as well as a preliminary evaluation of the available information. One year after the Pretreatment Plant is fully operational, RIRRC will provide NBC and RIDEM with a summary report that will evaluate the data collected to date and provide an updated assessment of the impact of the addition of RIRRC's wastewater on the effluent concentrations from the Field's Point WWTF and make recommendations as to the future monitoring program.

**Table 5
Summary of Proposed Sampling Program**

Scenario	Sampling at RIRRC				Sampling at NBC			
	Sample Location	Sample Type	Frequency	Reason	Sample Location	Sample Type	Frequency	Reason
Pre-RIRRC Discharge to NBC Field's Point WWTF (July 2014 through October 2014)	Influent	N/A	N/A	N/A	Influent	Total As	1x/week	Current Frequency
	Effluent	Total As	1x/week	Current Cranston IPP Requirements	Effluent	Total As	1x/month	Current Permit Requirement
						Speciation	Two samples during period	Evaluate any changes in speciation from treatment at Field's Point
Before RIRRC Pretreatment Plant Operational (Nov 2014 through May 2015)	Influent			Same as Effluent	Influent	Total As	1x/week	Current Frequency
	Effluent	Total As	1x/week	Monitor As concentrations leaving RIRRC	Effluent	Total As	1x/month	Current Frequency
						Speciation	1x/month	Evaluate any changes in speciation from treatment at Field's Point
Initial Operations of RIRRC Pretreatment Plant (May 2015 through May 2016) See Note 2	Influent	Total As	1x/week	Monitor removal efficiency of Pretreatment Plant	Influent	Total As	1x/week	Current Permit Requirement
		Speciation	None	Not relevant		Speciation	Every 2 months	Assess influent arsenic types
	Effluent	Total As	2x/week	Develop database of concentrations in treated effluent	Effluent	Total As	1x/week	Evaluate compliance with water quality standard. Determine any removal in Field's Point WWTF
		Speciation	Bi-monthly	Confirm preliminary findings in full-scale		Speciation	Every 2 months	Assess arsenic type discharging from Field's Point WWTF
Long-Term	Sampling program to be established by NBC in IPP				Influent	Total As	1x/week	Current Frequency
					Effluent	Total As	1x/month	Current Frequency

Notes

1. Total arsenic testing shall be by EPA Method 200.7. Speciation testing shall be by Method IC-ICP-DRC-MS.
2. Sampling frequency at RIRRC Pretreatment Plant may be reduced based on review of results as program proceeds.
3. Speciation sampling at NBC may be reduced based on review of results as program proceeds.

Task 2: Bench- and Pilot-Scale Treatment Evaluation of Pretreated RIRRC Wastewater
If it is determined based on Task 1 that further potential for arsenic removal at RIRRC is required, RIRRC will initiate the second task of this Work Plan as outlined below. If required, Task 2 is anticipated to start approximately six months after the Pretreatment Plant is fully operational and meeting its discharge standards for nitrogen, and the evaluation of the arsenic data to date has been completed (Task 1), RIRRC proposes to commence with a bench- and pilot-scale testing program to determine methods for the reduction of arsenic from the pretreated wastewater prior to its discharge into the NBC system.

The following is a brief description of CDM Smith's outline of the proposed bench- and pilot-scale programs:

First, CDM Smith will evaluate the implementation of the arsenic removal in the existing SBR tanks. This evaluation will incorporate an analysis of the impact of arsenic treatment in the SBR tanks on cycle-times and treatment efficiency for nitrogen.

Second, if use of the SBR tanks is not successful or feasible, CDM Smith will conduct a series of evaluations of additional processes after the SBR's, which may include arsenic-specific adsorption media, additional separation tanks for chemical precipitation and coagulation, and select proprietary technologies.

The following preliminary work plan for Task 2 has been provided as an example of the approach that CDM Smith proposes, if needed. Based on the sampling performed in Task 1 and initial evaluations of the arsenic concentrations and form in RIRRC's treated effluent, RIRRC will prepare a detailed Work Plan for the bench- and pilot-testing that will evaluate potential doses of iron or aluminum salt coagulants required to produce a floc and the impacts of the high chemical oxygen demand (COD) of RIRRC's wastewater; the impact of the use of these coagulants on the pH of the wastewater and floc separation; and the amount of sludge generated per pound of arsenic removed.

Work Plan to Evaluate Arsenic Removal Integrated with Activated Sludge Treatment in the SBRs

Partial arsenic removal may be achieved by adding low to moderate doses of iron salts directly to the SBR activated sludge. If successful, this concept would avoid the need for a separate physical chemical treatment system. Instead, co-precipitated arsenic would be removed from the SBR with the waste activated sludge. Iron may provide a collateral benefit of improved activated sludge settling.

To evaluate this approach at bench scale, samples of the full scale activated sludge would be treated with several concentrations of ferric sulfate, supplemented with alkali as needed to compensate for the acidity and maintain a pH of approximately 7.5. Target iron doses for the initial tests would be between 20 to 80 mg/L. This concentration range is less than the prior bench scale tests, considering that:

- Not all of the arsenic has to be removed to reach the target effluent concentration
- Co-settling with the activated sludge solids will likely enhance colloid removal.

For the bench scale tests, the iron would be added and the pH adjusted, followed by aeration of the activated sludge to maintain an aerobic oxidation-reduction potential for approximately 30 minutes.

Then the sample would be allowed to settle for 30 minutes prior to collecting a supernate sample for analysis. This model could be readily adaptable to the full scale SBR sequence and an analysis of the overall impact of cycle times will be completed.

Anionic polymer (at a few mg/L) may be needed to enhance settling, as was the case in the bench scale tests.

Samples will primarily be analyzed for total and soluble arsenic, and total and soluble phosphorous.

Raw RIRRC wastewater	(control)
SBR treated wastewater supernate	(control- no iron)
SBR activated sludge (fully mixed)	(control- no iron)
SBR activated sludge supernate	20 mg/L Fe
SBR activated sludge supernate	40 mg/L Fe
SBR activated sludge supernate	60 mg/L Fe
SBR activated sludge supernate	80 mg/L Fe

Soluble arsenic samples will require filtration prior to preservation. RIRRC's wastewater samples with activated sludge solids are difficult to filter. Filtration can be achieved with a sandwich of a 10 micron nominal glass fiber pre-filter on top of a 0.45 micron membrane filter.

Evaluation of test results

If arsenic removal is sufficient to meet the target effluent concentration, the next step would be to begin adding the appropriate dose to the full scale system, along with the compensating alkali dose required to maintain the target pH. Iron also precipitates phosphorous. If the bench scale test analyses show a significant loss of soluble phosphorous in the activated sludge, it may be necessary to increase the phosphorous supplement feed rate in conjunction with iron addition.

If the bench scale tests show that arsenic removal is insufficient to meet the target effluent concentration

- Much of the remaining arsenic is soluble, the iron dose was probably inadequate to achieve co-precipitation; and
- Low soluble arsenic is coincident with high total arsenic, 30 minutes of settling was not adequate to provide the liquid-solids separation necessary. This would indicate that more coagulant and/or polymer, and/or filtration may be necessary. Based on the results, CDM Smith may run bench-scale isotherm tests on the wastewater.

Evaluation of Full Scale Implementation

Initial full scale tests should feed the iron salt and compensating alkali from 300 gallon totes. The iron dose would be increased to the target concentration in four steps (e.g., 25%, 50%, 75%, and 100%) at two week intervals while monitoring the impact on the activated sludge soluble phosphorous concentration, and the removal of COD, nitrogen and arsenic.

If the full scale tests are successful, the system could be upgraded with bulk-storage tanks for the chemicals.

Schedule

If necessary, the work for Task 2 outlined above will be completed according to the schedule shown on Figure 2. The schedule for any bench- and pilot-testing will commence in January 2016, after the Pretreatment Plant is anticipated to be fully operational for a period of six months, with a final report in November 2016.

CERTIFICATE TO DISCHARGE

the following types of process water:

LANDFILL LEACHATE DISCHARGES

into the facilities of the

Narragansett Bay Commission

is hereby granted to:

Rhode Island Resource Recovery Corporation

65 Shun Pike

Johnston, RI 02919

PERMIT NUMBER: P3412-004-1019

PERMIT EXPIRATION DATE: 10/31/2019

The discharge permit must be kept at the above address for inspection. Failure to comply with the rules and regulations of the Narragansett Bay Commission or with the conditions of the discharge permit will subject the permittee to fines of up to \$25,000 per violation per R.I.G.L. 46-25-25.3.

November 7, 2014
Initial Date of Issuance

/s/ Kerry M. Britt
Kerry M. Britt, Pretreatment Manager

***TYPICAL ZERO PROCESS
WASTEWATER-SANITARY
DISCHARGE PERMIT***



ZERO PROCESS WASTEWATER - SANITARY DISCHARGE PERMIT

Permit Number: P4100-103-1022
Company Name: **NICKEL BRASS AND COPPER WIRE, LLC**
Facility Address: 1 Horton Street, Providence, RI 02904
Mailing Address: 1 Horton Street, Providence, RI 02904
Facility President: Mr. Matthew Conte
Facility Authorized Agent: Mr. Matthew Conte
User Classification: Zero Discharge Copper Former
Categorical Standards Applicable: None

In accordance with R.I.G.L. §46-25-1 et. seq. and the Rules and Regulations For The Use Of Wastewater Facilities Within The Narragansett Bay Water Quality Management District, the Narragansett Bay Commission hereby grants a Zero Process Wastewater-Sanitary Discharge Permit to **Mr. Matthew Conte and Nickel Brass and Copper Wire, LLC**, hereinafter jointly referred to as **Permittee**. This permit authorizes the permittee to discharge only sanitary wastewater into the NBC's facilities in accordance with the terms and conditions of this permit. The discharge of any process wastewater streams to the NBC's sewer system shall constitute a violation of the permit. This permit consists of 13 pages with conditions A - T and Attachment A.

**This permit is effective upon receipt
and expires on October 31, 2022.**

Noncompliance with any term or condition of this permit shall constitute a violation of the NBC's Rules and Regulations and may subject the user to an **Administrative or Civil Penalty** of up to \$25,000 per violation per day as defined in R.I.G.L. §46-25-25.2. Willful or criminally negligent violations shall be punishable by the aforementioned fine and/or imprisonment as defined in R.I.G.L. §46-25-25.3.

For the **Narragansett Bay Commission:**

/S/ Kerry M. Britt
Kerry M. Britt, Pretreatment Manager
Narragansett Bay Commission

January 30, 2018
Date

Mr. Matthew Conte and Nickel Brass and Copper Wire, LLC hereby consents to this Zero Process Wastewater-Sanitary Discharge Permit. In so consenting, appropriate officers of **Nickel Brass and Copper Wire, LLC** have personally read and understood each of the numbered provisions in this Zero Discharge Permit. This permit allows **Nickel Brass and Copper Wire, LLC** to continue to discharge sanitary wastewater into the Narragansett Bay Commission sewer system while operating a process wastewater recycle system on the premises.

A corporation organized under the laws of _____,
composed of officers as follows:

<u>Please Type or Print</u>	<u>Signature</u>	
_____ President	_____	_____ Date
_____ Vice President	_____	_____ Date
_____ Secretary	_____	_____ Date
_____ Treasurer	_____	_____ Date

I have read and understood the NBC's Rules and Regulations and the conditions and procedures contained in this permit.

Company Authorized Agent(s) _____ **Company Seal**
Title _____
Signature _____

NOTE: The NBC will accept the person(s) named on page 2 of this permit as the company's authorized agent(s) until notified otherwise.

An authorized agent or authorized company representative is a person who is a principal executive officer or other corporate officer with signatory powers as per the company's by-laws or per a vote of the directors if the company is a corporation; a general partner or proprietor if the company is a partnership or sole proprietorship respectively; or a duly authorized representative, the individual designated above if such representative is responsible for the overall operation of the facility and has the authority to sign contracts, permits, permit applications, monitoring results and other documents in the company's name and otherwise bind the company. The **Permittee** may designate additional or new authorized agents by completing and submitting the enclosed Designation of Authorized Agent form.

The NBC will not accept documents signed by persons other than the Company's authorized agent(s) or authorized representative(s).

CONDITIONS TO PERMIT

A. Zero Process Discharge-Wastewater Recycle Pretreatment System Requirements:

1. The permittee shall operate and maintain a Zero Process Discharge Wastewater Recycle Pretreatment System as proposed in the plans that have been received by the NBC on November 8, 2017. This pretreatment system shall be used specifically for the use of recycling wastewater or eliminating discharges from the following operations:
 - a. Wire Drawing;
 - b. Wire Cooling from Furnace.
2. The permittee shall make no changes to the process tanks or pretreatment system without first submitting plans to the NBC for approval. Only those solutions indicated as being discharged to the treatment system on the plans received by the NBC on November 8, 2017 may be treated on-site in the pretreatment equipment.
3. If any problems with the recycle system arise or if the permittee would like to connect to the sewer for the purpose of discharging any process wastewater streams, the permittee must notify the NBC, in writing, and obtain written approval from the NBC before resuming discharge or making any physical changes to process tanks, the pretreatment recycle system, or associated piping.
4. The permittee shall cap off and seal all process wastewater sewer drain lines in the facility and no process wastewater may be discharged to the sewer through sanitary or any other sewer connection.
5. The permittee shall post signs at all sanitary sewer connections stating the following: "Discharge of Chemicals Prohibited by Rhode Island Law".
6. Failure to notify NBC personnel prior to resuming process wastewater discharges to the sewer may be considered an intentional violation of the NBC's Rules and Regulations.

B. Prohibitions:

1. The permittee is strictly prohibited from discharging any type of process wastewater streams to the NBC sewer system including all prohibited substances as defined in the Rules and Regulations of the Narragansett Bay Commission. Prohibited discharges include but are not limited to the following:
 - a. Wire Drawing Solutions;
 - b. Cyanide Solutions
 - c. Acid/Alkaline Solutions
 - d. Metal Cleaning Solutions;

- e. Rinse Solutions;
 - f. Soap Cleaning Solutions;
 - g. Non-Contact Cooling Wastewaters;
 - h. Degreasing Solutions;
 - i. Solvents;
 - j. Sludges.
2. The permittee is strictly prohibited from discharging any process wastewater or sanitary wastestreams containing pollutants with concentrations in excess of the effluent limitations specified in Table 1 on page 13, attached hereto and incorporated herein.
 3. The permittee shall not use portable pumps and flexible hoses within the facility for transfer of solutions without written authorization from the NBC.

C. Record Keeping Requirements:

1. The permittee shall be responsible for maintaining a logbook documenting all records pertaining to the operation of the pretreatment system, including but not limited to the following:
 - a. Amount of sludge generated on a monthly basis;
 - b. Completed manifest forms for hazardous materials;
 - c. Maintenance performed on the pretreatment system and other maintenance requests specified by inspectors of the NBC.
2. Records which substantiate any information supplied in permit applications, Self-Monitoring Compliance Reports and any other informational requirements of the Rules and Regulations or any applicable State or Federal law are to be kept by the permittee for a period of at least three (3) years unless a dispute or litigation involving the subject of those records is pending, in which case these records are to be kept by the permittee for a period of at least three (3) years following resolution of such litigation or dispute.

D. Certification of No Discharge:

The permittee shall submit written certification monthly stating that the permittee has made no process wastewater discharges to the sewer during the previous one (1) month period. This certification must be received within thirty (30) days from the end of the required reporting month. This certification must contain monthly water meter readings and must be made on the form designated as Zero Process Wastewater Discharge Certification, Attachment A.

E. Spill and Slug Control Plans:

Within one (1) month after the effective date of this permit, the permittee must develop and implement a Spill and Slug Prevention Control and Countermeasures Plan and must complete and submit the NBC document Guidance For Development of Spill and Slug Prevention Control Plan And Facilities For NBC Sewer Users. This plan shall include detailed plans of equipment and structures that have been or will be installed to prevent incidental or accidental spills of untreated wastewater or raw materials from entering the NBC facilities. This plan shall include a description of the operating procedures to contain and handle the spill and shall address the questions in the enclosed copy of the guidance document for the development of the plan. The permittee must obtain NBC approval of the Spill and Slug Prevention Control Plan.

F. Toxic Organic/Solvent Management Plan:

Within one (1) month from the effective date of this permit, the permittee must submit the NBC guidance document entitled Toxic Organic/Solvent Management Plan. This plan must specify the toxic organic compounds used, the method of disposal used instead of dumping, and procedures for ensuring that toxic organic compounds do not routinely spill or leak into the NBC wastewater system. The permittee must obtain NBC approval of the Toxic Organic/Solvent Management Plan. Within one (1) month from the approval date of the Toxic Organic/Solvent Management Plan the permittee must implement the approved Toxic Organic/Solvent Management Plan and maintain all associated facilities to ensure that toxic organic compounds are not routinely discharged or spilled into the NBC sewer system. A list of toxic organic compounds and a sample Toxic Organic/Solvent Management Plan are enclosed.

G. Emergency/Routine Notification Requirements:

1. Emergency Notification of Accidental/Incidental Discharge

In the case of an accidental discharge into the NBC facilities, including any discharge that would violate a Federal prohibition under 40 CFR 403.5(b), it is the responsibility of the permittee to notify the NBC of the incident immediately by calling the Pretreatment Section at 461-8848 or during non-business hours at its twenty-four (24) hour Emergency Hotline Number, 222-6781. Within five (5) days following an accidental discharge, the permittee shall submit to the NBC a detailed written report describing the cause and volume of the discharge and the measures to be taken by the user to prevent similar future occurrences by the permittee.

2. Routine Notification of Operational Changes

The permittee must notify the NBC in writing at least thirty (30) days prior to instituting any changes in operations that may affect the quality or quantity of the process wastestream discharged to the sewer system or may affect the adequacy of spill control measures. Operational changes that may affect the quality or quantity of the process wastestream or the adequacy of spill control measures include, but are not limited to, the following:

- a. Addition, removal, or relocation of process tanks or solutions;
- b. Installation of new wastewater generating process operations;
- c. Relocation of process operation piping or valving resulting in a new or different point of discharge;
- d. Modification of any pretreatment process or procedure;
- e. Installation or modification of pretreatment equipment or associated piping;

Should the permittee be unsure as to whether an operational change requires written NBC notification, it is strongly recommended that the permittee contact the NBC by telephone prior to instituting the proposed change in operations. This will ensure that the proper notification is provided to the NBC. With respect to the thirty (30) day written notification requirement, should the permittee require immediate approval to make an operational change in order to accommodate business, the NBC will make every effort to accommodate the permittee so as to not impede operations at the facility. The discretion used by the NBC with respect to this issue is dependent on the magnitude of the proposed operational changes and the resulting effect on the characteristics of the wastestream and/or the spill control measures at the facility. The permittee may notify the NBC of the following operational changes by telephone rather than in writing as required above:

- f. Change from the hours of facility operation specified in the discharge permit application;
- g. Change in the personnel responsible for the proper operation of pretreatment equipment.

H. Right of Entry:

The NBC, upon presenting identification and appropriate credentials, is authorized to enter the premises of the permittee during working hours and at other reasonable times for the purposes of inspection, sampling, reading water meters, records inspecting and copying and as otherwise authorized under R.I.G.L. §46-25-25.1. Reasonable hours in the context of inspection and sampling include any time the NBC has reason to believe that violation of the permit or of the Rules and Regulations is occurring.

I. Permit Fee:

The permittee agrees to pay an annual permit fee and all sewer user fees assessed by the NBC in accordance with rates and fees approved by the Public Utilities Commission pursuant to R.I.G.L. §39-1-1 et seq. and §46-25-1 et seq. The permittee agrees to reimburse the NBC for the cost of the collection of any and all fees associated with the permit, including reasonable attorney's fees.

J. Authorization To Do Business:

The permittee is a limited liability company. The permittee shall ensure the limited liability company be registered with the Rhode Island Secretary of State Corporations Division. Nickel Brass and Copper Wire, LLC shall remain in good standing with the Rhode Island Secretary of State Corporations Division at all times. In the event Nickel Brass and Copper Wire, LLC has its charter or existence revoked by the Rhode Island Secretary of State, the permittee shall notify the NBC in writing within thirty (30) days of notice of such revocation.

In the event Nickel Brass and Copper Wire, LLC is no longer in good standing with the Rhode Island Secretary of State or the charter is revoked for any reason, any individual named as a co-permittee or any individual exercising ownership of Nickel Brass and Copper Wire, LLC shall be subject to the terms and conditions of the permit as if named herein.

K. Closing, Selling, Moving the Business:

If the permittee intends to close, liquidate, sell or move the permitted premises, located as referenced on page 1 of this permit, the permittee must notify the NBC in writing at least thirty (30) days prior to selling or ceasing business and/or disposing of any process waste associated with the move or the cessation of business.

L. Transfer of Permit Prohibited:

Wastewater discharge permits are issued to a specific user for a specific operation. This permit may not be reassigned, transferred or sold to a new owner, new user, different premises, or a new or changed operation without the express written permission from the NBC. The permittee shall provide a copy of this permit to any prospective purchaser of said facility referenced on page 1 of this permit at least fourteen (14) days prior to closing on the business or property.

M. Permit Violations:

1. Enforcement Costs

The permittee agrees to reimburse the NBC for the cost of enforcing the permit, including reasonable attorneys' fees, if violations of the permit are found by a hearing officer during the course of an administrative hearing or if such decision is appealed, then in a court of competent jurisdiction.

2. Damage to the Facilities

The permittee agrees to indemnify and hold harmless the NBC from and against any liability, loss, cost, expense or actual damage (including reasonable attorneys' and accountants' fees incurred in defending or prosecuting any claim for any such liability, loss, cost, expense or damage) suffered by the NBC and caused by discharges from the permittee, either singly or by interaction with other wastes.

3. Violations of the NBC's Permit

The permittee agrees to reimburse the NBC for any penalty and additional operating expense incurred by the NBC for violations of the NBC's NPDES, RIPDES, or any other state or federal permit which were caused by discharges from the permittee, either singly or by interaction with other wastes.

4. Penalties for Violations

Article 10 of the NBC's Rules and Regulations provides that any person who violates a permit condition is subject to an administrative or civil penalty of up to \$25,000 per violation per day as defined in R.I.G.L. §46-25-25.2. Willful or criminally negligent violations shall be punishable by the aforementioned fine and/or imprisonment as defined in R.I.G.L. §46-25-25.3.

N. Revocation/Suspension of Permit:

1. Violations of the conditions of this permit, the NBC's Rules and Regulations, Act, and applicable state or Federal regulations may result in the revocation of this permit in accordance with the due process requirements of the NBC's Rules and Regulations. Violations that may result in revocation of this permit include, but are not limited to, the following:

- a. Failure to accurately report the wastewater constituents and characteristics of the discharge;
- b. Failure to report changes in operations or wastewater constituents;
- c. Failure to allow NBC personnel statutorily authorized access for the purposes of inspection or monitoring;
- d. Failure to adhere to an approved compliance schedule;

- e. Failure to comply with administrative orders or settlement agreements;
- f. Failure to pay authorized fees and user charges;
- g. Violation of any other applicable permit conditions.

This list is for illustrative purposes and is not intended to be inclusive.

2. The Executive Director may suspend this wastewater discharge permit should the permittee cease operations for any period exceeding one (1) month. The suspension will not act as a revocation of the permit, but rather as a temporary suspension of the user's rights under the permit while operations have ceased. During such suspension, the user's connection to the facilities shall be plugged. The user shall still be required to pay the permit fee, since the permit itself will not be revoked. During such suspension, the user shall be disconnected from the facility. The Commission shall have the authority to make periodic inspections during this time to determine whether the user is continuing to discharge regulated wastewater. Such discharge may be considered grounds for revocation of the wastewater discharge permit.

O. Civil and Criminal Liability:

Nothing in this permit shall be construed to relieve the permittee from civil and/or criminal penalties for noncompliance with the NBC's Rules and Regulations or State or Federal laws or regulations.

P. Duty To Comply:

1. The permittee must comply with all conditions of this permit. Failure to comply with the requirements of this permit may be grounds for enforcement proceedings including administrative, civil and/or criminal penalties, injunctive relief and summary abatements.
2. Compliance with this permit does not relieve the permittee of its obligation to comply with any or all pretreatment regulations, standards or requirements under local, State and Federal laws, including any such regulations, standards, requirements, or laws that may become effective during the term of this permit.

Q. Removed Substances:

Solids, sludges, filter residue or other pollutants removed in the course of treatment or control of waters or wastewaters shall be disposed of in accordance with §405 of the Clean Water Act and subtitles C and D of the Resource Conservation and Recovery Act. A Resource Conservation and Recovery Act (RCRA) informational brochure is attached to this permit to inform you of your RCRA obligations.

R. Permit Modification/Renewal:

1. This permit may be modified for various reasons, including but not limited to the following:
 - a. To incorporate any new or revised Federal, State, or local pretreatment standards or requirements;
 - b. Material or substantial alterations or additions to permittee's process operations, discharge volume or discharge characteristics which were not considered in the drafting of this permit;
 - c. A change in any condition regarding either the industrial user or the POTW that requires either a temporary or permanent reduction or elimination of the authorized discharge;
 - d. Information indicating that the permitted discharge poses a threat to the NBC collection or treatment system, POTW personnel, the general public, or the receiving waters;
 - e. Violation of any terms or conditions of the permit;
 - f. Misrepresentation or failure to disclose fully all relevant facts in the permit application or in any required reporting;
 - g. Revision of or a grant of variance from such categorical standards pursuant to 40 CFR §403.13;
 - h. To correct typographical or other errors in the permit;
 - i. To reflect transfer of the facility ownership and/or operation to a new owner/operator;
 - j. Upon request of the permittee, provided such request does not create a violation of any applicable requirements, standards, laws, or rules and regulations.

The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

2. If the permittee wishes to continue to discharge after the expiration date of this permit, an application must be filed for a permit renewal in accordance with the requirements of Article 8 of the NBC's Rules and Regulations a minimum of ninety (90) days prior to the expiration date.

S. Integration:

This permit represents the entire agreement and understanding of the parties hereto to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered hereunder. This permit may not be modified or altered except in accordance with the provisions of Article 8 of the Rules and Regulations. All terms used in this permit shall be construed as defined under Article 2 of the Rules and Regulations.

T. Jurisdiction:

This permit shall be administered and interpreted under the laws of the State of Rhode Island. Jurisdiction of litigation arising from this permit shall be in the State of Rhode Island. If any part of this permit is found to be in conflict with applicable laws, such part shall be inoperative, null and void insofar as it is in conflict with said law, but the remainder of this permit shall be in full force and effect.

TC:NJD:ad

Attachments:

- Designation of Authorized Agent Form
- RCRA Handbook
- Toxic Organic/Solvent Management Plan
- Spill and Slug Prevention Control Plan
- Monthly Zero Process Wastewater Discharge Certification

Table 1

NBC Effluent Discharge Limitations
Field's Point District

<u>Parameter</u>	<u>Limitation (Max)</u>
Total Toxic Organics (TTO)	2.13
Biochemical Oxygen Demand (BOD ₅)	300.00*
Total Suspended Solids (TSS)	300.00*
Total Oil and Grease (fats, oils and grease)	125.0
Oil and Grease (mineral origin)	25.0
Oil and Grease (animal/vegetable origin)	100.0
pH range (at all times)	5.0 - 11.0 s.u.

<u>Parameter</u>	Daily Maximum Composite for 1 day (mg/l)	Average 10 day (mg/l)
Cadmium (Total)	0.11	0.07
Chromium (Total)	2.77	1.71
Copper (Total)	1.20	1.20
Cyanide (Total)	0.58	0.58
Lead (Total)	0.60	0.40
Mercury (Total)	0.005	0.005
Nickel (Total)	1.62	1.62
Silver (Total)	0.43	0.24
Zinc (Total)	2.61	1.48

All limitations are in units of mg/l unless otherwise specified.

* Exceeding this discharge limitation may be permitted but would be subject to a surcharge in accordance with rates approved by the Public Utilities Commission and in accordance with R.I.G.L. §39-1-1 et seq.

Attachment A

Zero Process Wastewater Discharge Certification

For the Month of _____, 20__

Company Name: _____

Address: _____

RETURN TO:
Narragansett Bay Commission
Pretreatment Program
2 Ernest Street
Providence, RI 02905-5502

I, _____, as authorized representative of _____, do hereby decree that no process wastewater was discharged into the Narragansett Bay Commission sewer system for the past month.

Date of Meter Readings: _____

<u>Meter Number</u>	<u>Water Meter Readings</u>	<u>Units (cf, gal.)</u>
Meter #1	_____	_____
Meter #2	_____	_____
Meter #3	_____	_____

I certify under penalty of law that this document and all attachments were properly prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for known violations.

Authorized Representative Signature

Date

***TYPICAL SEPTAGE HAULER
WASTEWATER DISCHARGE PERMIT***



NARRAGANSETT BAY COMMISSION SEPTAGE DISCHARGE PERMIT

Permit Number: B8000-142-0523
Company Name: **ABM ENTERPRISES, LLC**
Company President: Mr. Kirk Mangum
Facility Address: 38 East Street, West Warwick, RI 02893
Mailing Address: 38 East Street, West Warwick, RI 02893
DEM License Number: RI-958

In accordance with Title 46, Chapter 25 (Act) of Rhode Island General Laws and in accordance with the Rules and Regulations For The Use Of Wastewater Facilities Within The Narragansett Bay Water Quality Management District (Rules and Regulations), the Narragansett Bay Commission (NBC) hereby authorizes **Mr. Kirk Mangum and ABM Enterprises, LLC** hereinafter jointly referred to as **Permittee**, to discharge residential quality septage to the NBC Lincoln Septage Receiving Station. The Permittee must adhere to the terms, conditions, and procedures of this permit, the Rules and Regulations of the NBC, and all other applicable federal, state, and local regulations. Any changes to the information initially provided to the NBC by the Permittee in the permit application must immediately be reported to the NBC. This permit is not transferable without the written consent of the NBC. If the Permittee wishes to continue to discharge after the expiration date of this permit, an application must be filed for a permit renewal in accordance with the requirements of Article 8 of the NBC's Rules and Regulations a minimum of ninety (90) days prior to the expiration date.

The permittee is authorized to discharge residential quality septage to the NBC Lincoln Septage Receiving Station from the vehicles listed in Attachment A of this permit. This permit consists of two pages with Conditions 1 through 15 and Septage Permit Attachment A.

The permittee shall at all times follow the procedures specified in Attachment A of this permit for adding new septage vehicles and for discharging at the NBC Lincoln Septage Receiving Station.

**This permit becomes effective upon receipt
and expires on May 31, 2023.**

Noncompliance with any terms or conditions of this permit shall constitute a violation of the NBC's Rules and Regulations and may subject the user to an **Administrative or Civil Penalty** of up to \$25,000 per violation per day as defined in R.I.G.L. §46-25-25.2. Willful or criminally negligent violations shall be punishable by fines and/or imprisonment as defined in R.I.G.L. §46-25-25.3.

For the **Narragansett Bay Commission**:

Kerry M. Britt, Pretreatment Manager
Narragansett Bay Commission

Date

CONDITIONS

All terms used herein unless otherwise indicated shall be construed as defined under Article 2 of the NBC Rules and Regulations.

1. Location of Discharge: Septage may be discharged only at the NBC Lincoln Septage Receiving Station or other authorized location as the Commission may designate.

2. Origins of Septage: Septage to be discharged to the Commission's facilities must originate from domestic sources within the geographic boundaries of the State of Rhode Island.

3. Prohibitions: The permittee is strictly prohibited from discharging any prohibited substances detailed in the Rules and Regulations of the Narragansett Bay Commission. The discharge of grease or septage loads containing grease is strictly prohibited by this permit. Mixing or blending of grease with septage loads is strictly prohibited. The permittee is strictly responsible for ensuring that loads containing grease are not taken to the NBC Lincoln Septage Receiving Station or enforcement action may result against the permittee.

4. Procedures for Discharging Septage: The permittee agrees to adhere to the NBC Septage Discharge Procedures, as detailed in Septage Discharge Permit Attachment A.

5. Permit Fee: The permittee agrees to pay an annual permit fee if applicable and all other fees assessed by the Commission in accordance with rates and fees approved by the Public Utilities Commission pursuant to R.I. General Law 39-1-1 et seq. and §46-25-1 et seq. The permittee agrees to reimburse the NBC for the cost of the collection of any and all fees associated with the permit, including reasonable attorney's fees.

6. Records Retention: Records which substantiate any information supplied in permit applications, load manifest forms and any other informational requirements of the Rules and Regulations, or any applicable state or federal law, are to be kept by the permittee for a period of three (3) years, unless a dispute or litigation involving the subject of those records is pending, in which case these records are to be kept by the permittee for a period of three (3) years following resolution of such litigation or dispute.

7. Jurisdiction: This permit shall be administered and interpreted under the laws of the State of Rhode Island. Jurisdiction of litigation arising from this permit shall be in the State of Rhode Island. If any part of this permit is found to be in conflict with applicable laws, such part shall be inoperative, null and void insofar as it is in conflict with said law, but the remainder of this permit shall be in full force and effect.

8. Integration: This permit represents the entire agreement and understanding of the parties hereto to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered hereunder. This permit may not be modified or altered except in accordance with the provisions of the NBC Rules and Regulations.

9. Transfer of Permit Prohibited: Wastewater discharge permits are issued to a specific user for a specific operation. This permit may not be reassigned, transferred or sold to a new owner, new user, or different vehicle without the express written permission from the NBC. The permittee shall provide a copy of this permit to any prospective purchaser of said business referenced on page 1 of this permit at least fourteen (14) days prior to closing on the business or property. The new owner must apply for and be issued a new permit before discharges will be allowed.

10. Enforcement Costs: The permittee agrees to reimburse the Commission for the cost of enforcing the permit, including reasonable attorneys' fees, if violations of the permit are found by a hearing officer during the course of an administrative hearing or if such decision is appealed, then in a Court of competent jurisdiction.

11. Damage to the Facilities: The permittee agrees to indemnify and hold harmless the Commission from and against any liability, loss, cost, expense or actual damage (including reasonable attorneys' and accountants' fees incurred in defending or prosecuting any claim for any such liability, loss, cost, expense or damage) suffered by the Commission and caused by discharges from the permittee, either singly or by interaction with other wastes. If, after the discharge, further analysis of the waste shows it to be in violation of the Commission's wastewater discharge limitations, the Commission may impose fines, pursuant to R.I. General Laws 46-25.

12. Violation of the Commission's Permit: The permittee agrees to reimburse the Commission for any penalty and additional operating expense incurred by the Commission for violations of the Commission's NPDES, RIPDES, or any other state or federal permit which were caused by discharges from the permittee, either singly or by interaction with other wastes. Violations of this permit include but are not limited to the following: unauthorized discharge into Commission facilities, discharge without a load ticket or properly completed manifest form, failure to pay fees, and violation of any other applicable laws or regulations.

13. Penalties for Violations: Article 10 of the NBC's Rules and Regulations provides that any person who violates a permit condition is subject to an administrative or civil penalty of up to \$25,000 per violation per day as defined in R.I.G.L. §46-25-25.2. Willful or criminally negligent violations shall be punishable by the aforementioned fine and/or imprisonment as defined in R.I.G.L. §46-25-25.3.

14. Revocation of Permit: Violations of the conditions of this permit, the NBC's Rules and Regulations, Act, and applicable state or Federal regulations may result in the revocation of this permit in accordance with the due process requirements of the NBC's Rules and Regulations. Violations that may result in revocation of this permit include, but are not limited to, discharging or dumping grease, discharging septage into unauthorized locations, falsification of documents, including permit applications or manifest, etc.

15. Duty to Comply/Civil and Criminal Liability: The permittee must comply with all conditions of this permit. Failure to comply with the requirements of this permit may be grounds for enforcement proceedings including administrative, civil and/or criminal penalties, injunctive relief and summary abatements. Nothing in this permit shall be construed to relieve the permittee from civil and/or criminal penalties for noncompliance with the NBC's Rules and Regulations or State or Federal laws or regulations.

Septage Discharge Permit Number B8000-142-0523
Attachment A
ABM ENTERPRISES LLC

PERMITTED VEHICLES:

VEHICLE TYPE	REGISTRATION NUMBER	TRUCK VIN NUMBER	CAPACITY (GALLONS)
TRUCK	82780	1FT8W4DPXHEF4140	520

Procedure for Adding Vehicle(s) to the Permit

1. The permittee must obtain appropriate registrations, insurance and DEM permits for the vehicle(s).
2. The permittee must make an appointment with the NBC Pretreatment personnel to determine the volume of the vehicle(s).
3. The volume of the vehicle is to be determined under NBC oversight as follows:
 - a. The empty vehicle is to be brought to the NBC treatment plant at a scheduled time to be inspected to ensure that it is empty.
 - b. The vehicle will then be weighed empty.
 - c. The vehicle will then be brought back to the NBC plant to be filled with plant water.
 - d. The vehicle will then be reweighed full.
 - e. The vehicle may discharge this water back at the NBC plant.
The difference in weight will be used to determine the volume of the vehicle in gallons.
4. The permittee will be responsible to pay any costs associated with weighing the vehicle(s).
5. NBC personnel will affix a computer chip and volume sticker to the vehicle(s).
6. The Wastewater Discharge Permit will then be revised to include the additional vehicle(s).
7. The permittee may not discharge septage to the NBC receiving station from the new vehicle(s) until the revised permit is issued.

Septage Facility Discharge Procedures

1. The permittee must establish and maintain an account with a positive cash balance with the NBC Customer Service Section.
2. The permittee must ensure each vehicle permitted to discharge must have a computer chip, permitted vehicle decal and volume decal affixed to it.
3. The permittee must ensure the manifest form is completed in its entirety prior to proceeding to the septage facility and submitted to the NBC operator when the vehicle is checked in.
4. The permittee must ensure the volume of the vehicle meets NBC volume/time restrictions.
5. The NBC operator must scan the computer chip affixed to the vehicle.
6. Activate the gate and enter the facility.
7. Obtain a sample of the load from the discharge line of the vehicle.
8. The NBC operator will test the sample and may approve truck for discharge or may reject the load.
9. After NBC approval is granted, the permittee must connect the hose to the station receiving port and may begin discharge.
10. After the discharge is complete, disconnect the hose.
11. The permittee must wash any drippage and/or spillage into drains.
12. The permittee must exit the station.

MM:NPD:ad

***TYPICAL RESTAURANT
WASTEWATER DISCHARGE PERMIT***



WASTEWATER DISCHARGE PERMIT

Permit Number: P8500-442-0123

Company Name: **REBELLE ARTISAN BAGELS**

Facility Address: 110 Doyle Ave, Providence, RI 02906

Mailing Address: 74 Savoy Street, Providence, RI 02906

Facility President: Ms. Andrea Pagan

Facility Authorized Agent: Ms. Andrea Pagan

User Classification: Restaurant/Food Preparation Operations

Categorical Standards Applicable: None

By virtue of Rhode Island's General Laws Title 46 Chapter 25 (Act) and in accordance with the Rules And Regulations For The Use Of Wastewater Facilities Within The Narragansett Bay Water Quality Management District (Rules and Regulations), **Ms. Andrea Pagan and Rebelle Artisan Bagels**, hereinafter jointly referred to as **Permittee**, is hereby authorized to discharge process wastewater from the above identified facility in accordance with the terms and conditions set forth in this permit.

All discharges authorized herein must be consistent with the effluent limitations, monitoring requirements and other conditions set forth in this permit. The discharge of any pollutant not identified in this permit or any pollutant identified in this permit at a level in excess of that authorized shall constitute a violation of the permit. This permit consists of 13 pages with conditions A - T.

**This permit becomes effective upon receipt
and expires on January 31, 2023**

Noncompliance with any term or condition of this permit shall constitute a violation of the NBC's Rules and Regulations and may subject the user to an **Administrative or Civil Penalty** of up to \$25,000 per violation per day as defined in R.I.G.L. §46-25-25.2. Willful or criminally negligent violations shall be punishable by the aforementioned fine and/or imprisonment as defined in R.I.G.L. §46-25-25.3.

For the **Narragansett Bay Commission:**

/s/Kerry M. Britt
Kerry M. Britt, Pretreatment Manager
Narragansett Bay Commission

February 9, 2018
Date

NOTE: The NBC will accept the person(s) named on this permit as the **Permittee's** authorized agent(s) until notified otherwise.

An authorized agent or authorized company representative is a person who is a principal executive officer or other corporate officer with signatory powers as per the **Permittee's** by-laws or per a vote of the directors if the **Permittee** is a corporation; a general partner or proprietor if the **Permittee** is a partnership or sole proprietorship respectively; or a duly authorized representative of an individual designated above if such representative is responsible for the overall operation of the facility and has the authority to sign contracts, permits, permit applications, monitoring results and other documents in the company's name and otherwise bind the **Permittee**. The **Permittee** may designate additional or new authorized agents by completing and submitting the enclosed Designation of Authorized Agent form.

The NBC will not accept documents signed by persons other than the Company's authorized agent(s) or authorized representative(s).

CONDITIONS TO PERMIT

A. Effluent Discharge Limitations:

1. The permittee shall at all times comply with the effluent limitations specified in Table 1 on page 13, attached hereto and incorporated herein. The permittee shall comply with all discharge limitations and prohibitions contained in Article 5 of the NBC's Rules and Regulations, as well as all other provisions of those Rules, and any other applicable State or Federal standards, including but not limited to the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq. and R.I.G.L. §46-12-1 et seq. The permittee shall at all times comply with 40 CFR §403.5 and may not introduce into the NBC's facilities any pollutants which shall violate the general or specific prohibitions including but not limited to discharges resulting in pass through or interference situations at the NBC's facilities.
2. The permittee shall not increase the use of process water or dilute a discharge in any way as a partial or complete substitute for adequate treatment to achieve compliance with the above standards.

B. Permitted Discharges:

1. The permittee is authorized to discharge the following waste, solutions, or process wastewater streams to the NBC's facilities:
 - a. Treated Food Preparation Wastewater;
 - b. Treated Dish, Pot, and Equipment Washwater.
2. No other process wastewater is to be discharged to the sewer unless specifically approved by the NBC in writing.

C. Prohibitions:

1. The permittee is strictly prohibited from discharging any prohibited substances detailed in the Rules and Regulations of the Narragansett Bay Commission. Prohibited discharges include, but are not limited to, the following:
 - a. Fryolator/Cooking Oils and Grease;
 - b. Ground Food, Food Products, or Solid Kitchen Waste;
 - c. Degreasing Solutions;
 - d. Solvents;
 - e. Sludges;
 - f. Fuel or Lubricating Oils.

2. The permittee is strictly prohibited from discharging any process wastewater streams other than those specified in Section B(1) of this permit or wastestreams containing pollutants with concentrations in excess of the effluent limitations specified in Table 1, attached hereto and incorporated herein.
3. The permittee is prohibited from discharging any solution or chemicals which might interfere with the proper operation of the automatic grease removal unit or may cause a violation of the NBC's Rules and Regulations.
4. The use of garbage grinders, food macerators, or other equipment used for the purpose of discharging solid waste to the sewer system is strictly prohibited.

D. Pretreatment Requirements:

1. The permittee must provide and maintain an easily accessible sample location downstream of each process discharge specified in Section B(1) of this permit. A total of one (1) sample location must be provided and must collect wastewater from the process operations indicated as follows:

Sample Location #1 - Sample port on the discharge pipe from the automatic grease removal unit, collecting all process discharges specified in Section B(1)(a and b) of this permit.

The permittee is prohibited from discharging dilution wastestreams, such as sanitary and non-contact cooling water into any process wastewater sampling location. Dilution wastestreams must discharge downstream of the process wastewater sampling location. The discharge through Sample Location #1 must be in compliance with the effluent limitations specified in Section A and Table 1 of this permit at all times.

2. The permittee has installed an automatic grease removal unit in conformance with the plans approved by the NBC on July 26, 2017. The grease removal unit shall be fully operational on a twenty-four (24) hour basis whenever kitchen operations are being conducted.
3. The permittee is responsible for operating and maintaining the automatic grease removal unit so that the effluent limitations are met at all times. The permittee shall also be responsible for maintaining all records pertaining to the operation of the grease removal unit including, but not limited to, the following:
 - a. The automatic grease removal unit with all associated strainers must be inspected every workday to determine whether the system is functioning normally or in need of cleaning, grease disposal or any corrective measures;
 - b. A grease removal unit logbook must be maintained at the permittee's facility and must be located near the grease removal unit. The logbook must include such information as outlined under Section F, Record Keeping Requirements. The

logbook must be kept on the premises at all times and available to NBC personnel for their review;

- c. Only kitchen wastewater from pot sinks, wok stations, and dinnerware/utensil prerinsing operations may be discharged into the automatic grease removal unit. Sanitary waste, dishwasher wastewater and other wastewater may not be discharged to the grease removal unit.
4. The permittee must install additional grease removal equipment that conforms with Article 4.15 of the NBC Rules and Regulations if determined necessary by the NBC to ensure that effluent limitations are met at all times. Plans of the pretreatment system must be submitted to the NBC for approval before beginning construction, should installation of additional grease removal system be required.

E. Monitoring Requirements:

No regularly scheduled wastewater monitoring reports are required of the permittee. The NBC may, at any time, change the monitoring requirements specified in this permit. Conditions that may result in the imposition of monitoring requirements include, but are not limited to, the following:

- a. Inspections or samplings performed by NBC personnel;
- b. An increase in the seating capacity of the facility;
- c. An increase in flow to the grease removal unit;
- d. Discovery of additional information unavailable to the NBC at the time this permit was prepared;
- e. Improper maintenance of a grease removal unit;
- f. Failure to meet the NBC effluent discharge limitations.

F. Record Keeping Requirements:

1. The permittee must inspect and maintain the automatic grease removal unit at least once per day and record in a logbook the time and date (month, day, and year) of the inspection, each grease removal activity, and the name of the individual conducting the activity. Maintenance activities which must be documented in a logbook include the following:
 - a. Cleaning and emptying of the solids basket;
 - b. Cleaning of the wiper blades;
 - c. Cleaning of the trough;
 - d. The estimated amount of grease removed;
 - e. Wet vacuuming of the grease removal unit.

2. Records which substantiate any information supplied in permit applications, Self-Monitoring Compliance Reports and any other informational requirements of the Rules and Regulations or any applicable state or federal law are to be kept by the permittee for a period of at least three (3) years unless a dispute or litigation involving the subject of those records is pending, in which case these records are to be kept by the permittee for a period of at least three (3) years following resolution of such litigation or dispute.

G. Emergency/Routine Notification Requirements:

1. Emergency Notification of Accidental/Incidental Discharge

The permittee must maintain all associated facilities to ensure that incidental and accidental spills are not able to enter the NBC sewer system. **In the case of an accidental discharge into the NBC facilities, including any discharge that would violate a Federal prohibition under 40 CFR 403.5(b), it is the responsibility of the permittee to notify the NBC of the incident immediately by calling the Pretreatment Section at 461-8848 or during non-business hours at its twenty-four (24) hour Emergency Hotline Number, 222-6781.** Within five (5) days following an accidental discharge, the permittee shall submit to the NBC a detailed written report describing the cause and volume of the discharge and the measures to be taken by the user to prevent similar future occurrences by the permittee.

2. Routine Notification of Operational Changes

The permittee must notify the NBC in writing at least thirty (30) days prior to instituting any changes in operations that may affect the quality or quantity of the process wastestream discharged to the sewer system. Operational changes that may affect the quality or quantity of the process wastestream include, but are not limited to, the following:

- a. Restaurant expansion;
- b. Removal of equipment or installation of additional equipment;

Should the permittee be unsure as to whether an operational change requires written NBC notification, it is strongly recommended that the permittee contact the NBC by telephone prior to instituting the proposed change in operations. This will ensure that the proper notification is provided to the NBC. With respect to the thirty (30) day written notification requirement, should the permittee require immediate approval to make an operational

change in order to accommodate business, the NBC will make every effort to accommodate the permittee so as to not impede operations at the facility. The discretion used by the NBC with respect to this issue is dependent on the magnitude of the proposed operational changes and the resulting effect on the characteristics of the wastestream and/or the spill control measures at the facility. The permittee may notify the NBC of the following operational changes by telephone rather than in writing as required above:

- c. Changes in food preparation methods.

3. Routine Notification of Pretreatment Equipment Malfunctions

In the event of pretreatment equipment failure or malfunction, the permittee must notify the NBC of the incident by the close of the next full business day by calling the NBC's Pretreatment Section at 461-8848. Pretreatment equipment failure includes, but is not limited to, the following:

- a. Grease removal unit heating element failure;
- b. Grease removal unit timing unit failure;
- c. Grease removal unit wiper blade failure.

Any equipment failure or malfunction which results in a spill and/or accidental discharge must be reported immediately in accordance with the NBC Emergency Spill Notification Procedure. Should a pretreatment equipment failure or malfunction occur, the permittee is strictly responsible for complying with all other permit conditions, including, but not limited to, maintaining full compliance with effluent limitations and monitoring requirements.

H. Right of Entry:

The NBC, upon presenting identification and appropriate credentials, is authorized to enter the premises of the permittee during working hours and at other reasonable times for the purposes of inspection, sampling, reading water meters, records inspecting and copying and as otherwise authorized under R.I.G.L. §46-25-25.1. Reasonable hours in the context of inspection and sampling include any time the NBC has reason to believe that violation of the permit or of the Rules and Regulations is occurring.

I. Permit Fee:

The permittee agrees to pay an annual permit fee and all sewer user fees assessed by the NBC in accordance with rates and fees approved by the Public Utilities Commission pursuant to R.I.G.L. §39-1-1 et seq. and §46-25-1 et seq. The permittee agrees to reimburse the NBC for the cost of the collection of any and all fees associated with the permit, including reasonable attorney's fees.

J. Authorization To Do Business:

The permittee is a corporation. The permittee shall ensure the corporation be registered with the Rhode Island Secretary of State Corporations Division. Rebelle Artisan Bagels shall remain in good standing with the Rhode Island Secretary of State Corporations Division at all times. In the event Rebelle Artisan Bagels has its charter or existence revoked by the Rhode Island Secretary of State, the permittee shall notify the NBC in writing within thirty (30) days of notice of such revocation.

In the event Rebelle Artisan Bagels is no longer in good standing with the Rhode Island Secretary of State or the charter is revoked for any reason, any individual named as a co-permittee or any individual exercising ownership of Rebelle Artisan Bagels shall be subject to the terms and conditions of the permit as if named herein.

K. Closing, Selling, Moving the Business:

If the permittee intends to close, liquidate, sell or move the permitted premises, located as referenced on page 1 of this permit, the permittee must notify the NBC in writing at least thirty (30) days prior to selling or ceasing business and/or disposing of any process waste associated with the move or the cessation of business.

L. Transfer of Permit Prohibited:

Wastewater discharge permits are issued to a specific user for a specific operation. This permit may not be reassigned, transferred or sold to a new owner, new user, different premises, or a new or changed operation without the express written permission from the NBC. The permittee shall provide a copy of this permit to any prospective purchaser of said facility referenced on page 1 of this permit at least fourteen (14) days prior to closing on the business or property.

M. Permit Violations:

1. Enforcement Costs

The permittee agrees to reimburse the NBC for the cost of enforcing the permit, including reasonable attorneys' fees, if violations of the permit are found by a hearing officer during the course of an administrative hearing or if such decision is appealed, then in a court of competent jurisdiction.

2. Damage to the Facilities

The permittee agrees to indemnify and hold harmless the NBC from and against any liability, loss, cost, expense or actual damage (including reasonable attorneys' and accountants' fees incurred in defending or prosecuting any claim for any such liability, loss, cost, expense or damage) suffered by the NBC and caused by discharges from the permittee, either singly or by interaction with other wastes.

3. Violations of the NBC's Permit

The permittee agrees to reimburse the NBC for any penalty and additional operating expense incurred by the NBC for violations of the NBC's NPDES, RIPDES, or any other state or federal permit which were caused by discharges from the permittee, either singly or by interaction with other wastes.

4. Penalties for Violations

Article 10 of the NBC's Rules and Regulations provides that any person who violates a permit condition is subject to an administrative or civil penalty of up to \$25,000 per violation per day as defined in R.I.G.L. §46-25-25.2. Willful or criminally negligent violations shall be punishable by the aforementioned fine and/or imprisonment as defined in R.I.G.L. §46-25-25.3.

N. Revocation/Suspension of Permit:

1. Violations of the conditions of this permit, the NBC's Rules and Regulations, Act, and applicable state or Federal regulations may result in the revocation of this permit in accordance with the due process requirements of the NBC's Rules and Regulations. Violations that may result in revocation of this permit include, but are not limited to, the following:
 - a. Failure to accurately report the wastewater constituents and characteristics of the discharge;
 - b. Failure to report changes in operations or wastewater constituents;
 - c. Failure to allow NBC personnel statutorily authorized access for the purposes of inspection or monitoring;
 - d. Failure to adhere to an approved compliance schedule;
 - e. Failure to comply with administrative orders or settlement agreements;
 - f. Failure to pay authorized fees and user charges;
 - g. Violation of any other applicable permit conditions.

This list is for illustrative purposes and is not intended to be inclusive.

2. The Executive Director may suspend this wastewater discharge permit should the permittee cease operations for any period exceeding one (1) month. The suspension will not act as a revocation of the permit, but rather as a temporary suspension of the user's rights under the permit while operations have ceased. During such suspension, the user's connection to the facilities shall be plugged. The user shall still be required to pay the permit fee, since the permit itself will not be revoked. During such suspension, the user shall be disconnected from the facility. The Commission shall have the authority to make periodic inspections during this time to determine whether the user is continuing to discharge regulated wastewater. Such discharge may be considered grounds for revocation of the wastewater discharge permit.

O. Civil And Criminal Liability:

Nothing in this permit shall be construed to relieve the permittee from civil and/or criminal penalties for noncompliance with the NBC's Rules and Regulations or State or Federal laws or regulations.

P. Duty To Comply:

1. The permittee must comply with all conditions of this permit. Failure to comply with the requirements of this permit may be grounds for enforcement proceedings including administrative, civil and/or criminal penalties, injunctive relief and summary abatements.
2. Compliance with this permit does not relieve the permittee of its obligation to comply with any or all pretreatment regulations, standards or requirements under local, State and Federal laws, including any such regulations, standards, requirements, or laws that may become effective during the term of this permit.

Q. Removed Substances:

Solids, sludges, filter residue or other pollutants removed in the course of treatment or control of waters or wastewaters shall be disposed of in accordance with §405 of the Clean Water Act and subtitles C and D of the Resource Conservation and Recovery Act. A Resource Conservation and Recovery Act (RCRA) informational brochure is attached to this permit to inform you of your RCRA obligations.

R. Permit Modification/Renewal:

1. This permit may be modified for various reasons, including but not limited to the following:
 - a. To incorporate any new or revised Federal, State, or local pretreatment standards or requirements;
 - b. Material or substantial alterations or additions to permittee's process operations, discharge volume or discharge characteristics which were not considered in the drafting of this permit;
 - c. A change in any condition regarding either the industrial user or the POTW that requires either a temporary or permanent reduction or elimination of the authorized discharge;
 - d. Information indicating that the permitted discharge poses a threat to the NBC collection or treatment system, POTW personnel, the general public, or the receiving waters;
 - e. Violation of any terms or conditions of the permit;
 - f. Misrepresentation or failure to disclose fully all relevant facts in the permit application or in any required reporting;
 - g. Revision of or a grant of variance from such categorical standards pursuant to 40 CFR §403.13;
 - h. To correct typographical or other errors in the permit;
 - i. To reflect transfer of the facility ownership and/or operation to a new owner/operator;
 - j. Upon request of the permittee, provided such request does not create a violation of any applicable requirements, standards, laws, or rules and regulations.

The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

2. If the permittee wishes to continue to discharge after the expiration date of this permit, an application must be filed for a permit renewal in accordance with the requirements of Article 8 of the NBC's Rules and Regulations a minimum of ninety (90) days prior to the expiration date.

S. Integration:

This permit represents the entire agreement and understanding of the parties hereto to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered hereunder. This permit may not be modified or altered except in accordance with the provisions of Article 8 of the Rules and Regulations. All terms used in this permit shall be construed as defined under Article 2 of the Rules and Regulations.

T. Jurisdiction:

This permit shall be administered and interpreted under the laws of the State of Rhode Island. Jurisdiction of litigation arising from this permit shall be in the State of Rhode Island. If any part of this permit is found to be in conflict with applicable laws, such part shall be inoperative, null and void insofar as it is in conflict with said law, but the remainder of this permit shall be in full force and effect.

BLC:NJD:ad

Attachments:

Designation of Authorized Agent Form
RCRA Handbook
Automatic Grease Removal Unit Logsheet

Table 1

NBC Effluent Discharge Limitations Field's Point District

<u>Parameter</u>	<u>Limitation (Max)</u>
Total Toxic Organics (TTO)	2.13
Biochemical Oxygen Demand (BOD ₅)	300.00*
Total Suspended Solids (TSS)	300.00*
Total Oil and Grease (fats, oils and grease)	125.0
Oil and Grease (mineral origin)	25.0
Oil and Grease (animal/vegetable origin)	100.0
pH range (at all times)	5.0 - 11.0 s.u.

<u>Parameter</u>	Daily Maximum Composite for 1 day (<u>mg/l</u>)	Average 10 day (<u>mg/l</u>)
Cadmium (Total)	0.11	0.07
Chromium (Total)	2.77	1.71
Copper (Total)	1.20	1.20
Cyanide (Total)	0.58	0.58
Lead (Total)	0.60	0.40
Mercury (Total)	0.005	0.005
Nickel (Total)	1.62	1.62
Silver (Total)	0.43	0.24
Zinc (Total)	2.61	1.48

All limitations are in units of mg/l unless otherwise specified.

* Exceeding this discharge limitation may be permitted but would be subject to a surcharge in accordance with rates approved by the Public Utilities Commission and in accordance with R.I.G.L. §39-1-1 et seq.

CERTIFICATE TO DISCHARGE

the following types of process water:

TREATED FOOD PREPARATION WASTEWATER AND TREATED DISH, POT AND EQUIPMENT WASHWATER

into the facilities of the

Narragansett Bay Commission

is hereby granted to:

Rebelle Artisan Bagels

110 Doyle Street

Providence, RI 02906

PERMIT NUMBER: P8500-442-0123

PERMIT EXPIRATION DATE: 01/31/2023

The discharge permit must be kept at the above address for inspection. Failure to comply with the rules and regulations of the Narragansett Bay Commission or with the conditions of the discharge permit will subject the permittee to fines of up to \$25,000 per violation per R.I.G.L. 46-25-25.3.

February 9, 2018
Initial Date of Issuance

Kerry M. Britt
Kerry M. Britt, Pretreatment Manager

***TYPICAL DENTAL FACILITY
WASTEWATER DISCHARGE PERMIT***



WASTEWATER DISCHARGE PERMIT

Permit Number: B9400-162-0123

Company Name: **DIAMOND HILL DENTAL ASSOCIATES, PC**

Facility Address: 2343 Diamond Hill Road, Cumberland, RI 02864

Mailing Address: 2343 Diamond Hill Road, Cumberland, RI 02864

Facility President: Dr. Saba Abernethy

Facility Authorized Agent: Dr. Saba Abernethy

User Classification: Dental Operations

Categorical Standards Applicable: 40 CFR §441.40, Pretreatment Standards for New Sources

By virtue of Rhode Island's General Laws Title 46 Chapter 25 (Act) and in accordance with the Rules And Regulations For The Use Of Wastewater Facilities Within The Narragansett Bay Water Quality Management District (Rules and Regulations), **Dr. Saba Abernethy and Diamond Hill Dental Associates, PC**, hereinafter jointly referred to as **Permittee**, is hereby authorized to discharge process wastewater from the above identified facility in accordance with the terms and conditions set forth in this permit.

All discharges authorized herein must be consistent with the effluent limitations, monitoring requirements and other conditions set forth in this permit. The discharge of any pollutant not identified in this permit or any pollutant identified in this permit at a level in excess of that authorized shall constitute a violation of the permit. This permit consists of 14 pages with conditions A - U and Attachment A.

**This permit becomes effective upon receipt
and expires on January 31, 2023.**

Noncompliance with any term or condition of this permit shall constitute a violation of the NBC Rules and Regulations and may subject the user to an **Administrative or Civil Penalty** of up to \$25,000 per violation per day as defined in R.I.G.L. §46-25-25.2. Willful or criminally negligent violations shall be punishable by the aforementioned fine and/or imprisonment as defined in R.I.G.L. §46-25-25.3.

For the **Narragansett Bay Commission:**

/s/ Kerry M. Britt
Kerry M. Britt, Pretreatment Manager
Narragansett Bay Commission

March 6, 2018
Date

NOTE: The NBC will accept the person(s) named on this permit as the **Permittee's** authorized agent(s) until notified otherwise.

An authorized agent or authorized company representative is a person who is a principal executive officer or other corporate officer with signatory powers as per the **Permittee's** by-laws or per a vote of the directors if the **Permittee** is a corporation; a general partner or proprietor if the **Permittee** is a partnership or sole proprietorship respectively; or a duly authorized representative of an individual designated above if such representative is responsible for the overall operation of the facility and has the authority to sign contracts, permits, permit applications, monitoring results and other documents in the company's name and otherwise bind the **Permittee**. The **Permittee** may designate additional or new authorized agents by completing and submitting the enclosed Designation of Authorized Agent form.

The NBC will not accept documents signed by persons other than the Company's authorized agent(s) or authorized representative(s).

CONDITIONS TO PERMIT

A. Effluent Discharge Limitations:

1. The permittee shall at all times comply with the effluent limitations specified in Table 1 on page 14, attached hereto and incorporated herein.
2. The permittee shall comply with all discharge limitations and prohibitions contained in Article 5 of the NBC Rules and Regulations, as well as all other provisions of those Rules, and any other applicable State or Federal standards, including but not limited to the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq. and R.I.G.L. §46-12-1 et seq. The permittee shall at all times comply with 40 CFR §403.5 and may not introduce into the NBC facilities any pollutants which shall violate the general or specific prohibitions including but not limited to discharges resulting in pass through or interference situations at the NBC facilities.
3. The permittee shall not increase the use of process water or dilute a discharge in any way as a partial or complete substitute for adequate treatment to achieve compliance with the above standards.
4. The permittee is classified as a dentist and therefore, must at all times comply with 40 CFR §441.40, Pretreatment Standards for New Sources, as well as the NBC Best Management Practices for the Management of Waste Dental Amalgam.

B. Permitted Discharges:

1. The permittee is authorized to discharge the following tanks, solutions, or process wastewater streams to the NBC facilities:
 - a. Treated Dental Wastewater Containing Amalgam;
 - b. Dental Process Wastewaters.
2. No other process wastewater is to be discharged to the sewer unless specifically approved by the NBC in writing.

C. Prohibitions:

1. The permittee is strictly prohibited from discharging any prohibited substances as detailed in the Rules and Regulations of the Narragansett Bay Commission. Prohibited discharges include, but are not limited to, the following:
 - a. X-Ray Processing Rinsewater, Developer, and Fixer Solutions;
 - b. Dental Amalgam;
 - c. Elemental Mercury;

- d. Untreated Dental Wastewater Containing Amalgam;
 - e. Acidic Solutions with a pH less than 5.0 standard units;
 - f. Caustic Solutions with a pH greater than 11.0 standard units;
 - g. Solvents;
 - h. Sludges.
2. The permittee is strictly prohibited from discharging any process wastewater streams other than those specified in Section B(1) of this permit or wastestreams containing pollutants with concentrations in excess of the effluent limitations specified in Table 1 on page 14, attached hereto and incorporated herein.
 3. Non-sanitary discharges other than those specified in Section B of this permit are prohibited unless specifically approved by the NBC in writing.
 4. No chemicals, oils, solutions and/or materials including solid substances such as towels, casts, etc. in quantities or of such size capable of causing obstruction to the flow in sewers may be discharged to the sewer unless specifically approved by the NBC in writing.
 5. Discharging of chemicals or solutions containing materials listed in the attached List of Toxic Pollutants (Table 2) is strictly prohibited if said discharge would result in violation of NBC limitations in Table 1.

D. Pretreatment Requirements:

1. The permittee must provide and maintain an easily accessible sample location downstream of each process discharge specified in Section B(1) of this permit. A total of one (1) sample location must be provided and must collect wastewater from the process operations indicated as follows:

Sample Location #1 - Sample port on the discharge line of the amalgam separator, collecting all process discharges specified in Section B(1)(a) of this permit.

The permittee is prohibited from discharging dilution wastestreams, such as sanitary and non-contact cooling water into any process wastewater sampling location. Dilution wastestreams must discharge downstream of the process wastewater sampling location. The discharge through Sample Location #1 must be in compliance with the effluent limitations specified in Section A and Table 1 of this permit.

2. The permittee is responsible for properly operating and maintaining the pretreatment system to achieve and ensure compliance with the conditions of this permit. Proper operation and maintenance shall include but not be limited to: effective performance, adequate funding, adequate operator staffing and training, adequate laboratory and process controls, including appropriate quality assurance procedures.

3. The permittee shall adhere to Option 1 and all mandatory best management practices of the NBC Best Management Practices on the management of Waste Dental Amalgam.
4. In accordance with Option 1 of the NBC Best Management Practice for the Management of Waste Dental Amalgam, the permittee shall operate and maintain an amalgam separator which is ISO 11143 certified to an efficiency of 99% removal in accordance with the plans submitted to the NBC on March 11, 2004 and March 12, 2004. The amalgam separator shall be fully operational whenever discharges from dental procedures are occurring.
5. The permittee shall maintain the amalgam separator. Maintenance activities include, but are not limited to, the following:
 - a. The permittee must inspect the separator weekly to ensure proper operation;
 - b. The permittee must adhere to all manufacturers specifications for maintenance of the separator;
 - c. The maintenance activities must be documented in a logbook as required by Section G(1) of this permit.
6. The permittee shall maintain chair side traps on all dental chairs to capture large amalgam particles from cuspidors and vacuum systems. Chair side traps must be inspected daily and cleaned or replaced as necessary. Disposable traps or material from reusable traps must be placed in a labeled storage container. The permittee may only rinse a trap if necessary and only in a designated sink that is plumbed with appropriate flow restriction to an NBC approved amalgam separator.
7. The permittee shall ensure that all vacuum pumps are equipped with filters. The permittee shall replace the filter at least once per month or more frequently if necessary. Removed filters should be held over a spill tray to capture any accumulated water from the trap. The water should be carefully decanted without losing any visible amalgam. The decant water, if free of visible amalgam, may be discharged to the sewer through an NBC approved amalgam separator. Dry-turbine vacuums must be inspected to ensure there is no built up sludge in the air/water separator. Collected sludge must be disposed of properly as a mercury containing waste.
8. The permittee shall use a NBC approved cleaner for disinfection of amalgam and/or mercury contaminated vacuum lines, instruments or equipment. The use of bleach or bleach containing cleaners is strictly prohibited as methyl mercury may be evolved. Corrosive and oxidizing cleaners are also prohibited to ensure methyl mercury is not evolved.
9. The permittee has designated all sinks for sanitary use only. The permittee shall post signs at these sinks stating "Sanitary Use Only". Washing of equipment, instruments, filters, and capsules in these sinks is strictly prohibited.

E. Certification of Compliance with Best Management Practice:

The permittee shall submit written annual certification of compliance with Best Management Practices for the Management of Waste Dental Amalgam for the period from July to June. The certification must be made on the form designated as Best Management Practice Certification, Attachment A, and must be received within thirty (30) days after the period for which the certification is being made.

F. Monitoring Requirements:

No regularly scheduled wastewater monitoring is required at this time. The NBC may, at any time, require wastewater monitoring. Conditions that may result in the imposition of wastewater monitoring include, but are not limited to, the following:

- a. Failure to meet effluent limitations;
- b. Change in production processes;
- c. Expansion or reduction of production;
- d. Change in water usage;
- e. Discovery of additional information on monitoring or production unavailable to the NBC at the time this permit was prepared.

G. Record Keeping Requirements:

1. The permittee shall be responsible for maintaining on-site the manufacturer's operating manual for the amalgam separator. In addition, a logbook must be maintained documenting all records pertaining to the amalgam separator including, but not limited to, the following:
 - a. Date (month, day and year) of each trap and separator inspection and service activity;
 - b. The location of each trap and separator being serviced;
 - c. All routine and non-routine activities conducted (i.e. cleaning, maintenance, filter replacement);
 - d. Signature of person conducting activity.

3. Records which substantiate any information supplied in permit applications, Self-Monitoring Compliance Reports and any other informational requirements of the Rules and Regulations or any applicable State or Federal law are to be kept by the permittee for a period of at least three (3) years unless a dispute or litigation involving the subject of those records is pending, in which case these records are to be kept by the permittee for a period of at least three (3) years following resolution of such litigation or dispute.

H. Emergency/Routine Notification Requirements:

1. Emergency Notification of Accidental/Incidental Discharge

The permittee must maintain all associated facilities to ensure that incidental and accidental spills are not able to enter the NBC sewer system. **In the case of an accidental discharge into the NBC facilities, including any discharge that would violate a Federal prohibition under 40 CFR 403.5(b), it is the responsibility of the permittee to notify the NBC of the incident immediately by calling the Pretreatment Section at 461-8848 or during non-business hours at its twenty-four (24) hour Emergency Hotline Number, 434-6350.** Within five (5) days following an accidental discharge, the permittee shall submit to the NBC a detailed written report describing the cause and volume of the discharge and the measures to be taken by the user to prevent similar future occurrences by the permittee.

2. Routine Notification of Operational Changes

The permittee must notify the NBC in writing at least thirty (30) days prior to instituting any changes in operations that may affect the quality or quantity of the process wastestream discharged to the sewer system or may affect the adequacy of spill control measures. Operational changes that may affect the quality or quantity of the process wastestream or the adequacy of spill control measures include, but are not limited to, the following:

- a. Addition, removal, or relocation of process tanks or solutions;
- b. Installation of new wastewater generating process operations;
- c. Relocation of process operation piping or valving resulting in a new or different point of discharge;
- d. Modification of any pretreatment process or procedure;
- e. Installation or modification of pretreatment equipment or associated piping;

Should the permittee be unsure as to whether an operational change requires written NBC notification, it is strongly recommended that the permittee contact the NBC by telephone prior to instituting the proposed change in operations. This will ensure that the proper notification is provided to the NBC. With respect to the thirty (30) day written notification requirement, should the permittee require immediate approval to make an operational change in order to accommodate business, the NBC will make every effort to accommodate the permittee so as to not impede operations at the facility. The discretion used by the NBC with respect to this issue is dependent on the magnitude of the proposed operational changes and the resulting effect on the characteristics of the wastestream and/or the spill control measures at the facility. The permittee may notify the NBC of the following operational changes by telephone rather than in writing as required above:

- f. Change from the hours of facility operation specified in the discharge permit application;

- g. Change in the personnel responsible for the proper operation of pretreatment equipment.

3. Routine Notification of Pretreatment Equipment Malfunctions

In the event of pretreatment equipment failure or malfunction, the permittee must notify the NBC of the incident by the close of the next full business day by calling the NBC Pretreatment Section at 461-8848. Pretreatment equipment failure includes, but is not limited to, the following:

Amalgam Separator Failure

Any equipment failure or malfunction which results in a spill and/or accidental discharge must be reported immediately in accordance with the NBC Emergency Spill Notification Procedure. Should a pretreatment equipment failure or malfunction occur, the permittee is strictly responsible for complying with all other permit conditions, including, but not limited to, maintaining full compliance with effluent limitations and monitoring requirements.

I. Right of Entry:

The NBC, upon presenting identification and appropriate credentials, is authorized to enter the premises of the permittee during working hours and at other reasonable times for the purposes of inspection, sampling, reading water meters, records inspecting and copying and as otherwise authorized under R.I.G.L. §46-25-25.1. Reasonable hours in the context of inspection and sampling include any time the NBC has reason to believe that violation of the permit or of the Rules and Regulations is occurring.

J. Permit Fee:

The permittee agrees to pay an annual permit fee and all sewer user fees assessed by the NBC in accordance with rates and fees approved by the Public Utilities Commission pursuant to R.I.G.L. §39-1-1 et seq. and §46-25-1 et seq. The permittee agrees to reimburse the NBC for the cost of the collection of any and all fees associated with the permit, including reasonable attorney's fees.

K. Authorization To Do Business:

The permittee is a corporation. The permittee shall ensure the corporation be registered with the Rhode Island Secretary of State Corporations Division. Diamond Hill Dental & Associates, PC shall remain in good standing with the Rhode Island Secretary of State Corporations Division at all times. In the event Diamond Hill Dental & Associates, PC has its charter or existence revoked by the Rhode Island Secretary of State, the permittee shall notify the NBC in writing within thirty (30) days of notice of such revocation.

In the event Diamond Hill Dental & Associates, PC is no longer in good standing with the Rhode Island Secretary of State or the charter is revoked for any reason, any individual named as a co-permittee or any individual exercising ownership of Diamond Hill Dental & Associates, PC shall be subject to the terms and conditions of the permit as if named herein.

L. Closing, Selling, Moving the Business:

If the permittee intends to close, liquidate, sell or move the permitted premises, located as referenced on page 1 of this permit, the permittee must notify the NBC in writing at least thirty (30) days prior to disposing of any process waste associated with the move or the cessation of business.

M. Transfer of Permit Prohibited:

Wastewater discharge permits are issued to a specific user for a specific operation. This permit may not be reassigned, transferred or sold to a new owner, new user, different premises, or a new or changed operation without the express written permission from the NBC. The permittee shall provide a copy of this permit to any prospective purchaser of said facility referenced on page 1 of this permit at least fourteen (14) days prior to closing on the business or property.

N. Permit Violations:

1. Enforcement Costs

The permittee agrees to reimburse the NBC for the cost of enforcing the permit, including reasonable attorneys' fees, if violations of the permit are found by a hearing officer during the course of an administrative hearing or if such decision is appealed, then in a court of competent jurisdiction.

2. Damage to the Facilities

The permittee agrees to indemnify and hold harmless the NBC from and against any liability, loss, cost, expense or actual damage (including reasonable attorneys' and accountants' fees incurred in defending or prosecuting any claim for any such liability, loss, cost, expense or damage) suffered by the NBC and caused by discharges from the permittee, either singly or by interaction with other wastes.

3. Violations of the NBC Permit

The permittee agrees to reimburse the NBC for any penalty and additional operating expense incurred by the NBC for violations of the NBC NPDES, RIPDES, or any other state or federal permit which were caused by discharges from the permittee, either singly or by interaction with other wastes.

4. Penalties for Violations

Article 10 of the NBC Rules and Regulations provides that any person who violates a permit condition is subject to an administrative or civil penalty of up to \$25,000 per violation per day as defined in R.I.G.L. §46-25-25.2. Willful or criminally negligent violations shall be punishable by the aforementioned fine and/or imprisonment as defined in R.I.G.L. §46-25-25.3.

O. Revocation/Suspension of Permit:

1. Violations of the conditions of this permit, the NBC Rules and Regulations, Act, and applicable state or Federal regulations may result in the revocation of this permit in accordance with the due process requirements of the NBC Rules and Regulations. Violations that may result in revocation of this permit include, but are not limited to, the following:
 - a. Failure to accurately report the wastewater constituents and characteristics of the discharge;
 - b. Failure to report changes in operations or wastewater constituents;
 - c. Failure to allow NBC personnel statutorily authorized access for the purposes of inspection or monitoring;
 - d. Failure to adhere to an approved compliance schedule;
 - e. Failure to comply with administrative orders or settlement agreements;
 - f. Failure to pay authorized fees and user charges;
 - g. Violation of any other applicable permit conditions.

This list is for illustrative purposes and is not intended to be inclusive.

2. The Executive Director may suspend this wastewater discharge permit should the permittee cease operations for any period exceeding one (1) month. The suspension will not act as a revocation of the permit, but rather as a temporary suspension of the user's rights under the permit while operations have ceased. During such suspension, the user's connection to the facilities shall be plugged. The user shall still be required to pay the permit fee, since the permit itself will not be revoked. During such suspension, the user shall be disconnected from the facility. The Commission shall have the authority to make periodic inspections during this time to determine whether the user is continuing to discharge regulated wastewater. Such discharge may be considered grounds for revocation of the wastewater discharge permit.

P. Civil and Criminal Liability:

Nothing in this permit shall be construed to relieve the permittee from civil and/or criminal penalties for noncompliance with the NBC Rules and Regulations or State or Federal laws or regulations.

Q. Duty To Comply:

1. The permittee must comply with all conditions of this permit. Failure to comply with the requirements of this permit may be grounds for enforcement proceedings including administrative, civil and/or criminal penalties, injunctive relief and summary abatements.
2. Compliance with this permit does not relieve the permittee of its obligation to comply with any or all pretreatment regulations, standards or requirements under local, State and Federal laws, including any such regulations, standards, requirements, or laws that may become effective during the term of this permit.

R. Removed Substances:

Solids, sludges, filter residue or other pollutants removed in the course of treatment or control of waters or wastewaters shall be disposed of in accordance with §405 of the Clean Water Act and subtitles C and D of the Resource Conservation and Recovery Act. A Resource Conservation and Recovery Act (RCRA) informational brochure is attached to this permit to inform you of your RCRA obligations.

S. Permit Modification/Renewal:

1. This permit may be modified for various reasons, including but not limited to the following:
 - a. To incorporate any new or revised Federal, State, or local pretreatment standards or requirements;
 - b. Material or substantial alterations or additions to permittee's process operations, discharge volume or discharge characteristics which were not considered in the drafting of this permit;
 - c. A change in any condition regarding either the industrial user or the POTW that requires either a temporary or permanent reduction or elimination of the authorized discharge;

- d. Information indicating that the permitted discharge poses a threat to the NBC collection or treatment system, POTW personnel, the general public, or the receiving waters;
- e. Violation of any terms or conditions of the permit;
- f. Misrepresentation or failure to disclose fully all relevant facts in the permit application or in any required reporting;
- g. Revision of or a grant of variance from such categorical standards pursuant to 40 CFR §403.13;
- h. To correct typographical or other errors in the permit;
- i. To reflect transfer of the facility ownership and/or operation to a new owner/operator;
- j. Upon request of the permittee, provided such request does not create a violation of any applicable requirements, standards, laws, or rules and regulations.

The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

2. If the permittee wishes to continue to discharge after the expiration date of this permit, an application must be filed for a permit renewal in accordance with the requirements of Article 8 of the NBC Rules and Regulations a minimum of ninety (90) days prior to the expiration date.

T. Integration:

This permit represents the entire agreement and understanding of the parties hereto to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered hereunder. This permit may not be modified or altered except in accordance with the provisions of Article 8 of the Rules and Regulations. All terms used in this permit shall be construed as defined under Article 2 of the Rules and Regulations.

U. Jurisdiction:

This permit shall be administered and interpreted under the laws of the State of Rhode Island. Jurisdiction of litigation arising from this permit shall be in the State of Rhode Island. If any part of this permit is found to be in conflict with applicable laws, such part shall be inoperative, null and void insofar as it is in conflict with said law, but the remainder of this permit shall be in full force and effect.

NPD:NJD:smb

Attachments:

Designation of Authorized Agent Form
RCRA Handbook

Table 1

NBC Effluent Discharge Limitations
Bucklin Point District

<u>Parameter</u>	<u>Limitation (Max)</u>
Total Toxic Organics (TTO)	2.13
Biochemical Oxygen Demand (BOD ₅)	300.00*
Total Suspended Solids (TSS)	300.00*
Total Oil and Grease (fats, oils and grease)	125.0
Oil and Grease (mineral origin)	25.0
Oil and Grease (animal/vegetable origin)	100.0
pH range (at all times)	5.0 - 11.0 s.u.

<u>Parameter</u>	<u>Daily Maximum Concentration Limit (mg/l)</u>	<u>Monthly Average Concentration (mg/l)</u>
Arsenic (Total)	0.20	0.10
Cadmium (Total)	0.11	0.07
Chromium (Total)	2.77	1.63
Copper (Total)	1.20	1.20
Cyanide (Total)	0.50	0.50
Lead (Total)	0.69	0.29
Mercury (Total)	0.06	0.03
Nickel (Total)	1.62	1.62
Selenium (Total)	0.40	0.20
Silver (Total)	0.40	0.20
Tin	4.00	2.00
Zinc (Total)	1.67	1.39

All limitations are in units of mg/l unless otherwise specified.

* Exceeding this discharge limitation may be permitted but would be subject to a surcharge in accordance with rates approved by the Public Utilities Commission and in accordance with R.I.G.L. §39-1-1 et seq.

Attachment A

Best Management Practice Certification

For the 12-month period from _____, 20__ to _____, 20__

Company Name: _____

Address: _____

RETURN TO:
Narragansett Bay Commission
Pretreatment Program
2 Ernest Street
Providence, RI 02905-5502

I, _____, as authorized representative of
_____, do hereby decree that the Narragansett Bay
Commission Best Management Practices for the Management of Waste Dental Amalgam have
been fully complied with for the past twelve month period.

I certify under penalty of law that this document and all attachments were properly prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for known violations.

Authorized Representative Signature

Date

CERTIFICATE TO DISCHARGE

the following types of process water:

DENTAL PROCESS WASTEWATER

into the facilities of the

Narragansett Bay Commission

is hereby granted to:

Diamond Hill Dental & Associates, PC

2343 Diamond Hill Road

Cumberland, RI 02864

PERMIT NUMBER: B9400-162-0123

PERMIT EXPIRATION DATE: 01/31/2023

The discharge permit must be kept at the above address for inspection. Failure to comply with the rules and regulations of the Narragansett Bay Commission or with the conditions of the discharge permit will subject the permittee to fines of up to \$25,000 per violation per R.I.G.L. 46-25-25.3.

March 6, 2018

Initial Date of Issuance

/s/ Kerry M. Britt

Kerry M. Britt, Pretreatment Manager

ATTACHMENT VOLUME I

SECTION 3

***VARIOUS PRETREATMENT
PROGRAM DOCUMENTS***

***NBC SPILL AND SLUG PREVENTION
CONTROL & COUNTERMEASURES
PLAN GUIDANCE DOCUMENT***



**SPILL AND SLUG PREVENTION CONTROL PLAN
FOR NARRAGANSETT BAY COMMISSION
SEWER USERS**

COMPANY NAME: _____

FACILITY ADDRESS: _____

MAILING ADDRESS: _____

**PRIMARY PERSON RESPONSIBLE
FOR SPILL CONTROL PREVENTION:** _____

DAYTIME EMERGENCY PHONE NUMBER: _____

AFTER HOURS EMERGENCY PHONE NUMBER: _____

The Narragansett Bay Commission's (NBC) Rules and Regulations for the Use of Wastewater Facilities (Article 8.9) require each user to provide protection from accidental discharge of prohibited materials and substances to the sewer. The user is required to provide detailed plans showing equipment and a brief description of operating procedures utilized to prevent these discharges.

This document was developed to assist you in determining what measures you need to implement and to properly document the spill prevention control procedures utilized at your facility; therefore, you must complete this document.

Section A: Description of Discharge Practices and Storage Areas

1. List all sources of routine sewer discharges and describe the method of discharge:

Source of Discharge	Method of Discharge
Example: Electroplating Discharges	Pumped to sewer via pretreatment system

2. List all sources of non-routine sewer discharges of an infrequent nature such as batch discharges, which may occur only once per year:

Source of Discharge	Method of Discharge
Example: Annual Power Washing of Plating Room Floors	Gravity flow to pretreatment system

2. What procedures are utilized to prevent adverse impacts on the NBC sewage facility due to accidental spills? Examples of these procedures may include periodic inspection and maintenance of storage areas, and special procedures utilized during loading and unloading operations.

3. List emergency response equipment available and procedures to be utilized in the event of a spill.

Section C: Spills From Boiler and Fuel Depot Areas

This section must be completed if fuels, or fuel oils are stored at your facility or chemicals are stored in the boiler area. Be sure to show the location of any floor drains, trenches, yard drains or other connections to the sewer or pretreatment system from the boiler facility and fuel storage area(s) in the sketch required in Section A(4). Also, show any berms or sumps that would be used to contain spills. Indicate the capacity of each holding area in gallons.

1. What types of fuel are stored in these areas? (i.e., gasoline, diesel, kerosene, #4 fuel oil, #6 fuel oil, etc.)

2. Are the fuel tanks above ground_____ or below ground_____? Provide the capacity of each tank in gallons:

3. Indicate provisions (i.e., alarms, sight glasses, etc.) and filling procedures that will minimize the risk of overfilling a tank.

4. Is the storage tank equipped with an overflow pipe or relief valve or some other equipment in the tank or pipe chase network that would allow fuel to spill during a filling procedure? ___ Yes ___ No

5. If a tank is overfilled and fuel escapes through the tank vent pipe, where would the spilled fuel discharge?

6. What measures and spill containment equipment are in place to contain spillage from an overfilled tank?

7. Are boiler treatment or other chemicals stored in the boiler facility or fuel depot areas? ___ Yes ___ No

If yes describe chemicals:

8. Detail spill containment provided for chemicals stored in this area.

9. If a spill should occur in the fuel depot or boiler facility, how would it be cleaned up and disposed?

10. Are there any normal process discharges such as boiler blowdown or steam condensate to the sewer or pretreatment system from physical plant operations? _____Yes _____No

11. Does the boiler utilize a hot water or steam operated oil preheater? _____Yes _____No

If so, does the condensate from the preheater discharge to the sewer? _____Yes _____No

If so, what measures are in place to detect an oil discharge to the sewer resulting from a leak within the preheater core?

Section D: Spills That Discharge to Pretreatment Systems

This section must be completed in the case where a spill will discharge to a pretreatment system.

1. For each area listed in Section A(3) that a spill would discharge to the pretreatment system, you must provide the following information:

Area	Solution	Pretreatment Collection Vessel
Example: Plating	CN Bearing Solutions	CN Destruct Tank
Example: Plating	Non-CN Bearing Solution	Batch A/A Tank

2. During non-working hours, what procedures will be followed to prevent spills from discharging directly through pretreatment to the sewer without proper treatment? (e.g., shut off sump pump, close valve to sump, etc.)

3. What procedures or facilities are in place to prevent highly concentrated or incompatible solutions (such as plating baths, oils, solvents, etc.), which the pretreatment system was not designed to treat, from reaching the pretreatment system?

Section E: Notification Procedures

1. The sewer user must maintain an approved Spill and Slug Prevention Control and Countermeasure Plan and all associated facilities at all times to ensure that incidental and accidental spills are not able to enter the NBC sewer system. In the case of a slug or accidental discharge to the facilities, it is the responsibility of the sewer user to notify the NBC of the incident immediately by calling the NBC's Pretreatment Section at 461-8848. During non-business hours contact the NBC at its 24 Hour Emergency Hotline number, 222-6781 if located in the Field's Point District or at 434-6350 if located in the Bucklin Point District.
2. Within five days following an accidental discharge, the sewer user shall submit to the NBC a detailed written report describing the cause and volume of the discharge and the measures to be taken by the user to prevent similar future occurrences.

Section F: Certification

I certify under penalty of law that this Spill and Slug Control Plan and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who maintain the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I certify that this facility will fully implement and maintain the Spill and Slug Control Plan at all times.

SIGNATURE AND TITLE OF AUTHORIZED COMPANY REPRESENTATIVE

DATE

Attachment A*

Area/Room: _____
List Chemicals Stored in Area: _____

List the Volume of the Largest Container in Area: _____

Are there open floor drains or sewer connections in this area? _____

List spill control measures in place: _____

List capacity of spill containment area(s). Please note, the capacity of the containment area must be a minimum of 110% the volume of the largest container.

Detail how a spill would be contained during working hours. _____

Detail how a spill would be contained during non-working hours. _____

How will spills from this area be cleaned up and disposed? _____

If currently there are no spill containment measures in this area, detail proposed measures to provide spill containment for chemicals and solutions in this area and the timeframe necessary to implement these measures.

* Please make additional copies of this attachment for all areas of your facility.

***NBC TOXIC ORGANIC/SOLVENT
MANAGEMENT PLAN GUIDANCE
DOCUMENT***



**NARRAGANSETT BAY COMMISSION
TOXIC ORGANIC/SOLVENT
MANAGEMENT PLAN**

COMPANY NAME: _____

MAILING ADDRESS: _____

PHONE NUMBER: _____

PLAN PREPARED BY: _____

In accordance with Section 7.2 of the Narragansett Bay Commission's (NBC) Rules and Regulations for the Use of Wastewater Facilities, the NBC may require any user who discharges into the facilities to provide information relating to discharges into the facilities to ensure compliance with prescribed pretreatment methods and regulations. Federal pretreatment standards, including those for metal finishers and electroplaters (40 CFR 413.03 and 433.12), require many industrial users to periodically monitor their wastestream for Total Toxic Organics (TTO's). Federal law allows the Industrial User to develop, implement and maintain a Toxic Organic/Solvent

Management Plan, which once approved by the NBC, allows the Industrial User a waiver from performing the expensive and routine TTO monitoring.

In order to provide for the control of solvents and toxic organics which are not permitted to be discharged to the NBC sewerage facilities, the NBC is requiring, as a condition of the industrial sewer user's Wastewater Discharge Permit, that a Toxic Organic/Solvent Management Plan be prepared and submitted to the NBC in lieu of the regular monitoring for toxic organic compounds and solvents.

This form has been developed as a guidance document by the NBC Pretreatment Section to assist sewer users who must prepare a Toxic Organic/Solvent Management Plan. When completed, submitted and approved by the NBC this document will constitute the facility's Toxic Organic/Solvent Management Plan. The user will then be responsible to maintain all items indicated in this plan to ensure that solvents and toxic organic compounds are not discharged into the NBC sewerage system.

Section A – Estimated Annual Solvent Purchases and Usages:

Does your firm use any solvents, chemicals or compounds containing any of the toxic organic compounds listed on the EPA table of toxic organics attached to this document, or any other solvents, such as xylene, acetone, etc., not listed on the attached table? _____

If yes, you must complete all sections of this Toxic Organic/Solvent Management Plan. If no, you must sign the certification Section F of this plan.

If yes, please attach a copy of the analysis. If no, this monitoring must be conducted and the analytical results for each toxic organic compound and solvent listed in Section A must be attached to the plan.

Section D – Solvent Process Operations:

1. For each of the toxic organic compounds or solvents listed in Section A, provide a brief description of the process in which the chemical is used and describe in detail the work methods used to prevent and prohibit toxic organic and solvent dragout, drippage and spillage from entering the wastewater discharged from the facility.

2. For any solvent listed in Section B as being discharged in the wastewater, please provide a brief description detailing the discharge method, practice, procedure, or process operation resulting in each solvent discharge.

Section E – Spill Control Procedures:

Describe the spill control procedures in effect for the toxic organic compounds and solvent on the premises. This would include measures taken in both the chemical storage area and in the work area to prevent incidental and accidental spillage from entering the NBC sewerage system. Measures to prevent and control spillage may include berms, sealed floor drains, absorbent material, etc. Indicate the volume of the largest vessel within each storage area and the capacity of the storage area itself. Please note that a storage area is required to contain a minimum of 110% the capacity of the largest vessel stored within it.

Section F – Certification Statement:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry or the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine

and imprisonment for knowing violations. I hereby certify that based on my inquiry of the person or persons directly responsible for managing compliance with the permit limitation for Total Toxic Organics (TTO), to the best of my knowledge and belief, no dumping of concentrated toxic organic compounds into the wastewaters has or does occur. I further certify that this facility is implementing and will abide by this Toxic Organic/Solvent Management Plan as submitted to the NBC.

SIGNATURE OF AUTHORIZED COMPANY REPRESENTATIVE

TITLE

DATE

List of Toxic Pollutants

The following List of Toxic Pollutants has been designated pursuant to Section 307(a)(1) of the Clean Water Act.

Volatiles

EPA Method 624

arolein
acrylonitrile
benzene
bromoform
carbon tetrachloride
chlorobenzene
chlorodibromomethane
chloroethane
2-chloroethylvinyl ether
chloroform
dichlorobromomethane
1,1-dichloroethane
1,2-dichloroethane
1,1-dichloroethylene
1,2-dichloropropane
1,3-dichloropropylene
ethylbenzene
methyl bromide
methyl chloride
methylene chloride
1,1,2,2-tetrachloroethane
tetrachloroethylene
toluene
1,2-trans-dichloroethylene
1,1,1-trichloroethane
1,1,2-trichloroethane
trichloroethylene
vinyl chloride

Acid Compounds

EPA Method 625

2-chlorophenol
2,4-dichlorophenol
2,4-dimethylphenol
4,6-dinitro-o-cresol
2,4-dinitrophenol
2-nitrophenol
4-nitrophenol
p-chloro-m-cresol
pentachlorophenol
phenol
2,4,6-trichlorophenol

Base/Neutral

EPA Method 625

* acenaphthene
* acenaphthylene
* anthracene
benzidine
* benzo (a) anthracene
* benzo (a) pyrene
* 3,4-benzofluoranthene
* benzo (ghi) perylene
benzo (k) fluoranthene
bis (2-chloroethoxy) methane
bis (2-chloroethyl) ether
bis (2-chloroisopropyl) ether
bis (2-ethylhexyl) phthalate
4-bromophenyl phenyl ether
butylbenzyl phthalate
2-chloronaphthalene
4-chlorophenyl phenyl ether
* chrysene
* dibenzo (a, h) anthracene
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
3,3-dichlorobenzidine
diethyl phthalate
dimethyl phthalate
di-n-butyl phthalate
2,4-dinitrotoluene
2,6-dinitrotoluene
di-n-octyl phthalate
1,2-diphenylhydrazine
(as azobenzene)
* fluoranthene
* fluorene
hexachlorobenzene
hexachlorobutadiene
hexachlorocyclopentadiene
hexachloroethane
* indeno (1,2,3-cd) pyrene
isophorone
* naphthalene
* nitrobenzene
N-nitrosodimethylamine
N-nitrosodi-n-propylamine
N-nitrosodiphenylamine
* phenanthrene
* pyrene
1,2,4-trichlorobenzene

Pesticides

EPA Method 625

aldrin
alpha – BHC
beta – BHC
gamma – BHC
delta – BHC
chlordane
4,4' – DDT
4,4' – DDE
4,4' – DDD
dieldrin
alpha-endosulfan
beta-endosulfan
endosulfan sulfate
endrin
endrin aldehyde
heptachlor
heptachlor epoxide
PCB-1242
PCB-1254
PCB-1221
PCB-1232
PCB-1248
PCB-1260
PCB-1016
toxaphene

Other Toxic Pollutants and Total Phenol

Antimony, Total
Arsenic, Total
Beryllium, Total
Cadmium, Total
Chromium, Total
Chromium, Hexavalent
Copper, Total
Lead, Total
Mercury, Total
Nickel, Total
Selenium, Total
Silver, Total
Thallium, Total
Zinc, Total
Asbestos
Cyanide, Total
Phenols, Total
TCDD (Dioxin)

*= Polynuclear Aromatic Hydrocarbons

***NBC SIGNIFICANT INDUSTRIAL USER
ANNUAL INSPECTION CHECKLIST***

NARRAGANSETT BAY COMMISSION



Annual Inspection Checklist
For Significant Industrial Sewer Users

Company Name: _____ Engineer: _____
Contact Person(s): _____ Date: _____
Other Person(s) in Attendance: _____
Company Classification: Electroplater _____ Metalfinisher _____
Other (specify): _____

Part I - Outstanding Requirements/Progress Since Last Inspection

(a) What progress was required of the firm since the last annual inspection? _____

(b) Has required work been completed? Yes No
If no, when will it be completed? _____

(c) What work has facility initiated on its own to improve wastewater discharge?

(d) Has facility expanded/scaled down operations? Yes No
If yes, describe. _____

(c) Who operates the pretreatment system? _____

(d) List all water using operations that are **not** pretreated (e.g. casting, tubbing, boiler blowdown, cooling water, etc.). _____

(e) Is there an operation and maintenance manual maintained on site for pretreatment system? Yes No N/A

(f) Are there any spare parts maintained on site for the pretreatment equipment? Yes No N/A

If yes, list spare parts. _____

(g) Has system been installed according the NBC specifications? Yes No N/A

If no, what needs to be corrected? _____

* Check pretreatment system piping, decant ports, transfer pumps, pH recording probe location, etc.

(h) Has system been installed according to NBC approved plans? Yes No N/A

If no, what needs to be corrected? _____

* Compare plans with existing system.

- (i) Have changes been made to process operations or pretreatment system without NBC notification and approval? Yes No

If yes, detail changes. _____

- (j) Are any hydroxide sludges or other sludges produced at this facility from pretreatment operations? Yes No

If so, indicate type of sludge, volume, and source (e.g. Hydroxide sludge from clarifier, etc.) _____

- (k) Is any type of sludge discarded in the trash? Yes No
If yes, specify. _____

- (l) Are any concentrates or other hazardous materials removed by hazardous waste contractors (e.g. spent solvents, etc.)? Yes No

If yes, list types and amounts. _____

- (m) Does the facility utilize ion-exchange resins? Yes No
If yes, are ion-exchange columns regenerated on site? Yes No
If yes, how often are columns regenerated? _____

How is regenerate material disposed of? _____

How are columns regenerated? _____

Has the Pretreatment staff observed and sampled during the regeneration procedure? Yes No

If no, be sure to observe and arrange sampling of the regenerant.

Part III - Maintenance and Record Keeping

(a) Is pH recording/reporting required? Yes No

(i) Are pH charts being maintained? Yes No N/A

(ii) Do pH charts agree with monthly reports? Yes No N/A
If no, detail inaccuracies. _____

(iii) Are the pH charts being dated properly (month, day, and year)?
Yes No N/A

(b) Provide the following pre-inspection pH calibration data:

NBC pH Pen # _____ Date of Calibration: _____
(mm/dd/yy)

(c) Are facility pH probes in calibration at the time of the inspection?
Yes No N/A

pH readings: NBC _____ s.u. Company _____ s.u.

* If discrepancy is greater than 0.5 s.u., and NBC instrument is verified to be in calibration, deficiency should be noted.

(d) How often are pH and/or ORP probes cleaned and calibrated? _____

(e) If discrepancy was observed, check instruments using the company's buffer solutions and complete the following:

	<u>#1</u>	<u>#2</u>	<u>#3</u>
pH of buffer			
pH using NBC instrument			
pH registered by facility instrument			
Expiration date of buffer			

If discrepancy was observed, a post inspection calibration check must be performed at Pretreatment lab on the same day as the inspection and the following must be completed:

- a) NBC Instrument pH in buffer 4.0: _____
- b) NBC Instrument pH in buffer 7.0: _____
- c) NBC Instrument pH in buffer 10.0: _____

(f) Is the facility required to maintain a logbook? Yes No

If yes, is the logbook being maintained? Yes No

Does the logbook properly document the following?

(i) Batch discharges? Yes No N/A

(ii) Chemicals used for pretreatment system? Yes No N/A

(iii) Sludge generated on a daily, weekly, or monthly basis?
 Yes No N/A

(iv) Maintenance performed on pretreatment system? Yes No N/A

(v) Visual inspecting data for boiler room discharges? Yes No N/A

(vi) Grease interceptor inspection? Yes No N/A

(vii) Other special logbook requirements Yes No N/A

If yes, please specify _____

(g) Have Hazardous Waste Manifest forms been properly maintained on site? Yes No N/A

Part IV - Spill, Slug and Solvent Discharge Control

(a) Is a Spill & Slug Prevention Control Plan (SSPCP) necessary based upon the facility inspection? Yes No

(b) Has a SSPCP been submitted? Yes No N/A

(c) Has a SSPCP been approved? Yes No N/A

(d) Detail how a spill in the process and pretreatment areas would be contained.

(e) Detail how a spill in the chemical storage area(s) would be contained: (Be sure to check both inside and outside storage areas, outside solvent holding tanks, etc.). _____

(f) Are spill control measures physically in place as stated in SSPCP? Yes No N/A

* Check for open drains or other direct sewer access points.

(g) Is spill control in the boiler room satisfactory? Yes No N/A
 If no, what will be required to ensure proper containment in the boiler room?

(h) Based upon the facility inspection and observations noted in d, e, f, and g above, is the existing SSPCP accurate and sufficient? Yes No N/A
 If no, why? _____

(i) Is submission of a Toxic Organic/Solvent Management Plan (TO/SMP) necessary? Yes No

(j) Has TO/SMP been submitted? Yes No N/A

(k) Has TO/SMP been approved? Yes No N/A

(l) Is there proper containment of solvents as stated in the TO/SMP? Yes No N/A

(m) Is the existing TO/SMP accurate and sufficient? Yes No N/A

Part V - Process Flow Measurement

(a) How many flow meters are used to measure process wastewater discharges?

(b) Complete the following table for each process

<u>Location</u>	<u>Process Operation Monitored</u>	<u>Readings</u>	<u>Units</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

- (c) Are these flow meter readings an accurate measurement of process flows?
 Yes No N/A
- (d) If not, list user's estimate of the percent of total flow used for process water.
 _____%
- (e) Based upon _____, for the period from _____ to _____, the average daily process flow is _____GPD.
- (f) Based upon daily flow calculation, is user properly classified for permit fee billing purposes?
 Yes No N/A

Part VI - Sampling Procedures

- (a) Where should representative samples be taken for NBC and self-monitoring?

- (b) Are samples taken here presently? Yes No
 If no, why not? _____

- (c) Are non-contact cooling water or other dilution streams discharged upstream of the sampling location?
 Yes No
- * Check degreaser cooling water and steam condensate discharge lines.
- (d) Must the combined wastestream formula be used to determine compliance with EPA categorical pretreatment standards? (e.g. Does wastewater discharge through more than one (1) location?)
 Yes No
- (e) Does the firm conduct its own sample collection? Yes No
 If not, specify: _____
- (f) Is method of sample collection acceptable? Yes No
 If no, why not? _____

- (g) If firm is a metalfinisher, does cyanide sampling satisfy EPA requirements? Yes No N/A

If no, what must be changed? _____

- (h) Are sample collection procedures adequate?

(i) Samples refrigerated after collection? Yes No N/A

(ii) Proper preservation techniques used? Yes No N/A

(iii) How long are samples held before delivery to the laboratory for analysis? _

PART VII - LABORATORY ANALYSIS

- (a) Is a commercial laboratory used? Yes No

If so, which lab? _____

- (b) Is commercial lab state certified? Yes No N/A

- (c) For in-house analysis:

(i) Are duplicate samples analyzed? Yes No N/A

(ii) Are spiked samples used? Yes No N/A

(iii) Are equipment and instruments calibrated and maintained?
Yes No N/A

(iv) Is there a quality assurance plan in effect? Yes No N/A

(v) Is in-house lab state certified? Yes No N/A

(vi) If yes, request and attach copy of in-house lab certification and approved parameters.

Part VIII - User Education

(a) Educate users about each of the following:

Significant Non-Compliance (SNC) Criteria: Yes No

NBC Mission Statement: Yes No

Purpose and Types of NBC Inspections: Yes No

Monitoring and Reporting Requirements/Procedures: Yes No

Comments: _____

(b) Was the area outside the facility inspected? Yes No

Was litter observed? Yes No

If yes, educate the user of the impacts of litter on the sewer system.

***NBC INDUSTRIAL USER
INSPECTION CHECKLIST***

NARRAGANSETT BAY COMMISSION

Inspection Checklist
For Industrial Users

Company Name: _____ Tech./Eng.: _____
Person(s) Met With: _____ Date: _____
Company Classification: _____

Part I – Requirements/Progress Since Last Inspection

- (a) What was required of the firm since last inspection? _____

- (b) Has required work been completed? Yes No
If no, when will it be completed? _____

Part II –Pretreatment Equipment and Process Operations

- (a) List areas of the facility that were inspected:
 Process Operations
 Pretreatment Operations
 Other: _____
- (b) Have changes been without NBC notification and approval Yes No
If yes, detail changes. _____

Part III – Maintenance and Record Keeping

- (a) Is pH recording required? Yes No
- (b) Are facility pH probes in calibration at the time of the inspection? Yes No N/A

pH readings: NBC _____ s.u. Company _____ s.u.

* If discrepancy is greater than 0.5 s.u., and NBC instrument is verified to be in calibration, deficiency should be noted.
- (c) How often are pH probes cleaned and calibrated? _____
- (d) Is the facility required to maintain a logbook? Yes No
If yes, is the logbook being maintained? Yes No N/A
If no, please specify _____

Part IV – Spill, Slug, and Solvent Discharge Control

- (a) Does the facility have a Spill & Slug Prevention Control Plan (SSPCP)? __ Yes __ No __ N/A
- (b) Has a SSPCP been approved? __ Yes __ No __ N/A
- (c) Are spill control measures physically in place as stated in SSPCP? __ Yes __ No __ N/A

If no, Explain _____

* Check for open drains or other direct sewer access points.

- (d) Does the facility have a Toxic Organic/Solvent Management Plan (TO/SMP)? __ Yes __ No __ N/A
 - (e) Has TO/SMP been submitted? __ Yes __ No __ N/A
 - (f) Has TO/SMP been approved? __ Yes __ No __ N/A
 - (g) Is the existing TO/SMP accurate and sufficient? __ Yes __ No __ N/A
- If no, Explain _____

Part V - Process Flow Measurement:

(a) How many flow meters are used to measure process wastewater discharges?

(b) Complete the following table for each process

Location	Process Operation Monitored	Readings	Units
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Part VI – Comments/Requirements:

Engineers Comments: _____

What will be required of the firm? _____

If this is an industrial vacation shutdown inspection, please provide a copy of the NBC notice detailing the proper disposal methods that should be used during the annual facility vacation shutdown.

Is the facility shutting down for vacation? __ Yes __ No __ N/A
If yes, provide dates _____

***NBC DENTAL FACILITY
INSPECTION CHECKLIST***

NARRAGANSETT BAY COMMISSION



Inspection Checklist For Dental Facilities

Company Name: _____
Facility Address: _____
Inspection Date: _____ NBC Inspector(s): _____
Person(s) met with: _____

Part I – Facility Information

- (1) Company Owner: _____
- (2) Contact Person: _____
- (3) Phone Number: _____
- (4) Hours of Operation: _____
- (5) Type of Dental Facility: _____
- (6) Make/Model of Amalgam Separator: _____

Part II - Requirements/Progress Since Last Inspection

- (1) What was required of the firm since the last inspection? _____

- (2) Has required work been completed? Yes No
If no, when will it be completed? _____

- (3) Have all required reports (BMP Certification, SMCRs) been submitted on time? Yes No
If no, discuss the ramifications of late submittals and SNC with the user _____

- (4) Has the firm been in compliance for the past 12 month period? Yes No
If no, detail the compliance issues and discuss with the user. _____

Part III – Amalgam Separator Maintenance/Installation Information

(1) Has the amalgam separator been installed according to NBC approved plans? * Yes No
If no, what needs to be corrected? _____

* Compare plans with existing system.

(2) Have changes been made without NBC notification and approval? [gu "P q
If yes, detail changes. _____

(3) Unit accessible? Yes No

(4) Solids container was present and operational? Yes No

(5) Level of sediment in solids collection container: _____

(6) Date solids container was last replaced/emptied: _____

(7) Sample port was properly installed? Yes No

(8) Unit has been properly maintained? Yes No

(9) How is waste amalgam disposed of? _____

(10) Type of vacuum pumps installed: _____
Verify that vacuum pump is equipped with a filter.

(11) Number of sinks discharging to the separator: _____
Verify that all sinks discharging to the separator are properly designated for equipment washing only.

(12) Are chair side traps present on all dental chairs? Yes No
Verify that chair side traps are being inspected daily and cleaned or replaced as necessary.

(13) Type of line cleaner used: _____

(14) Is elemental mercury stored onsite? If yes, how is it stored and disposed of? _____

Part IV – X-Ray Processor System Information

- (1) Is x-ray processing performed at this facility? Yes No
- (2) Are there discharges to the sewer from x-ray processing operations? Yes No
If yes, detail discharges. _____

- (3) Is there a silver recovery unit in place? Yes No
- (4) Has silver recovery unit been installed according to NBC approved plans?, [gu""P q
If no, what needs to be corrected? _____

- *Compare plans with existing system.
- (5) Sample port was properly installed? Yes No
- (6) Unit has been properly maintained? Yes No

Part V – Record Keeping

- (1) Is the facility required to maintain an amalgam separator logbook? Yes No
- (2) Does the amalgam separator logbook properly document the following?
- a. The date of each separator inspection and service activity? Yes No
 - b. The location of each trap and separator being serviced? Yes No
 - c. All routine and non routine activities conducted (i.e. cleaning, maintenance, filter replacement)? Yes No
 - d. Signature of person conducting activity? Yes No
- (3) Is the facility required to maintain a x-ray processor system logbook? Yes No
- (4) Does the x-ray processor system logbook properly document the following?
- a. Amount of chemicals used (i.e. fixer, developer)? Yes No N/A
 - b. Completed manifest forms for hazardous materials? Yes No N/A
 - c. A listing of all batch discharges including the date of the discharge and a description of the tank from which the discharge occurred? Yes No N/A
 - d. Maintenance performed on the pretreatment system? Yes No N/A

Part VI - User Education

(1) Educate users about each of the following:

NBC Dental BMP Program:	Yes	No
Permit/Logbook Requirements:	Yes	No
Monitoring and Reporting Requirements/Procedures:	Yes	No

Comments: _____

What will be required of firm? _____

***NBC FOOD PREPARATION
ESTABLISHMENTS INSPECTION
CHECKLIST***

NARRAGANSETT BAY COMMISSION



Inspection Checklist For Food Preparation Establishments

Inspection Date: _____

Company Name: _____

Facility Address: _____

Technician/Engineer: _____

Person(s) met with: _____

Part I - Facility Information

- (1) Company Owner: _____
- (2) Contact Person: _____
- (3) Type of GRU: _____
- (4) Brand of GRU: _____
- (5) Size of GRU: _____
- (6) Type of food served: _____
- (7) Hours of Operation: _____
- (8) Seating Capacity: _____
- (9) Based upon seating capacity, is user properly classified for permit fee billing purposes? Yes No
- (10) Menu on file? Yes No
- (11) Drive through window? Yes No

Part II - Requirements/Progress Since Last Inspection

- (1) What was required of the firm since the last inspection? _____
- (2) Has required work been completed? Yes No N/A
If no, when will it be completed? _____

Part III - GRU Maintenance/Installation Information

- (1) Has grease removal system been installed according to NBC approved plans? *
Yes No N/A

If no, what needs to be corrected? _____

* Compare plans with existing system.

- (2) Have changes been made without NBC notification and approval? (kitchen fixtures, menu, grease removal unit, etc.) Yes No N/A

If yes, detail changes. _____

- | | | | |
|---|-------|----|-----|
| (3) Unit accessible? | Yes | No | N/A |
| (4) Power supplied to GRU? | Yes | No | N/A |
| (5) GRU solids basket was present and operational? | Yes | No | N/A |
| (6) Solids basket had been emptied? | Yes | No | N/A |
| (7) GRU wiper blades were fully operational? | Yes | No | N/A |
| (8) GRU trough was clean and operational? | Yes | No | N/A |
| (9) GRU timer was fully operational? | Yes | No | N/A |
| (10) GRU installed in accordance with NBC requirements? | Yes | No | N/A |
| (11) Sample port was properly installed? | Yes | No | N/A |
| (12) Grease container present? | Yes | No | N/A |
| (13) Unit has been properly cleaned? | Yes | No | N/A |
| (14) How is waste grease disposed of? | _____ | | |

Part IV - Record Keeping

- | | | | |
|--|-------|--------|---------|
| (1) Is the facility required to maintain a logbook? | Yes | No | N/A |
| If yes, logbook is required to be maintained | Daily | Weekly | Monthly |
| Is the logbook being maintained at the required frequency? | Yes | No | |
| (2) Does the logbook properly document the following? | | | |
| a. Cleaning and emptying of solids basket? | Yes | No | N/A |
| b. Cleaning of wiper blades? | Yes | No | N/A |
| c. Cleaning of trough? | Yes | No | N/A |
| d. Estimated amount of grease removed? | Yes | No | N/A |
| e. Wet vacuuming of the GRU? | Yes | No | N/A |
| f. Thickness of the grease layer (passive)? | Yes | No | N/A |
| g. Mandatory monthly cleanings incl. amount of grease removed, date, time (passive)? | Yes | No | N/A |
| h. Maintenance performed? | Yes | No | N/A |
| i. Physical receipts for each pump-out retained? | Yes | No | N/A |

Part V - User Education

- | | | | |
|---|-----|----|-----|
| (1) Educate users about each of the following: | | | |
| NBC Grease Removal Program: | Yes | No | N/A |
| Permit/Logbook Requirements: | Yes | No | N/A |
| Monitoring and Reporting Requirements/Procedures: | Yes | No | N/A |

Comments: _____

What will be required of firm? _____

***NBC SEPTAGE TRUCK
INSPECTION CHECKLIST***

Lincoln Septage Facility
Septage Truck Inspection Checklist

Inspector : _____
Inspection Date: _____
Septage Hauler: _____
Vehicle Inspected: _____
Drivers Name: _____

Vehicle Inspection

Registration OK?	<input type="checkbox"/> Yes	<input type="checkbox"/> No – Call State Police
Insurance Card Ok?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
NBC Volume Sticker In Place	<input type="checkbox"/> Yes	<input type="checkbox"/> No – Issued NOV
NBC Permitted User Sticker in Place	<input type="checkbox"/> Yes	<input type="checkbox"/> No – Issued NOV
NBC Computer Chip In Place	<input type="checkbox"/> Yes	<input type="checkbox"/> No – Issued NOV

Paperwork Review

Manifest Properly Completed Yes No – Issued Nov and Refuse Load.

If No, List Problems: _____

Waste Discharge Inspection

pH of Waste: _____ s.u.

Was grease observed in Sample? Yes No - If yes, Refuse Load and Collect Sample for Evidence.

Was grease observed in lakeside? Yes No - If yes, Stop Load Discharge and Collect Sample.

Educational Procedure Review

Manifest Paperwork Completion procedure was reviewed with driver Yes No
Grease Policy reviewed with driver Yes No

Other Comments: _____

***NBC SAMPLING, REPORTING, AND
CHAIN OF CUSTODY FORMS***



The Narragansett Bay Commission
Pretreatment Program
2 Ernest Street
Providence, RI 02905

**Field's Point District
Self-Monitoring Compliance Report**

Company Name: _____

Address of Premises Sampled: _____

Date(s) Sampled: _____

Permit Sampling Month Satisfied: _____

Samples Taken By: _____
(Name) (Company)

Samples Analyzed By: _____
(Company)

Type of Sample: Grab _____ Composite _____

If Grab Sample, what time(s) was sample taken? _____

If Composite Sample, describe how composite was taken _____

Where was sample taken? _____

Water Meter Readings (List readings for all meters discharging to sampling location)

	#1	#2	#3
Closing Reading:	_____	_____	_____
Opening Reading:	_____	_____	_____
Total:	_____	_____	_____
Units (Circle One):	Cubic Feet/Gallons	Cubic Feet/Gallons	Cubic Feet/Gallons
Other (Specify):	_____	_____	_____

Were any batch discharges sampled? _____ Yes _____ No

What tank was sample taken from? _____

Indicate volume of batch discharge: _____

Is this analysis a resampling required to demonstrate compliance with a previous violation?

_____ Yes _____ No

What is the sample identification number(s) or the analytical report identification number(s) indicated on the analytical report(s) being submitted? _____

Is this analysis in full compliance with NBC standards listed on the back of this form?

_____ Yes _____ No

If your firm was in violation, what was the cause of the violation? _____

What steps will be taken by your firm to ensure full compliance with NBC standards on a continuous basis? _____

When will these steps be implemented? _____

If your firm is not in full compliance with the NBC standards, U.S. EPA Regulations, 40 CFR 403.12g (2) requires that you notify the NBC at 461-8848 within 24 hours of becoming aware of the violation and that your firm resample and analyze for the parameter(s) in violation of the NBC standards. The results after resampling must be submitted to the NBC no later than thirty (30) days following the date that you became aware of the initial violation of the standards.

Please attach the laboratory analysis sheet. Indicate on this sheet the method of analysis used for each parameter listed. Sampling and analysis shall be performed in accordance with the techniques prescribed by federal regulations (40 CFR, Part 136).

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. In lieu of monitoring for Total Toxic Organics, I hereby certify that based on my inquiry of the person or persons directly responsible for managing compliance with the permit limitations for Total Toxic Organics (TTO), I certify that, to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewaters has occurred since filing of the last discharge monitoring report. I further certify that this facility is implementing the toxic organic/solvent management plan submitted to the NBC.

Signature of Authorized Company Representative

Date

Report will be returned if form is not properly completed and signed.

NBC Field's Point Effluent Discharge Limitations*

Parameter	Maximum Daily Concentration Limit (mg/l)	Monthly Average Concentration (mg/l)
Cadmium (Total)	0.11	0.07
Chromium (Total)	2.77	1.71
Copper (Total)	1.20	1.20
Cyanide (Total)	0.58	0.58
Lead (Total)	0.60	0.40
Mercury (Total)	0.005	0.005
Nickel (Total)	1.62	1.62
Silver (Total)	0.43	0.24
Zinc (Total)	2.61	1.48
Parameter	Limitation (Maximum)	
Total Toxic Organics (TTO)	2.13	
Biochemical Oxygen Demand (BOD)	300.00 **	
Total Suspended Solids (TSS)	300.00 **	
Total Oil and Grease (fats, oils and grease)	125.00	
Oil and Grease (mineral origin)	25.00	
Oil and Grease (vegetable origin)	100.00	
pH range (at all times)	5.0 - 11.0 s.u.	

* All parameters in mg/l unless otherwise specified.

** Exceeding this discharge limitation may be permitted but would be subject to a surcharge in accordance with rates approved by the Public Utilities Commission and in accordance with R.I.G.L. §39-1-1 et seq.



The Narragansett Bay Commission

Pretreatment Program
2 Ernest Street
Providence, RI 02905

**Bucklin Point District
Self-Monitoring Compliance Report**

Company Name: _____

Address of Premises Sampled: _____

Date(s) Sampled: _____

Permit Sampling Month Satisfied: _____

Samples Taken By: _____
(Name) (Company)

Samples Analyzed By: _____
(Company)

Type of Sample: Grab _____ Composite _____

If Grab Sample, what time(s) was sample taken? _____

If Composite Sample, describe how composite was taken _____

Where was sample taken? _____

Water Meter Readings (List readings for all meters discharging to sampling location)

	#1	#2	#3
Closing Reading:	_____	_____	_____
Opening Reading:	_____	_____	_____
Total:	_____	_____	_____
Units (Circle One):	Cubic Feet/Gallons	Cubic Feet/Gallons	Cubic Feet/Gallons
Other (Specify):	_____	_____	_____

Were any batch discharges sampled? _____ Yes _____ No

What tank was sample taken from? _____

Indicate volume of batch discharge: _____

Is this analysis a resampling required to demonstrate compliance with a previous violation?

_____ Yes _____ No

What is the sample identification number(s) or the analytical report identification number(s) indicated on the analytical report(s) being submitted? _____

Is this analysis in full compliance with NBC standards listed on the back of this form?

_____ Yes _____ No

If your firm was in violation, what was the cause of the violation? _____

What steps will be taken by your firm to ensure full compliance with NBC standards on a continuous basis? _____

When will these steps be implemented? _____

If your firm is not in full compliance with the NBC standards, U.S. EPA Regulations, 40 CFR 403.12g (2) requires that you notify the NBC at 461-8848 within 24 hours of becoming aware of the violation and that your firm resample and analyze for the parameter(s) in violation of the NBC standards. The results after resampling must be submitted to the NBC no later than thirty (30) days following the date that you became aware of the initial violation of the standards.

Please attach the laboratory analysis sheet. Indicate on this sheet the method of analysis used for each parameter listed. Sampling and analysis shall be performed in accordance with the techniques prescribed by federal regulations (40 CFR, Part 136).

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. In lieu of monitoring for Total Toxic Organics, I hereby certify that based on my inquiry of the person or persons directly responsible for managing compliance with the permit limitations for Total Toxic Organics (TTO), I certify that, to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewaters has occurred since filing of the last discharge monitoring report. I further certify that this facility is implementing the toxic organic/solvent management plan submitted to the NBC.

Signature of Authorized Company Representative

Date

Report will be returned if form is not properly completed and signed.

NBC Bucklin Point Effluent Discharge Limitations*

Parameter	Maximum Daily Concentration Limit (mg/l)	Monthly Average Concentration (mg/l)
Arsenic (Total)	0.20	0.10
Cadmium (Total)	0.11	0.07
Chromium (Total)	2.77	1.63
Copper (Total)	1.20	1.20
Lead (Total)	0.69	0.29
Mercury (Total)	0.06	0.03
Nickel (Total)	1.62	1.62
Selenium (Total)	0.40	0.20
Silver (Total)	0.40	0.20
Tin (Total)	4.00	2.00
Zinc (Total)	1.67	1.39
Cyanide (Total)	0.50	0.50
Parameter	Limitation (Maximum)	
Total Toxic Organics (TTO)	2.13	
Biochemical Oxygen Demand (BOD)	300.00 **	
Total Suspended Solids (TSS)	300.00 **	
Total Oil and Grease (fats, oils and grease)	125.00	
Oil and Grease (mineral origin)	25.00	
Oil and Grease (vegetable origin)	100.00	
pH range (at all times)	5.0 - 11.0 s.u.	

* All parameters in mg/l unless otherwise specified.

** Exceeding this discharge limitation may be permitted but would be subject to a surcharge in accordance with rates approved by the Public Utilities Commission and in accordance with R.I.G.L. §39-1-1 et seq.



TWENTY-FOUR (24) HOUR VIOLATION NOTIFICATION FAX FORM

Fax To: Narragansett Bay Commission
(401) 461-0170

Company Name: _____

Facility Address: _____

This is to notify the Narragansett Bay Commission (NBC) that the above-referenced facility violated the NBC discharge limitations for the following parameter(s):

<u>Sampling Date of Violation</u>	<u>Parameter</u>	<u>Concentration</u>

I certify that I have just become aware of the above-referenced violation(s) within the past twenty-four (24) hours and will immediately resample this wastestream for the parameter(s) exceeding the NBC discharge limitations.* I certify under penalty of law that this document and all attachments were properly prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

Initial sampling and all resampling results must be submitted within 30 days of the sample date. Please note, resampling must continue until four consecutive samples show compliance with NBC discharge limitations.

Signature of Authorized Agent

* Resampling is not required for exceeding BOD or TSS limits.

**CONTINUOUS DISCHARGE
PH MONITORING REPORT**
MONTH OF: _____ 20 ____



Company Name: _____
Address: _____

Return to: **Narragansett Bay Commission**
Pretreatment Section
2 Ernest Street
Providence, RI 02905

Date	MAXIMUM pH	MINIMUM pH	AVERAGE pH (VISUAL)	VOLUME/WATER METER READING IF REQUIRED*	COMMENTS
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					

I certify under penalty of law that this document and all attachments were properly prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations. I certify the above data has been reported directly from the recording chart of the final pH recorder and is reported to an accuracy of 0.1 standard units.

Signature

Date

Name (Print)

Title

*INDICATE IF GALLONS OR CUBIC FEET

**BATCH DISCHARGE
Ph MONITORING REPORT**
MONTH OF: _____ 20 ____



Company Name: _____
Address: _____

Return to: **Narragansett Bay Commission**
Pretreatment Section
2 Ernest Street
Providence, RI 02905

Date	Batch Discharge I		Batch Discharge II		Batch Discharge III		Batch Discharge IV		COMMENTS
	Final pH	Vol.	Final pH	Vol.	Final pH	Vol.	Final pH	Vol.	
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
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28									
29									
30									
31									

Please indicate the method used to measure pH: _____

I certify under penalty of law that this document and all attachments were properly prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

Signature

Date

Name (Print)

Title

Zero Process Wastewater Discharge Certification

For the Month of _____, 20__

Company Name: _____

Address: _____

RETURN TO:
Narragansett Bay Commission
Pretreatment Program
2 Ernest Street
Providence, RI 02905

I, _____, as authorized representative of _____, do hereby decree that no process wastewater was discharged into the Narragansett Bay Commission sewer system for the past six (6) month period.

Date of Meter Readings: _____

<u>Meter Number</u>	<u>Water Meter Readings</u>	<u>Units (cf, gal.)</u>
Meter #1	_____	_____
Meter #2	_____	_____
Meter #3	_____	_____

I certify under penalty of law that this document and all attachments were properly prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

Authorized Representative Signature

Date

Attachment A

Zero Process Wastewater Discharge Certification

For the Six (6) Month Period from

_____ to _____

Company Name: _____

Address: _____

RETURN TO:
Narragansett Bay Commission
Pretreatment Program
2 Ernest Street
Providence, RI 02905-5502

I, _____, as authorized representative of _____, do hereby decree that no process wastewater was discharged into the Narragansett Bay Commission sewer system for the past six (6) month period.

Date of Meter Readings: _____

<u>Meter Number</u>	<u>Water Meter Readings</u>	<u>Units (cf, gal.)</u>
Meter #1	_____	_____
Meter #2	_____	_____
Meter #3	_____	_____

I certify under penalty of law that this document and all attachments were properly prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for known violations.

Authorized Representative Signature

Date

Attachment A

Best Management Practice Certification

For the 12-month period from _____, 20__ to _____, 20__

Company Name: _____

Address: _____

RETURN TO:
Narragansett Bay Commission
Pretreatment Program
2 Ernest Street
Providence, RI 02905-5502

I, _____, as authorized representative of
_____, do hereby decree that the Narragansett Bay
Commission Best Management Practices for the Management of Waste Dental Amalgam have been
fully complied with for the past twelve month period.

I certify under penalty of law that this document and all attachments were properly prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for known violations.

Authorized Representative Signature

Date

NARRAGANSETT BAY COMMISSION SAMPLE SUBMISSION SHEET

SOURCE: _____ EMDA# _____ DATE: _____
 STREET: _____ SAMPLER # _____ TIME: _____
 CITY/STATE: _____ COLLECTED BY: _____
 SAMPLE LOCATION: _____ FACILITY CONTACT: _____
 INSTRUCTIONS: _____

PARAMETERS FOR ANALYSIS*

Cd _____	Ag _____	BOD (5 day) _____
Cr (Total) _____	Zn _____	TSS _____
Cr (Hex.) _____	Hg _____	FOG _____
Cu _____	CN (Total) _____	TPH _____
Pb _____	VOC _____	() _____
Ni _____	Ext _____	() _____

*All analyses done according to 40 CFR part 136. Results reported in mg/l unless specified otherwise.

FIELD AND PRESERVATION DATA

Sample Information					Preservation Chemicals Added								
Sample No.	Sample Time Start/Stop	Analyze For	Sample Type (G) or (C)	Initial pH	Nitric Acid (ml)	Hydro-Chloric Acid (ml)	Res. Cl (+) or (-)	Lead Acetate (+) or (-)	NaOH (ml)	Ascorbic Acid (g)	Other	Final pH	Sealed By
A													
B													
C													
D													
E													
F													
G													
H													
I													
J													
K													
L													
M													

Did user accept a split or replicate sample?

Sample	A	B	C	D	E	F	G	H	I	J	K	L	M	Signature
Yes														
No														

Meter Readings	Meter #1	Meter #2	Meter #3	Meter #4
Close				
Open				
Total	(c.f., gals)	(c.f., gals)	(c.f., gals)	(c.f., gals)

REMARKS _____

CHAIN OF CUSTODY

Samples transferred by: _____
 Samples received by: _____
 DATE: _____ TIME: _____

Samples transferred by: _____
 Samples received by: _____
 DATE: _____ TIME: _____

Samples transferred by: _____
 Samples received by: _____
 DATE: _____ TIME: _____

RESULTS REPORTED BY: _____

RESULTS REPORTED ON: _____

NARRAGANSETT BAY COMMISSION

Source _____

Sample ID _____

Initials of Collectors: _____

Place of Collection: _____

Date Sampled _____ Time Sampled _____

Analysis Requested _____

Rec'd From _____ Date _____

Rec'd By _____ Time _____

NARRAGANSETT BAY COMMISSION

Source _____

Sample ID _____

Initials of Collectors: _____

Place of Collection: _____

Date Sampled _____ Time Sampled _____

Analysis Requested _____

Rec'd From _____ Date _____

Rec'd By _____ Time _____

CUSTODY SEAL

DATE _____

SIGNATURE _____

QEC

Quality Environmental Containers
800-255-3950 • 304-255-3900

CUSTODY SEAL

DATE _____

SIGNATURE _____

QEC

Quality Environmental Containers
800-255-3950 • 304-255-3900

DEFINITION OF AN AUTHORIZED AGENT



An authorized agent or authorized company representative is a person who is a principal executive officer or other corporate officer with signatory powers as per the company's by-laws or per a vote of the directors if the company is a corporation; a general partner or proprietor if the company is a partnership or sole proprietorship respectively; or a duly authorized representative, the individual designated on the permit application or permit cover page, if such representative is responsible for the overall operation of the facility and has the authority to sign contracts, permits, permit applications, monitoring results and other documents in the company's name and otherwise bind the company. Please complete the Designation Of Authorized Agent section below if you wish to designate additional authorized agents. The Narragansett Bay Commission will not accept documents signed by persons other than the company's authorized agent(s) or authorized representative(s).

DESIGNATION OF AUTHORIZED AGENT

I, _____ certify that I am the _____ of
_____ and that _____
is authorized to make submittals to the Narragansett Bay Commission on behalf of _____
_____ and that said submittals are duly signed for and
in behalf of said corporation by authority of its governing body, and are within the scope of
its corporate powers.

Corporate Seal

Signature of Corporation Official

Date

***NBC ONE-TIME COMPLIANCE
REPORT FOR DENTAL FACILITIES***



Narragansett Bay Commission
One-Time Compliance Report for Dental Facilities
40CFR441.50 Dental Point Source Category

The United States Environmental Protection Agency (EPA) finalized the Dental Point Source Category (40CFR441) on July 14, 2017. This form must be completed under 40CFR441.50, which requires all dental facilities to complete and submit a one-time compliance report to the local Pretreatment Program.

Practice Name: _____

Premise Address: _____

Mailing Address: _____

List all dentists affiliated with this practice:

Name:	Email address:
_____	_____
_____	_____
_____	_____
_____	_____

Primary Contact for Practice: Name: _____
Email Address: _____
Phone Number: _____

Type(s) of Dentistry Performed:

General Dentistry	Yes	_____	No	_____
Orthodontics	Yes	_____	No	_____
Periodontics	Yes	_____	No	_____
Endodontics	Yes	_____	No	_____
Prosthodontics	Yes	_____	No	_____
Oral and Maxillofacial Surgery	Yes	_____	No	_____
Other (please detail)		_____		_____

This practice began operations prior to July 14, 2017 Yes _____ No _____

This practice places and/or removes dental amalgam on a regular or an infrequent basis:
Yes _____ No _____

An ISO 11143 (or ANSI/ADA 108-2009) certified amalgam separator (or equivalent device) has been installed to capture amalgam bearing waste streams. Yes _____ No _____

Please provide the make and model of the amalgam separator:

Make: _____ Model: _____

Date the amalgam separator was installed: _____

An equivalent device has been installed at the facility: Yes _____ No _____

Please provide the make and model of the equivalent device:

Make: _____ Model: _____

Date the device was installed: _____

How many chairs are at this facility? _____

How many chairs are connected to the amalgam separator or equivalent device? _____

How many sinks (used for instrument washing) are connected to the amalgam separator or equivalent device? _____

I certify the amalgam separator or equivalent device is designed and is being properly maintained and operated in accordance with NBC Best Management Practices. Yes _____ No _____

Maintenance is performed by onsite personnel: Yes _____ No _____

If yes, describe operation and maintenance procedures:

A vendor has been contracted to operate and maintain the amalgam separator or equivalent: Yes _____ No _____

If yes, provide the contact person, company name, address and phone number of your vendor:

If the amalgam separator or equivalent device that is presently installed needs to be replaced, an amalgam separator or equivalent device meeting the requirements of the NBC Best Management Practices for the Management of Waste Dental Amalgam (NBC BMP) as well as 40CFR441.30(a)(1) or 40CFR441.30(a)(2) must be installed. The amalgam separator must be ISO 11143 certified with a 99% removal rate or equivalent device must be installed.

The dental practice complies with the best management practices outlined in the NBC BMP and 40CFR441.30(b) or 40CFR441.40. These best management practices include but are not limited to:

- Waste amalgam including but not limited to dental amalgam from chair side traps, screen, vacuum pumps, filters, dental tools, cuspidors, or collection devices is strictly prohibited from being discharged to the sewer system.
- Elemental mercury is strictly prohibited from being discharged to the sewer system.
- All equipment that comes in contact with amalgam must be operated and maintained in accordance with manufacturers specifications.
- Equipment coming in contact with amalgam, including piping, must not be cleaned with oxidizing or acidic cleaners, including but not limited to bleach, chlorine, iodine, and peroxide that have a pH lower than 6.0 standard units (su) or greater than 8.0 su. These types of cleaners may increase the dissolution of mercury.

Certification Statement

As per 40CFR441.50(a)(2) this one-time compliance report must be signed and certified by a responsible corporate officer, a general partner or proprietor if the dental practice is a partnership or sole proprietorship, or a duly authorized representative in accordance with 40CFR403.12(l).

I am a responsible corporate officer, a general partner or proprietor (if the dental practice is a partnership or sole proprietorship), or a duly authorized representative in accordance with 40CFR403.12(l) of the above named dental practice, and certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Authorized Agent:

Print Name

Signature

Phone Number

Email Address

Date: _____

This One-Time Compliance Report must be maintained onsite and be available for review, either in physical or electronic form, during inspections as long as this dental practice is in operation or until there is a change in ownership.

ATTACHMENT VOLUME I

SECTION 4

***SAMPLE NBC ENFORCEMENT
LETTERS, NOTICES, AND ORDERS***

NOTICE OF VIOLATION
FAILURE TO MEET STANDARDS (USER SAMPLE)



September 26, 2018

Mr. Mark Federico
Providence Specialty Products
33 Dearborn Street
Providence, RI 02909-4101

Dear Mr. Federico:

The sample results for August, which were received by this office on September 25, 2018 indicate that you are in violation of discharge limitations for the following:

Sample Location #2

Sample Date	Parameter	Sample Type	Sample Result	Standard Type	Max. Limit	Avg. Limit
08/28/2018	OIL & GREASE - T	Grab	179	LOCAL	125.00	0.00
08/29/2018	OIL & GREASE - T	Grab	127.6	LOCAL	125.00	0.00
08/30/2018	OIL & GREASE - T	Grab	185.8	LOCAL	125.00	0.00
08/31/2018	OIL & GREASE - T	Grab	193.8	LOCAL	125.00	0.00

As a condition of your Wastewater Discharge Permit, these discharge limitations must be met at all times. Failure to meet the standards may result in the Commission initiating enforcement action against your firm and the publication of your company's name in the Commission's annual list of firms in Significant Non-Compliance which is published each year in the PROVIDENCE JOURNAL. Based upon these results, you must immediately resample your process discharge for the parameter(s) in violation noted above. You must continue this weekly sampling until four (4) consecutive weekly reports indicate full compliance with NBC discharge limitations. Results must be submitted for NBC review within three (3) weeks from the sampling date.

Please note that the NBC is available to provide free technical assistance to your firm. For information regarding how the Pollution Prevention Program can help your firm achieve and maintain compliance, contact Mr. James McCaughey at 461-8848, ext. 352.

If you should have any questions regarding this letter, please contact me at 461-8848, ext. 490.

Sincerely,

Edward J. Stenovitch
Pretreatment Engineer

EJS:smb

**NOTICE OF VIOLATION
FAILURE TO MEET STANDARDS (NBC SAMPLE)**

June 15, 2018

Mr. Frank A. DeFruscio
DiFruscia Industries, Inc.
1425 Cranston Street
Cranston, RI 02920



Dear Mr. DeFruscio

Enclosed please find the results of the analyses performed by the Narragansett Bay Commission (NBC) Laboratory on a sample taken by the Bay Commission personnel at your facility on May 31, 2018. These results indicate that you are in violation of Narragansett Bay Commission (NBC) discharge limitations for the following:

Sample Location # 1

Sample Date	Parameter	Sample Type	Sample Result	Standard Type	Max. Limit	Avg. Limit
5/31/2018	NICKEL	Composite	21.223	EPA	3.98	2.38
5/31/2018	NICKEL	Composite	21.223	LOCAL	1.62	1.62
5/31/2018	ZINC	Composite	3.916	EPA	2.61	1.48
5/31/2018	ZINC	Composite	3.916	LOCAL	2.61	1.48

As a condition of your Wastewater Discharge Permit, these discharge limitations must be met at all times. Failure to meet the standards may result in the Commission initiating enforcement action against your firm and the publication of your company's name in the Commission's annual list of firms in Significant Non-Compliance which is published each year in the PROVIDENCE JOURNAL. Based upon these results, you must immediately resample your process discharge for the parameter(s) in violation noted above. You must continue this weekly sampling until four (4) consecutive weekly reports indicate full compliance with NBC discharge limitations. Results must be submitted for NBC review within three (3) weeks from the sampling date.

Please note that the NBC Office of Pollution Prevention is available to provide free technical assistance to your firm. For information regarding how the Pollution Prevention Program can help your firm achieve and maintain compliance, contact Mr. James McCaughey at 461-8848. If you should have any questions regarding this letter, contact me at 461-8848.

Sincerely,

Nathan P. Daggett
Principal Pretreatment Engineer

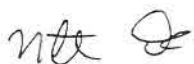
WASTEWATER SAMPLE ANALYSIS



Company Name: DiFruscia Industries, Inc.
Company Address: 20-A Starr Street
Johnston, RI 02919
Location Name: Sample Location # 1
Type of Sample: Composite
Date of Sample: May 31, 2018

Parameter	Concentration (mg/l)
AMMONIA	0.1
ARSENIC	0.005
CADMIUM	0.015
CHROMIUM	0.299
COPPER	0.747
CYANIDE	0.124
LEAD	0.075
NICKEL	21.223
NO3+NO2	17.8
SILVER	0.025
TKN	0.5
Total Nitrogen	17.8
ZINC	3.916

Reviewed By:



Nathan P. Daggett
Principal Pretreatment Engineer

NOTICE OF VIOLATION
AVERAGE LIMIT VIOLATION



July 02, 2018

Mr. Frank Bliss
Bliss Manufacturing Co., Inc.
50 Bacon Street
Pawtucket, RI 02860

Dear Mr. Bliss:

The results of sampling conducted at your firm for the month of May-2018 show that you are in violation of average discharge limitations for the following:

Sample Location # 1

Parameter	# of Analyses	Standard Type	Avg. Conc.	Avg. Limit	Type
CYANIDE	3	LOCAL	5.43	0.5	NBC MONTHLY

As a condition of your Wastewater Discharge Permit and as required by U.S. EPA regulations, monthly average discharge limitations must be met at all times. Failure to meet the monthly average standards may result in the NBC initiating enforcement action against your firm and the possible publication of your company's name in the NBC annual list of firms in Significant Non-Compliance which is published each year in the PROVIDENCE JOURNAL. Therefore it is important to always be in compliance with the monthly average discharge concentration, in addition to the maximum discharge limit. It is strongly recommended that you sample early each required sampling month to allow adequate time to resample in that month, should the initial result indicate that the monthly average limit was exceeded.

Please note that the NBC Office of Pollution Prevention is available to provide free technical assistance to your firm. For information regarding how the Pollution Prevention Program can help your firm achieve and maintain compliance, contact Mr. James McCaughey at 461-8848 Ext. 352. If you should have any questions regarding this letter, contact me at 461-8848 Ext. 490.

Sincerely,


Travis Costa
Senior Pretreatment Technician

Notice of Violation
Failure to Meet Standards (Manhole)



November 14, 2018

Mr. Edward A. Johnson, III
Universal Plating Company, Inc.
25 River Avenue
Providence, RI 02908

Dear Mr. Johnson:

The Narragansett Bay Commission (NBC) regularly conducts surveillance monitoring of its users. This monitoring is done by installing automatic samplers in manholes isolating that company. The samplers are programmed to collect composite samples of the wastewater discharging through the manhole.

On September 26, 2018 the NBC conducted surveillance manhole sampling up and downstream of your facility. The analytical results from the upstream manhole indicate full compliance with NBC discharge limitations. However, the analytical results from the downstream manhole indicate noncompliance with the following parameters:


<u>Parameter</u>	<u>Sampling Type</u>	<u>Results</u> <u>(mg/L)</u>	<u>Daily Maximum</u> <u>(mg/L)</u>	<u>Average</u> <u>(mg/L)</u>
Copper	Composite	2.51	1.20	1.20

It has been determined that your firm is the source of the non-compliant wastewater. You must submit a report by November 30, 2018 detailing the cause of the high concentrations of copper, and a proposal to ensure that your facility is in compliance with the NBC's effluent discharge limitations at all times.

Please note that the NBC is available to provide free technical assistance to your firm. For information regarding how the Pollution Prevention Program can help your firm achieve and maintain compliance, contact Mr. James McCaughey at 461-8848.

If you have any questions regarding this letter, please contact me at 461-8848 ext. 490.

Sincerely,


Brian Steere
Pretreatment Technician

Enclosure



Manhole Sample Analysis

Company: Universal Plating Company, Inc.
Address: 25 River Avenue, Providence, RI 02908
Date of Sample: September 26, 2018
Type of Sample: Composite

<u>Parameter</u>	<u>Upstream Manhole Concentration (mg/L)</u>	<u>Downstream Manhole Concentration (mg/L)</u>
Cadmium	<0.015	0.0258
Chromium	<0.075	<0.075
Copper	0.0551	2.515
Cyanide	<0.004	<0.004
Lead	<0.075	<0.075
Nickel	<0.05	0.5243
Silver	<0.025	0.02839
Zinc	<0.06	0.2364
pH (standard units)	9.5	8.01

Reviewed by:

Nathan J. Dean
Assistant Pretreatment Manager

**Notice of Violation
Failure to Immediately Report Violation**



October 31, 2018

Mr. Dean Fredrickson
Shaw's Supermarket Store #7443
P.O. Box 20, Dept. # 81014
Boise, ID 83726

Dear Mr. Fredrickson:

The Self-Monitoring Compliance report which was received by this office on October 25, 2018 indicated non-compliance with the NBC discharge limitations. EPA regulations, 40CFR. 403.12g(2), require that you notify the Narragansett Bay Commission (NBC) within 24 hours of becoming aware of this violation.

You failed to comply with this regulation since you did not notify the NBC within the 24 hour reporting period. This is not acceptable. In the future you must report any discharge violation within 24 hours by contacting me at 461-8848 or by using the attached FAX notification form.

In addition to notifying the NBC immediately regarding the violation, EPA regulations require that you repeat the sampling and analyses for the parameter(s) in violation and submit the resample results within thirty (30) days of becoming aware of the initial violation of the standards. Please note that the NBC requires that you begin weekly wastewater sampling for the parameter(s) in violation until such time that four (4) consecutive weekly sampling reports indicate full compliance with the NBC discharge limits. Failure to comply with these regulations and requirements may result in the initiation of enforcement action against your firm.

If you should have any questions regarding this matter, contact me at 461-8848 ext. 490.

Sincerely,

A handwritten signature in black ink, appearing to read "B. Steere".

Brian E. Steere
Pretreatment Technician

NOTICE OF VIOLATION
NOTICE OF PH VIOLATIONS



May 24, 2018

Mr. Edward A. Johnson, III
Universal Plating Company, Inc.
P.O. Box 28579
Providence, RI 02908

Dear Mr. Johnson, III

I have reviewed the March pH Monitoring Report submitted on May 18, 2018. Based upon this report, your facility has exceeded the pH discharge limitation as follows:

LOW LIMIT VIOLATIONS

1

HIGH LIMIT VIOLATIONS

0

Effluent discharge to the Narragansett Bay Commission (NBC) sewer system must have a pH between the range of 5.0 - 11.0 standard units (s.u.) at all times. Discharging effluent with a pH value of less than 5.0 s.u. or higher than 11.0 s.u. is prohibited. pH effluent, that does not fall in the accepted range, may not be discharged to the NBC sewer system, even if the discharge is only for a short period of time. You must immediately take the steps necessary to prevent future violations from occurring. We will review future monitoring reports to ensure compliance with this parameter.

Please note that the NBC Office of Pollution Prevention is available to provide free technical assistance to your firm. For information regarding how the Pollution Prevention Program can help your firm achieve and maintain compliance, contact Mr. James McCaughey at 461-8848.

Please feel free to contact me at 461-8848 if you have any questions regarding this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "B. Steere", is written over a faint, larger signature.

Brian E. Steere
Pretreatment Technician

August 03, 2018



Mr. Michael Deltoro
B. Deltoro & Sons, Inc.
393 Harris Avenue
Providence, RI 02909

Dear Mr. Deltoro:

The sampling results for July which were received by this office on July 24, 2018 indicate that your firm has exceeded Narragansett Bay Commission (NBC) surcharge limitations for the following:

Sample Location # 1

Sample Date	Parameter	Sample Type	Sample Results	Surcharge Limitation
7/16/2018	BOD	COMPOSITE	1510	300
7/16/2018	TSS	COMPOSITE	3640	300

Exceeding the BOD or TSS standards of 300 ppm will be permitted but may be subject to a surcharge. The NBC does not require resampling for the BOD or TSS parameters when exceeding these surcharge limits.

You may contact me at 461-8848 if you have any questions on this matter.

Sincerely,



Kyle C. Gannon
Pretreatment Technician

NOTICE OF VIOLATION
FAILURE TO SUBMIT COMPLIANCE REPORT

December 31, 2018



Ms. Monique Watson
Baker Street Cafe LLC
75 Baker Street
Providence, RI 02905

Dear Ms. Watson:

In accordance with your Wastewater Discharge Permit, it is necessary for you to submit compliance monitoring results for the month(s) of:

Sample Location # 1
July-2018

To date, the Commission has not received a copy of these analytical results. Until a certified copy of the results and a Self-Monitoring Compliance Report are received, you are in violation of the terms of your permit. Failure to submit compliance monitoring results within thirty (30) days of the due date will result in your firm being in Significant Non-Compliance with the NBC and EPA regulations and will automatically result in the publication of the name of your firm in the Providence Journal. Please note that the NBC will bill you for the cost of this public notice. In addition, the Commission may initiate enforcement action against your firm for failing to submit reports on time. Should such an enforcement action be initiated, administrative penalties of up to \$25,000 per violation per day can be assessed.

Sincerely,



Heather J. Nicholson
Pretreatment Technician

NOTICE OF VIOLATION
FAILURE TO SUBMIT PH MONITORING REPORT



December 31, 2018

Mr. John Arakelian
Unique Plating Company
66 Mill Street
Johnston, RI 02919

Dear Mr. Arakelian:

In accordance with your Wastewater Discharge Permit, it is necessary for you to submit pH results for the month(s) of:

Sample Location # 1
November 2018

To date, the Commission has not received a copy of the above referenced pH monitoring report(s). Until a signed copy of the above referenced pH monitoring report(s) are received, you are in violation of the terms of your permit. Failure to submit pH monitoring results within thirty (30) days of the due date will result in your firm being in Significant Non-Compliance (SNC) with the NBC and EPA regulations and will automatically result in the publication of the name of your firm in the NBC annual list of violators published in the Providence Journal. Please note that the NBC will bill you for the cost of this public notice. In addition, the Commission may initiate enforcement action against your firm for failing to submit reports on time. Should such an enforcement action be initiated, administrative penalties of up to \$25,000 per violation per day can be assessed.

Sincerely,

A handwritten signature in black ink, appearing to read "N. Daggett".

Nathan P. Daggett
Principal Pretreatment Engineer

NOTICE OF VIOLATION
FAILURE TO SUBMIT CERTIFICATION



December 31, 2018

Dr. Barbara Bilder
Perel & Bilder, Inc.
116 Wayland Avenue
Providence, RI 02906

Dear Dr. Bilder:

In accordance with your permit issued by the Narragansett Bay Commission (NBC), it is necessary for you to submit a Certification for the month of:

November-2018

To date, the NBC has not received a copy of the above referenced certification. Until a signed copy of the above referenced certification is received, you are in violation of the terms of your permit. Failure to submit this Certification within thirty (30) days of the due date will result in your firm being in Significant Non-Compliance (SNC) with the NBC and EPA regulations and will automatically result in the publication of the name of your firm in the NBC annual list of violators published in the Providence Journal. Please note that the NBC will bill you for the cost of this public notice. In addition, the Commission may initiate enforcement action against your firm for failing to submit reports on time. Should such an enforcement action be initiated, administrative penalties of up to \$25,000 per violation per day can be assessed.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael McBurney".

Michael McBurney
Pretreatment Technician

Notice of Violation
Failure To Analyze for All Required Parameters



January 10, 2018

Mr. Henry Huppert
Brown University
P.O. Box 1914
Providence, RI 02912

RE: 70 Ship Street, Providence

Dear Mr. Huppert:

I have reviewed the December 2017 self-monitoring compliance report you submitted on January 8, 2018. In accordance with the conditions of your permit, you were to have analyzed Sample Location #1 for CHROMIUM, COPPER and NICKEL. The aforementioned sample was not analyzed for CHROMIUM.

In order to fulfill this monitoring requirement, you must take an additional sample for the aforementioned parameter(s) by January 30, 2018. The analytical results must be received by February 9, 2018.

If you have any questions regarding this matter, please contact me at 461-8848, ext. 490.

Sincerely,

A handwritten signature in black ink, appearing to read "Travis H. Costa", with a large, sweeping flourish extending to the right.

Travis H. Costa
Senior Pretreatment Technician

**NOTICE OF VIOLATION
FAILURE TO SATISFY NBC REQUIREMENTS**



December 05, 2018

Mr. Michael Picerno
Bailey's Pub
1910 Smith Street Unit 4
North Providence, RI 02911

Dear Mr. Picerno:

Per the requirements of letter(s) from this office, the following items were required to be completed and/or submitted by the due date indicated below:

<u>Required Submittal</u>	<u>Notice</u>	<u>Issue Date</u>	<u>Due Date</u>
Kitchen Plans and GRU Proposal	Letter	03/15/2018	04/15/2018

You must satisfy the past due Narragansett Bay Commission (NBC) requirements as detailed in the above referenced document. Your failure to complete the aforementioned requirements within thirty (30) days from the specified due date will place your firm in Significant Non-Compliance (SNC) with Commission regulations and will automatically result in the publication of the name of your firm as a violator in the PROVIDENCE JOURNAL. Your continued failure to complete these requirements may result in the initiation of enforcement action against your firm. Please note that the Commission can assess administrative and civil penalties of up to \$25,000 per violation per day should an enforcement action be initiated.

If you should have any questions regarding this matter, contact me at 461-8848, ext. 490.

Sincerely,



Heather J. Nicholson
Pretreatment Technician

HN:ad

NOTICE OF VIOLATION
LETTER OF DEFICIENCY



May 22, 2018

Mr. Stephen Ricci
Surface Coatings, LLC
P. O. Box 27039
Providence, RI 02907-0595

Certified Mail
Return Receipt Requested

91 7108 2133 3937 9643 3767

Dear Mr. Ricci:

This letter serves to summarize the Narragansett Bay Commission (NBC) inspection of your facility conducted on April 26, 2018. During the inspection, discrepancies were noticed and the following will be required of your firm:

1. During the inspection, you indicated that some spent solutions were being collected and used as treatment chemicals in your pH adjustment system. This is not acceptable. According to your permit and approved plans, these solutions are approved to discharge to your evaporator. Therefore, you must cease this practice immediately and abide by your Wastewater Discharge Permit and your approved plans on file with the NBC.
2. During the inspection, chemicals were stored throughout the process area and near the loading dock without any spill control measures in place. This is not acceptable. All chemicals must be stored in designated bermed areas away from floor drains or direct access to the sewer system or pretreatment system. Acids, cyanides/alkalis, and solvents must be stored in separate bermed areas to ensure containment. Each bermed chemical storage area must be able to contain 110% of the volume of the largest tank or drum in storage. The improperly stored chemicals must be contained in a proper storage area by May 30, 2018. The enclosed Spill and Slug Prevention Control and Countermeasures (SSPCP) plan must be completed to reflect "as-built" spill control within your firm and returned to this office by May 30, 2018. I have enclosed, for your reference, a copy of your current SSPCP on file with the NBC.

Failure to correct the above-mentioned deficiencies within the timeframe specified can result in the initiation of enforcement action against your firm. Please note that the NBC can assess administrative penalties of up to \$25,000 per violation per day. In addition to correcting the above-mentioned deficiencies, the following is required of your firm:

3. Not all process operations were depicted on the most recent plans approved by the NBC. To ensure the NBC has accurate "as-built" plans on file, you must submit updated plans of your process operations by May 30, 2018. The plans must include all the items indicated on the enclosed Plans of Process Operations checklist.

Please note that the NBC is available to provide free technical assistance to your firm. For information regarding how the Pollution Prevention Program can help your firm achieve and maintain compliance, contact Mr. James McCaughey at 461-8848, ext. 352.

If you have any questions, please contact me at 461-8848, ext. 490.

Sincerely,



Anthony Erricola
Pretreatment Engineer

AE:smb

Enclosures

Surface Coatings, LLC
PLANS OF PROCESS OPERATIONS

The information with an "X" before it must be shown on the plan or submitted before the plans of the wet process operations can be approved.

1. All tanks, their contents and volume. Please note compartmentalized tanks must be indicated as such.
2. Any other water using processes (i.e. rectifiers, tubing, cooling water, etc.).
3. Whether each tank will be batch discharged, continuously discharged, or not discharged.
4. Where the tank discharges to (i.e. pH neutralization, cyanide destruct, A/A treatment, process operation tank, etc.).
5. The volume and dump frequency of each batch discharge.
6. The flow rate for continuous discharges.
7. All floor drains, trenches, berms, sumps, pump stations, piping, valves, and the point of discharge of each tank or pipe.

Please note, process operation and pretreatment system plans must be at least 11" x 17" and cannot exceed 36" x 24" in size.

NARRAGANSETT BAY COMMISSION

ADMINISTRATIVE ORDER # FP-02-18

IN THE MATTER OF:

**DiFruscia Industries, Inc.
20 Starr Street
Johnston, RI 02919**

**ADMINISTRATIVE ORDER
AND
PENALTY ASSESSMENT**

AND

**Frank DeFruscio
3 Fox Ridge Drive
Cranston, RI 02921**

LEGAL AUTHORITY

The following findings are made and order issued pursuant to the authority vested in the Narragansett Bay Commission (NBC) under Rhode Island General Laws (R.I. Gen. Laws) Title 46 Chapter 25, the Narragansett Bay Commission Act (the Act) as amended and the NBC Rules and Regulations for *Use of the Wastewater Facilities*, 835-RICR-20-00-1 (Rules and Regulations). The Act established the NBC to acquire, plan, construct, extend, improve, operate, and maintain the sewerage system and treatment facilities in the district. The Act authorizes the NBC to establish a sewage pretreatment program and to enforce any violations of the Act and any rule, regulation, permit, or administrative order issued pursuant thereto. The Act authorizes the NBC to collect fees, charges, and assessments from any person so assessed. Further, the Act states that each person so assessed shall pay the fees, charges, or assessments within the time frame prescribed by the Rules and Regulations.

R.I. Gen. Laws § 46-25-25.2 prescribes that persons violating §§ 46-25-25 through 46-25-25.3 of the Act or of any permit, rule, regulation, or order issued pursuant thereto shall be subject to a civil penalty of not more than twenty-five thousand dollars (\$25,000) per day for each violation and authorizes the NBC to obtain actual costs and reasonable attorney's fees incurred by the NBC in seeking compliance, penalties, or damages. Furthermore, R.I. Gen. Laws § 46-25-25.3 provides that any person found guilty of violating, willfully or with criminal negligence, any of the aforementioned provisions or of any permit, rule, or regulation issued pursuant thereto shall be punished by a fine of not more than twenty-five thousand dollars (\$25,000) and/or imprisonment of not more than one year for each enumerated violation.

Section 1.10.1 of the Rules and Regulations prescribes that NBC may implement administrative and/or judicial responses if a user is in violation of any provision of state or Federal requirements, the Act, the Rules and Regulations, a permit, or an order issued by NBC. Administrative penalties are assessed based on the penalty matrix contained in the Rules and Regulations, § 1.10.10.

STATEMENT OF FACTS

1. DiFruscia Industries, Inc. (DFI) is a Rhode Island corporation conducting operations that discharge process wastewater containing pollutants into the NBC's facilities.
2. DFI is a user of the NBC's facilities as defined by the Rules and Regulations, § 1.2.
3. Mr. Frank DeFruscio is an individual residing in Cranston, Rhode Island and is President of DFI (DeFruscio).
4. In accordance with the Act and the Rules and Regulations, the NBC issued Wastewater Discharge Permit #P1112-240-0122 (the Permit) to DFI and DeFruscio (collectively hereinafter the Permittee) on or about April 18, 2017 authorizing the Permittee to discharge into the NBC's facilities so long as the Permittee adhered to the conditions of the Permit and complied with the Rules and Regulations.
5. Pursuant to the Permit and the Rules and Regulations, Permittee must comply with NBC's effluent discharge limitations for the Field's Point District for Zinc, Nickel, Copper, and Cyanide, among other substances.
6. Since August 2017, Permittee exceeded the NBC effluent discharge limitations on eighteen (18) occasions as evidenced in Permittee's Self-Monitoring Compliance Reports (SMCR) submittals, including: seven (8) Zinc violations, four (4) Nickel violations, three (3) Copper violations, and three (3) Cyanide violations.
7. Since August 2017, the NBC conducted manhole sampling immediately downstream from the DFI facility on numerous occasions, which revealed high concentrations of various metals. Permittee exceeded the NBC's effluent discharge limitations on eight (8) occasions as evidenced by said sampling, including: four (4) Zinc violations, two (2) Nickel violations, one (1) Copper violation, and one (1) Cyanide violation. Upstream sampling conducted by the NBC confirmed Permittee to be the source of the high concentrations.
8. Numerous Notices of Violation were issued to DFI between September 2017 and December 2018 for the above mentioned violations of the NBC's effluent discharge limitations (see Attachment I).
9. On or about February 20, 2018 the NBC conducted an inspection of Permittee's facility, which revealed the final effluent pH to be very erratic and as low as 1.2 standard units (s.u.). The pH monitoring report submitted by Permittee to the NBC Pretreatment Department for the month of February 2018 failed to report the low reading of 1.2 s.u. on February 20, 2018 that was observed during the inspection. Moreover, Permittee's pH monitoring report failed to reflect any pH violations.
10. Numerous Notices of Violation were issued to DFI between August 2017 and August 2018 for failure to meet various NBC requirements (see Attachment II).

11. Numerous Notices of Violation were issued to DFI between May 2017 and December 2018 for failure to timely submit pH monitoring reports (see Attachment III).
12. Numerous Notices of Violation were issued to DFI between July 2017 and October 2018 for failure to timely submit SMCRs (see Attachment IV).
13. Section M of the Permit requires that Permittee pay an annual permit fee and all sewer user fees assessed by the NBC. Permittee currently owes \$7,930.84 in pretreatment fees, \$7,623.13 of which is over 90 days past due.

THEREFORE, based on the above findings, DiFruscia Industries, Inc. and Frank DeFruscio are hereby notified of the following violations:

Violation A: Failure to comply with NBC's effluent discharge limitations for Copper, Cyanide, Nickel, and Zinc.

Violation B: Failure to accurately report pH monitoring results.

Violation C: Failure to satisfy NBC requirements on numerous occasions, to wit, failure to submit: Baseline Monitoring Analysis, a report on erratic pH readings, a manhole violation report, resampling results for Copper, Cyanide, Nickel and Zinc, and notification of changes to pretreatment systems.

Violation D: Failure to submit pH Monitoring Compliance Reports on time.

Violation E: Failure to submit Self-Monitoring Compliance Reports on time.

Violation F: Failure to pay the annual wastewater discharge permit fees.

**THE FOLLOWING LAWS AND REGULATIONS APPLY
TO THE ABOVE VIOLATIONS:**

(The citations listed below represent only selected excerpts from the referenced statutes, codes, rules and regulations. Actual documents should be consulted for complete texts.)

EPA - CODE OF FEDERAL REGULATIONS

40 CFR § 403.2 Objectives of general pretreatment regulations

By establishing the responsibilities of government and industry to implement National Pretreatment Standards this regulation fulfills three objectives:

- (a) To prevent the introduction of pollutants into POTWs which will interfere with the operation of a POTW, including interference with its use or disposal of municipal sludge;

(b) To prevent the introduction of pollutants into POTWs which will pass through the treatment works or otherwise be incompatible with such works; and

(c) To improve opportunities to recycle and reclaim municipal and industrial wastewaters and sludges.

GENERAL LAWS OF RHODE ISLAND

General Powers: § 46-25-5:

(10) To establish a sewage pretreatment program, and to require as a condition, to the grant or reissuance of any approval, license, or permit required under the program, that the person applying for the approval, license, or permit, pay to the commission a reasonable fee based on the cost of reviewing and acting upon the application and based on the costs of implementing the program. ...

(16) To issue orders of general or specific applicability to carry out the purposes of the project.

(17) To have and exercise all powers necessary or convenient to effect its purposes.

(18) To impose administrative penalties in accordance with the provisions of § 46-25-25.4.

Orders as to Pretreatment of Sewage: § 46-25-25:

(a) Without limiting the generality of the foregoing, the authority hereby vested in the commission shall include the authority to limit, reject, or prohibit any direct or indirect discharge of pollutants or combination of pollutants, as defined by applicable federal or state law, into the facilities of the project; to require that any person or class of user shall cause pollutants from his or her property, prior to their entry into the facilities of the project, to be submitted to such pretreatment standards and requirements as the commission may prescribe by rule or regulation. The commission shall prescribe such rules and regulations for pretreatment as in the opinion of the commission:

(1) Are required by applicable federal or state law,

(2) Are required under the terms of the project's federal permit(s), or

(3) Are necessary and appropriate for the project.

(b) The commission shall have the authority to issue or deny permits to any person for the direct or indirect discharge of any pollutants into the facilities of the project; to require the development of a compliance schedule by each person to insure compliance with such pretreatment as the commission may prescribe. No person shall discharge any pollutant

into the facilities, except as in compliance with the provisions of this section, and any rules and regulations promulgated hereunder, and pursuant to the terms and conditions of a permit.

(c) The commission may, by regulation, order, permit, or otherwise require any person who discharges into the facilities of the project to:

- (1) Establish and maintain such records;
- (2) Make such reports;
- (3) Install, calibrate, use, and maintain such monitoring equipment or methods, including where appropriate, biological monitoring methods;
- (4) Sample such discharges and effluents, in accordance with such methods, at such locations, at such intervals, and in such manner as the commission shall prescribe; and
- (5) Provide such other information relating to discharges into the facilities of the project as the commission may reasonably require to insure compliance with prescribed pretreatment. The information shall include, but not be limited to, those records, reports, and procedures required by applicable federal law.

(d) Notwithstanding any other provision of this section, the commission shall have the authority, and shall prescribe the appropriate procedures, after informal notice to the discharger, immediately and effectively to halt or prevent any discharge of pollutants into the facilities of the project which reasonably appears to present an imminent endangerment to the health or welfare of persons. ...

Civil penalties: § 46-25-25.2:

(a) Any person who shall violate the provisions of §§ 46-25-25 — 46-25-25.3, or of any permit, rule, regulation, or order issued pursuant thereto, shall be subject to a civil penalty of not more than twenty-five thousand dollars (\$25,000) per day for each violation.

(b) The commission shall, in the same manner as cities and towns authorized under the provisions of § 45-6-2.3(a)(4), issue regulations to obtain actual costs and reasonable attorney's fees incurred by the commission in seeking compliance, penalties, or damages.

Enforcement authority and procedure: § 46-25-25.4:

(a) The commission shall have authority to seek legal or equitable relief in the federal court or in the superior court of Providence county to enforce the requirements of §§ 307(b) and (c), 402(b)(8) and other applicable sections of the Federal Water Pollution Control Act, also known as the Clean Water Act, 33 U.S.C. § 1251 et seq., and any regulations implementing those sections or authorized by this chapter and/or by chapter

12 of this title. Whenever, on the basis of any information available to the commission, the commission has reasonable grounds to believe that a person has violated any provision of §§ 46-25-25 through 46-25-25.6 or any permit, rule, regulation or order issued pursuant thereto the commission may institute administrative, civil or criminal proceedings in the name of the commission. The commission shall not be required to enter into any recognizance or to give surety for costs prior to instituting such proceedings. The commission has the authority to order any person who violates any provision of §§ 46-25-25 through 46-25-25.6, any permit, rule, regulation or order issued pursuant thereto to cease and desist the violation, or to remedy the violation and to impose administrative penalties. ...

**NBC'S RULES AND REGULATIONS FOR THE USE OF THE
WASTEWATER FACILITIES**

SECTION 1.5 Discharge Requirements, Limitations, and Prohibitions

1.5.1 Authority

The NBC may limit, reject or prohibit any direct or indirect discharge of pollutants or combination of pollutants, as defined by applicable Federal or state law or as described below, into the facilities. The NBC may, in its discretion, affix labels to those tanks which contain substances which are prohibited from being discharged to the facilities or which may not be discharged to the facilities without adequate pretreatment.

1.5.4 Specific Facility Limitations

A. No person shall discharge or cause or allow to be discharged either directly or indirectly into the facilities, any substance, water or wastewater which has concentrations of the substances listed below in excess of the assigned discharge limitations. There will be no waivers or exceptions granted with respect to compliance with any of the limits listed below. * All Parameters are for total metals, organics and cyanide.

1. Field's Point Discharge Limitations:

Parameter*	Daily Maximum (Composite Sample for 1 day) (mg/l)	Average (10 day) (mg/l)
Cadmium (Cd)	0.11	0.07
Chromium (Cr)	2.77	1.71
Copper (Cu)	1.20	1.20
Cyanide (CN)	0.58	0.58
Lead (Pb)	0.60	0.40
Mercury (Hg)	0.005	0.005
Nickel (Ni)	1.62	1.62
pH	5.0-11.0 std. units	
Silver (Ag)	0.43	0.24
TTO	2.13	2.13
Zinc (Zn)	2.61	1.48

1.5.7 Federal Categorical Pretreatment Standards

Users subject to categorical pretreatment standards are required to comply with applicable standards as set out in 40 C.F.R. Chapter I, Subchapter N (2018, incorporated herein by reference, not including later amendments).

1.5.9 Remedies

- A. If any wastewater is discharged or is proposed to be discharged to the wastewater facilities in violation of the limitations or prohibitions described in § 1.5 of this Part, the NBC may in its sole discretion:
1. Reject the wastes;
 2. Require a discharger to demonstrate and implement those in-plant modifications which will reduce or eliminate the discharge of such substances to conform with this Part;
 3. Require pretreatment, including storage facilities or flow equalization necessary to reduce or eliminate the objectionable characteristics or substances, so that the discharge will not violate this Part;
 4. Require controls to be installed which will regulate the quantities and rates of discharge;
 5. Require surcharge payments to be made to the NBC to cover its added cost of handling, monitoring, and treating the wastes which exceed threshold values in accordance with rates set and approved by the Public Utilities Commission;
 6. Revoke a discharger's permit; and
 7. Take any other administrative sanctions, enforcement actions, and remedial actions as may be desirable, necessary, or permitted to achieve the purpose of this Part.

SECTION 1.7 Inspection Powers

1.7.1 General Powers

- A. Inspections shall be conducted at the discretion of the NBC. Duly authorized employees and agents of the NBC, upon presenting identification and appropriate credentials, are authorized:
1. To enter without delay and at reasonable times those premises (public or private) of any person or class of user either receiving services from the NBC or applying for services from the NBC in which a discharge source or treatment system is

located or which records required to be maintained pursuant to R.I. Gen. Laws § 46-25-25 are kept;

2. During regular working hours and at other reasonable times, and within reasonable limits and in a reasonable manner, to have access to and to copy any records, inspect any monitoring equipment or method required pursuant to R.I. Gen. Laws § 46-25-25 and sample and/or analyze any effluents which the owner or operator of such discharge source is required to sample and/or analyze under R.I. Gen. Laws § 46-25-25 and any rules and regulations adopted pursuant thereto; and
3. During such on-site inspections, to carry out all inspections, surveillance, and monitoring procedures necessary to determine, independent of information supplied by any person discharging into the facilities, compliance or noncompliance with NBC pretreatment requirements.

1.7.2 User Documentation

- A. The NBC may, by regulation, order, permit, or otherwise, require any person who discharges into the facilities to:
 1. establish and maintain records;
 2. make reports;
 3. install, calibrate, use and maintain monitoring equipment or methods (including where appropriate, biological monitoring methods);
 4. sample and/or analyze discharges and effluents (in accordance with the method, at the locations, at the intervals, and in the manner as the NBC shall prescribe); and/or
 5. provide other information relating to discharges into the facilities of the project as the NBC may reasonably require to ensure compliance with prescribed pretreatment. Such information shall include, but not be limited to, those records, reports and procedures required by applicable State and Federal law.

SECTION 1.8 Wastewater Discharge Permit System

1.8.2 Compliance Required

No permit holder shall discharge industrial wastewater in excess of the quantity, rate of discharge, concentrations or any other limits specified in the permit. Any person desiring to modify his or her permit must first apply for an amended permit.

1.8.5 Permit Conditions

- A. Wastewater discharge permits shall be expressly subject to specific permit provisions contained therein as well as to provisions of this Part and all other regulations, user charges, and fees established by the NBC. Wastewater discharge permits may include such conditions as are reasonably deemed necessary by the NBC to prevent Pass Through or Interference, protect the quality of the water body receiving the treatment plant's effluent, protect worker health and safety, facilitate sludge management and disposal, protect ambient air quality, and protect against damage to the NBC's facilities. Such conditions may include, but are not limited to, the following:
1. The average and maximum wastewater constituents and characteristics permitted in the process water discharges;
 2. Limits on rate and time of discharge or requirements for flow regulation and equalization;
 3. Requirements for installation of inspection and sampling facilities and specifications for self-monitoring;
 4. Requirements for the submission of periodic self-monitoring compliance reports, which shall include, but not be limited to, volume or rates of flow, concentrations of controlled pollutants, or other information that relates to the generation of waste;
 5. Requirements for maintaining and submitting technical reports and plant records relating to wastewater discharges;
 6. Daily average and daily maximum discharge rates, or other appropriate conditions when pollutants subject to limitations and prohibitions are proposed or present in the user's wastewater discharge permit;
 7. Compliance schedules;
 8. Requirements for installation of pretreatment systems, spill and slug prevention control plans and solvent-management plans;
 9. Provisions for authorized NBC employees and agents to enter and inspect the premises, including provisions for copying records, inspecting monitoring equipment and sampling effluent;
 10. Compliance with Federal, state, and other governmental laws, rules, and regulations;
 11. Fees and costs including supplemental fees assessed because of the special nature of the user's effluent in accordance with the provisions of § 1.5 of this Part and

additional costs and fees based on the costs of enforcing these regulations or the permit, as in accordance with R.I. Gen. Laws § 46-25-5(j);

12. Signatory requirements; and
13. Any other reasonable conditions necessary to ensure compliance with the provisions of R.I. Gen. Laws § 46-25-1 et seq., or any state and Federal laws, rules, and regulations.

SECTION 1.9 Wastewater Monitoring and Reporting

1.9.1 Records and Monitoring

- A. All users who discharge or propose to discharge wastewater directly or indirectly to the facilities shall maintain records which substantiate any information supplied in permit applications. Such records shall include, but not be limited to, pH tapes, chemical usage data, log sheets, hazardous waste manifests, water meter readings, effluent monitoring reports, self-monitoring compliance reports and any other informational requirements of these Rules and Regulations or required by a user's Wastewater Discharge Permit or any applicable state and Federal laws and regulations. These records are to be kept for a period of three (3) years unless there is pending a dispute of litigation involving the subject of these records, in which case these records are to be kept for a period of three (3) years following resolution of such litigation or dispute.

1.9.3 Monitoring and Analysis of Process Wastewater

- A. Sampling and analysis of industrial wastewater for the purpose of compliance determinations with respect to § 1.5 of this Part prohibitions and limitations shall be done through industry self-monitoring and through monitoring done by the NBC. All analyses, including sampling results submitted in support of any application reports, evidence, or required by any permit or order shall be performed in accordance with the techniques prescribed in 40 C.F.R. Part 136 (2018, incorporated herein by reference, not including later amendments) or, if 40 C.F.R. Part 136 (2018) does not contain sampling or analytical techniques for the pollutant in question, in accordance with procedures approved by EPA. The NBC may, at its discretion, require an independent laboratory to conduct the sampling and analysis at the user's own cost.
 1. Self-Monitoring Requirements:
 - a. Self-monitoring results must be accompanied by a certified laboratory analysis sheet, indicating the EPA approved test procedure for each parameter analyzed. The user must also submit a self-monitoring report with the results on a form prescribed by the NBC.
 - b. All Self-Monitoring Reports must be signed and certified in accordance with § 1.9.10 of this Part.

- c. If any sampling performed by a user indicates any violation(s) of discharge limitations, the user shall notify the NBC within twenty-four (24) hours of becoming aware of the violation(s). The user shall repeat the analysis immediately for the parameters determined to be in violation and submit the resampling results to the NBC within thirty (30) days after becoming aware of the violation(s).
2. Sample Collection:
 - a. Except as indicated in (3) below, wastewater samples collected for purposes of determining user compliance with pretreatment standards and requirements must be obtained using flow proportional composite sample collection techniques. In the event that flow proportional sampling is not feasible, the NBC may authorize the use of a time proportional sampling.
 - b. For automatic samplers, the intake line hose must be at least 1/4 in. (0.6 cm) internal diameter and the velocity in the intake line must be maintained at least at 2 feet per second.
 - c. Samples for oil and grease, temperature, pH, cyanide, phenols, toxicity, sulfides, and volatile organic chemicals must be obtained using a grab sample.
 3. Analysis of Wastewater Samples:
 - a. Laboratory analysis and sample preservation of industrial wastewater samples for user self-monitoring and compliance monitoring by the NBC shall be performed in accordance with EPA approved methods. Where applicable, the laboratory must be certified by the state in which it is located.

SECTION 1.10 Enforcement

1.10.1 Administrative Enforcement Options

- A. The NBC may implement any combination of the following administrative and/or judicial responses if a user is in violation of any provision of state or Federal requirements, the R.I. Gen. Laws Chapter 46-25, this Part, a permit, or an order issued by the NBC.
 1. Issue a Notice of Violation;
 2. Require the User to attend a mandatory compliance meeting at the NBC Corporate Office during business hours, or at any other reasonable time, to discuss its violations or alleged violations, the remedial actions that it might take, and the actions that the NBC might take under the Act and the this Part;

3. Issue an Administrative Order requiring any action that the NBC is authorized to require;
4. Enter into a Consent Order or Settlement Agreement with the user;
5. Revoke, modify, deny, suspend, or refuse to renew a Permit issued under the Act;
6. Terminate or suspend sewer services provided to the user;
7. Assess a civil administrative penalty;
8. Institute a court action for civil penalties, criminal fines and/or other criminal punishment, injunctive relief, reimbursement of costs and/or damages resulting from a violation or threatened violation; and/or any other relief authorized by law or regulation.

ORDER

THEREFORE, based on the above findings and violations, DiFruscia Industries, Inc. and Frank DeFruscio are hereby ORDERED to:

1. Submit a proposal to the NBC regarding a plan to reduce effluent concentrations and eliminate pH violations as necessary to comply with the Permit, the Rules and Regulations, and the Act within twenty-one (21) days of receipt of this Order.
2. Within ninety (90) days after receipt of NBC's approval of said plan, Permittee must implement its plan to reduce effluent concentrations and eliminate pH violations as necessary to comply with the Permit, the Rules and Regulations, and the Act.
3. Immediately begin to submit all required compliance monitoring reports and other required documentation to the NBC by the deadline contained in the Permit or notice(s) provided by the NBC.
4. Pay to the NBC the outstanding balance of seven thousand nine hundred thirty dollars and eighty-four cents (\$7,930.84) due on Permittee's pretreatment account number 95328, within twenty-one (21) days of receipt of this Order
5. Pay an Administrative Penalty to the NBC of **Eighteen Thousand Eight Hundred Fifty dollar (\$18,850)** within 21 days of receipt of this Order.

Pursuant to R.I. Gen. Laws §§ 46-25-25(d) and 42-17.1-2(21) and Section 1.10 of the Rules and Regulations, DiFruscia Industries, Inc. and Frank DeFruscio have the right to file a written request with the Executive Director for a hearing on said alleged violations within ten (10) days of service of this notice to show cause why they should not be found in violation of the Rules and Regulations and why enforcement action should not be taken against them. If a

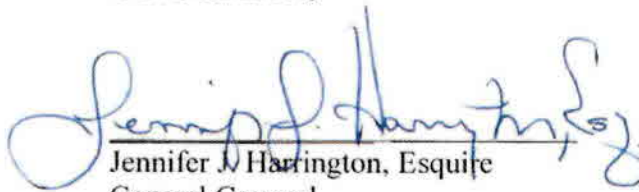
hearing is requested within the ten (10) day time period, the NBC shall provide written notice to DiFruscia Industries, Inc. and Frank DeFruscio of the date, time, and place for the hearing. If DiFruscia Industries, Inc. and Frank DeFruscio fail to request a hearing within the aforementioned time frame, this Order shall automatically become an immediate compliance order and DiFruscia Industries, Inc. and Frank DeFruscio shall be deemed to have waived the right to an adjudicatory hearing on the above cited violations.

IF DIFRUSCIA INDUSTRIES, INC. AND FRANK DEFRUSCIO WAIVE THEIR RIGHT TO AN ADMINISTRATIVE HEARING WITHIN TEN (10) DAYS AND FAIL TO COMPLY WITH THE REQUIREMENTS LISTED IN THE ABOVE ORDER, THEN DIFRUSCIA INDUSTRIES, INC. AND FRANK DEFRUSCIO ARE DEEMED TO BE IN DEFAULT AND THE NBC MAY IMMEDIATELY TAKE STEPS TO PREVENT ANY FURTHER FLOW FROM ENTERING THE FACILITIES. SAID STEPS MAY INCLUDE, BUT ARE NOT LIMITED TO, SEALING AND/OR PLUGGING OF THE CONNECTION AT THE POINT OF DIFRUSCIA INDUSTRIES, INC.'S CONNECTION TO THE FACILITIES. THE EXECUTIVE DIRECTOR OR HIS DESIGNEE MAY FOR GOOD CAUSE SHOWN DEFER ANY OF THE COMPLIANCE DATES PRESCRIBED HEREIN. BE ADVISED THAT FAILURE TO COMPLY WITH THE TERMS OF THIS ORDER MAY SUBJECT DIFRUSCIA INDUSTRIES, INC. AND FRANK DEFRUSCIO TO CIVIL AND/OR CRIMINAL PENALTIES OF UP TO \$25,000 PER DAY PER VIOLATION PURSUANT TO R.I. GEN. LAWS §§ 46-25-25.2 AND 46-25-25.3.

FOR THE NARRAGANSETT BAY
COMMISSION,

12-27-18

Date


Jennifer J. Harrington, Esquire
General Counsel

CERTIFICATION

I hereby certify that on the **27th of December, 2018**, true and accurate copies of the within ADMINISTRATIVE ORDER AND PENALTY ASSESSMENT were sent by certified mail, return receipt requested to the following individual:

- | | | | |
|----|--|----|--|
| 1. | DiFruscia Industries, Inc.
Frank DeFruscio, President
20 Starr Street
Johnston, RI 02919 | 3. | Frank DeFruscio
3 Fox Ridge Drive
Cranston, RI 02921 |
| 2. | DiFruscia Industries, Inc.
Frank DeFruscio, President
1425 Cranston Street
Cranston, RI 02920 | | |

12-27-18
Date

Junel Grande
Junel Grande
Legal Assistant

ATTACHMENT I

Failure to Meet the NBC'S Effluent Discharge Limitations:

Parameter	Discharge Limitations Maximum	Discharge Limitations Average	Sampling Results	Sampling Date	NOV Issued
Copper	1.20 mg/l	1.20 mg/l	1.312	10/4/2017	11/2/2017
Copper	1.20 mg/l	1.20 mg/l	1.690	2/7/2018*	3/5/2018
Copper	1.20 mg/l	1.20 mg/l	3.451	4/16/2018	5/8/2018
Copper	1.20 mg/l	1.20 mg/l	3.445	9/6/2018	9/20/2018
Cyanide	0.58 mg/l	0.58 mg/l	0.762	4/16/2018	5/8/2018
Cyanide	0.58 mg/l	0.58 mg/l	0.760	5/30/218*	8/30/2018
Cyanide	0.58 mg/l	0.58 mg/l	1.71	9/6/2018	9/20/2018
Cyanide	0.58 mg/l	0.58 mg/l	0.94	10/28/2018	12/13/2018
Nickel	1.62 mg/l	1.62 mg/l	5.630	8/2/2017*	9/18/2017
Nickel	1.62 mg/l	1.62 mg/l	2.17	9/29/2017	11/22/2017
Nickel	1.62 mg/l	1.62 mg/l	4.733	4/16/2018	5/8/2018
Nickel	1.62 mg/l	1.62 mg/l	9.399	5/30/2018*	8/30/2018
Nickel	1.62 mg/l	1.62 mg/l	21.223	5/31/2018	6/15/2018
Nickel	1.62 mg/l	1.62 mg/l	2.46	9/6/2018	9/20/2018
Zinc	2.61 mg/l	1.48 mg/l	28.400	8/2/2017*	9/18/2017
Zinc	2.61 mg/l	1.48 mg/l	36.6	9/29/2017	11/22/2017
Zinc	2.61 mg/l	1.48 mg/l	2.905	10/4/2017	11/2/2017
Zinc	2.61 mg/l	1.48 mg/l	11.728	11/7/2017	11/30/2017
Zinc	2.61 mg/l	1.48 mg/l	2.92	11/16/2017	1/2/2018
Zinc	2.61 mg/l	1.48 mg/l	6.504	11/16/2017*	
Zinc	2.61 mg/l	1.48 mg/l	26.470	2/7/2018*	3/5/2018
Zinc	2.61 mg/l	1.48 mg/l	8.349	4/16/2018	5/8/2018
Zinc	2.61 mg/l	1.48 mg/l	6.545	5/30/2018*	8/30/2018
Zinc	2.61 mg/l	1.48 mg/l	3.916	5/31/2018	6/15/2018
Zinc	2.61 mg/l	1.48 mg/l	9.923	9/6/2018	9/20/2018
Zinc	2.61 mg/l	1.48 mg/l	4.141	11/28/2018	12/13/2018

* Indicates that sample was taken from Manhole F123A, immediately downstream from Permittee's facility.

ATTACHMENT II

Failure to Satisfy NBC Requirements:

Required Submittal	Issue Date	Due Date	NOVs Issued	Status
Baseline Monitoring Analysis	4/26/2017	7/31/2017	8/3/2017	Received – September 7, 2017
Report regarding erratic pH readings	11/21/2017	12/31/2017	1/12/2018	Received – January 26, 2018
Manhole Violation Report	3/5/2018	3/30/2018	4/3/2018	Received – April 13, 2018
Resampling Results for Cu, CN, Ni, and Zn	5/8/2018	6/29/2018	7/3/2018	Received – July 25, 2018
Notification of changes to pretreatment system	6/20/2018	7/16/2018	8/2/2018	Received – August 10, 2018

ATTACHMENT III

Failure to submit pH compliance reports and results on time:

Month	Due Date	Date NOVs Issued	Status
April 2017	May 30, 2017	May 31, 2017	Received – May 31, 2017
June 2017	July 30, 2017	July 31, 2017	Received – August 15, 2017
July 2017	August 30, 2017	August 31, 2017	Received – September 7, 2017
August 2017	September, 30, 2017	October 2, 2017	Received – October 11, 2017
September 2017	October 30, 2017	October 31, 2017	Received – November 1, 2017
October 2017	November 30, 2017	December 1, 2017	Received – December 1, 2017
November 2017	December 30, 2017	January 2, 2018	Received – January 26, 2018
December 2017	January 30, 2018	January 31, 2018	Received – February 12, 2018
January 2018	March 2, 2018	March 5, 2018	Received – March 27, 2018
May 2018	June 30, 2018	July 2, 2018	Received – July 2, 2018
June 2018	July 30, 2018	July 31, 2018	Received – August 6, 2018
July 2018	August 30, 2018	September 4, 2018	Received – September 27, 2018
August 2018	September 30, 2018	October 1, 2018	Received – October 22, 2018
September 2018	October 30, 2018	October 31, 2018	Received -November 8, 2018
October 2018	November 30, 2018	December 3, 2018	Received December 7, 2018

ATTACHMENT IV

Failure to submit Self-Monitoring Compliance Reports and results on time:

Month	Due Date	Date NOVs Issued	Status
June 2017	July 30, 2017	July 31, 2017 August 31, 2017	Received – September 7, 2017
July 2017	August 30, 2017	August 31, 2017	Received – September 7, 2017
September 2017	October 30, 2017	October 31, 2017	Received – November 17, 2017
October 2017	November 30, 2017	December 1, 2017	Received – December 1, 2017
December 2017	January 30, 2018	January 31, 2018	Received – February 26, 2018
January 2018	March 2, 2018	March 5, 2018	Received – March 27, 2018
February 2018	March 30, 2018	April 2, 2018	Received – April 5, 2018
May 2018	June 30, 2018	July 2, 2018	Received – July 2, 2018
August 2018	September 30, 2018	October 1, 2018	Received – October 22, 2018
September 2018	October 30, 2018	October 31, 2018	Received -November 15, 2018