



\* Pursuant to 40 CFR 124.15(b)(3), if no comments requesting a change to the draft permit are received, the permit will become effective upon the date of signature

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**PART I.A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

1. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge treated process water and stormwater through **Outfall Serial Number 001**<sup>1,2</sup> to Foster Pond.

Effluent characteristic	Units	Discharge Limitation		Monitoring Requirements <sup>3,4</sup>	
		Average monthly	Maximum Daily	Measurement Frequency <sup>5</sup>	Sample Type
Flow	MGD	Report	Report	1/Week	Estimate <sup>6</sup>
pH <sup>7</sup>	S.U.	--	6.5 to 8.3	1/Week	Grab
Total Suspended Solids (TSS)	mg/L	25	45	1/Month	Composite <sup>8</sup>
Turbidity	NTU	8	25	1/Week	Grab
Total Ammonia Nitrogen	µg/L	705	1760	1/Week	Composite <sup>8</sup>
Oil and Grease (O&G)	mg/L	--	15	1/Month	Grab
Total BTEX <sup>9</sup>	µg/L	--	Report	1/Quarter	Grab
Total Nitrate Nitrogen	mg/L	Report	Report	1/Month	Composite <sup>8</sup>
Total Aluminum	µg/L	87	750	1/Week	Composite <sup>8</sup>

See footnotes on pages 6, 7, and 8.

**PART I.A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS, contd.**1. Continued. For Whole Effluent Toxicity Testing for **Outfall Serial Number 001**:

Whole Effluent Toxicity <sup>10,11,12,13</sup>	Units	Discharge Limitation		Monitoring Requirements <sup>3</sup>	
		Average monthly	Maximum Daily	Measurement Frequency <sup>5</sup>	Sample Type
Acute LC50	%	Report		Annually	Composite
Chronic C-NOEC	%	Report		Annually	Composite
<b><i>Effluent Chemistry</i></b>					
Hardness	mg/L	Report		Annually	Composite <sup>8</sup>
Alkalinity	mg/L	Report		Annually	Composite
pH	S.U.	Report		Annually	Composite
Specific Conductance	µmhos/cm	Report		Annually	Composite
Total Solids	mg/L	Report		Annually	Composite
Total Dissolved Solids	mg/L	Report		Annually	Composite
Total Ammonia Nitrogen	mg/L	Report		Annually	Composite
Total Organic Carbon	mg/L	Report		Annually	Composite
Total Residual Chlorine	mg/L	Report		Annually	Composite
Total Cadmium	mg/L	Report		Annually	Composite
Total Lead	mg/L	Report		Annually	Composite
Total Copper	mg/L	Report		Annually	Composite
Total Zinc	mg/L	Report		Annually	Composite
Total Nickel	mg/L	Report		Annually	Composite
Total Aluminum	mg/L	Report		Annually	Composite

See footnotes on pages 6, 7, and 8.

**PART I.A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS, contd.**1. Continued. For Whole Effluent Toxicity Testing for **Outfall Serial Number 001**:

Whole Effluent Toxicity <sup>10,11,12,13</sup>	Units	Discharge Limitation		Monitoring Requirements <sup>3</sup>	
		Average monthly	Maximum Daily	Measurement Frequency <sup>5</sup>	Sample Type
<b><i>Receiving Water Chemistry</i></b>					
Hardness	mg/L	Report		Annually	Composite <sup>8</sup>
Alkalinity	mg/L	Report		Annually	Composite
pH	S.U.	Report		Annually	Composite
Specific Conductance	µmhos/cm	Report		Annually	Composite
Total Ammonia Nitrogen	mg/L	Report		Annually	Composite
Total Organic Carbon	mg/L	Report		Annually	Composite
Total Cadmium	mg/L	Report		Annually	Composite
Total Lead	mg/L	Report		Annually	Composite
Total Copper	mg/L	Report		Annually	Composite
Total Zinc	mg/L	Report		Annually	Composite
Total Nickel	mg/L	Report		Annually	Composite
Total Aluminum	mg/L	Report		Annually	Composite

See footnotes on pages 6, 7, and 8.

**PART I.A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS, cont'd.**

2. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge dust control and stormwater through **Outfall Serial Number 002**<sup>1</sup> only in the event of an episodic discharge<sup>14</sup>.

Effluent characteristic	Units	Discharge Limitation		Monitoring Requirements	
		Average monthly	Maximum Daily	Measurement Frequency <sup>5</sup>	Sample Type
Flow	MGD	Report	Report	Once per event	Estimate <sup>6</sup>
pH <sup>7</sup>	S.U.	--	6.5 to 8.3	Twice per event <sup>15</sup>	Grab
Total Suspended Solids (TSS)	mg/L	25	45	Once per event	Grab
Oil and Grease (O&G)	mg/L	--	15	Once per event	Grab
Total BTEX <sup>9</sup>	µg/L	--	Report	Once per event	Grab

See footnotes on pages 6, 7, and 8.

**PART I.A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS, cont'd.****Footnotes for monitoring at Outfall 001 and 002:**

1. Such discharge shall: 1) be limited and monitored by the permittee as specified below; and 2) not cause a violation of the State Surface Water Quality Standards of the receiving water.
2. The Outfall 001 discharge pipe condition shall be inspected weekly during sampling so that an appropriate point source sampling location can be maintained during all seasonal conditions and any future construction activity.
3. Effluent samples shall be representative of the discharge and shall be taken from *the flow measuring flume located at the discharge pipe* at Outfall 001 during the discharge of effluent to the designated receiving waters. Changes in sampling location must be approved in writing by the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP). Sampling discharges from the facility must yield data representative of the discharge under authority of CWA Section 308(a) and in accordance with 40 Code of Federal Regulations (CFR) §122.41(j), §122.44(i), and §122.48. Samples shall be taken in the event of a discharge. During months when no tests are performed or required, NODI code 9 shall be entered for that month.
4. In accordance with 40 CFR §122.44(i)(1)(iv), the permittee shall use sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR Part 136 or required under 40 CFR Chapter I, Subchapter N or O, for the analysis of pollutants or pollutant parameters limited in this permit (except for WET limits). A method is considered “sufficiently sensitive” when either: (1) the method minimum level (ML) is at or below the level of the effluent limit established in this permit for the measured pollutant or pollutant parameter; or (2) the method has the lowest ML of the analytical methods approved under 40 CFR Part 136 or required under 40 CFR Chapter I, Subchapter N or O for the measured pollutant or pollutant parameter. The ML is not the minimum level of detection, but rather the lowest level at which the test equipment produces a recognizable signal and acceptable calibration point for a pollutant or pollutant parameter, representative of the lowest concentration at which a pollutant or pollutant parameter can be measured with a known level of confidence. For the purposes of this permit, the detection limit is the lowest concentration that can be reliably measured within specified limits of precision and accuracy for a specific laboratory analytical method during routine laboratory operating conditions (i.e., the level above which an actual value is reported for an analyte, and the level below which an analyte is reported as non-detect).
5. Sampling frequency of once per week is defined as the sampling of one (1) discharge event in each calendar week, when discharge occurs. Sampling frequency of once per month is defined as the sampling of one (1) discharge event in each calendar month, when discharge occurs. Sampling frequency of quarterly is defined as once every three months, where sampling is conducted in the first month of every quarter when discharge occurs. Sampling frequency of annually is defined as the sampling of one (1) discharge event in each calendar year, when discharge occurs. The permittee shall submit the results to EPA of any additional testing done to that required herein, if it is conducted in accordance with EPA approved methods consistent with the provisions of 40 CFR §122.41(l)(4)(ii).
6. The permittee may record or estimate flow by extrapolation of rainfall data and surface area drainage for Outfall 001 and Outfall 002.

**PART I.A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS, cont'd.**

7. Requirement for State Certification.
8. A composite sample is a sample consisting of a minimum of two (2) grab samples collected at hourly intervals during a normal discharge. If a discharge at Outfall 001 is of a short duration (approximately or less than an hour), the grab samples shall be collected every 15 minutes with a minimum of 4 grab samples.
9. Benzene, Ethylbenzene, Toluene, Xylene comprise the BTEX analyte.
10. The permittee shall conduct annual acute and chronic whole effluent toxicity (WET) tests specified in the WET test protocols can be found in Attachments A and B of the permit. The chronic test may not be used to calculate the acute LC<sub>50</sub> at the 48 hour exposure interval; as of 2013, modified acute toxicity tests are no longer acceptable under the WET test protocol. The permittee shall test the daphnid, *Ceriodaphnia dubia*, and fathead minnow, *Pimephales promelas*. The WET test results shall be submitted by March 31<sup>st</sup> following completion of the test in the month of March.
11. The LC<sub>50</sub> is the concentration of the effluent which causes mortality to 50% of the test organisms. The C-NOEC (chronic no observed effect concentration) is defined as the highest effluent concentration at which there is no statistically-significant adverse effect on the survival of the test organisms when compared with the diluent control survival at the time of observation.
12. *Pimephales promelas* may be tested with a synthetic alternate diluent with hardness similar to that of the receiving water, Foster Pond. *Ceriodaphnia dubia* must be tested as is typical with a receiving water dilution series. That is, for *Ceriodaphnia dubia*, the dilution water sample for the WET tests shall be a **receiving water control** (i.e., 0% effluent) consisting of a composite sample (defined in Part II.E.) collected from Foster Pond at a point immediately outside of Outfall 001's zone of influence at a reasonably accessible location over a 1-hour period. If toxicity test(s) using the receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall either follow procedures outlined in Attachment A, Section IV: DILUTION WATER, or the Permittee shall follow the Self-Implementing Alternative Dilution Water Guidance found in Attachment G in NPDES Permit Program Instructions for the Discharge Monitoring Report Forms (DMRs).
13. The Permittee shall conduct the analyses specified in Attachment A and Attachment B, Part VI. CHEMICAL ANALYSIS, of this permit. **For 100% effluent**, the permittee shall report results for the parameters listed in Part I.A.1., Whole Effluent Toxicity, hardness through aluminum, total recoverable, inclusive, as described in footnote 12. **For the receiving water control** (i.e., 0% effluent) the Permittee shall report results for the parameters listed for 100% effluent, except TRC, total solids, and total dissolved solids, which are not required. Even where an alternate dilution water is permitted, the receiving water control (0% effluent) must still be analyzed. MLs and methods are specified in Attachment A and B, Part VI: CHEMICAL ANALYSIS. Sampling for any parameter required for WET may be used to satisfy any duplicative sampling required for that parameter in this permit, so long as the timing of sampling for WET coincides with the sample timing otherwise required for that parameter within this permit.



**PART I.A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS, cont'd.**

14. An episodic discharge via Outfall 002 is defined as the failure to maintain stormwater and dust control water on-site. EPA and MassDEP shall be notified within 24 hours of an episodic discharge. Weekly inspections of this outfall shall continue to be required under this draft permit to keep stormwater and dust control water on-site even in the absence of a discharge.
15. The permittee shall characterize variability in the pH of the episodic discharge by sampling at the start and end of the discharge event as long as sampling is deemed safe and practicable.

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**PART I.A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS, cont'd.**

3. Water quality requirements include:
  - a. Discharges shall neither cause a violation of the water quality standards nor jeopardize any Class B use of Foster Pond or the wetlands complex including Thompson's Meadow that is adjacent to Forest River.
  - b. Discharges to the receiving waters shall be adequately treated to ensure that the surface water remains free from pollutants in concentrations or combinations that settle to form harmful deposits, float as foam, debris, scum or other visible substances. It shall be adequately treated to ensure that the surface waters remain free from pollutants which produce odor, color, taste or turbidity in the receiving waters that are not naturally occurring and would render the receiving water unsuitable for its designated uses.
  - c. The effluent shall not contain any pollutant and/or material or in combinations which are hazardous or toxic to aquatic life or which would impair the uses designated by the classification of the receiving waters.
  - d. Discharges to the receiving waters shall not result in the dominance of nuisance species or interfere with recreational activities.
  - e. The pH of the effluent shall not be less than 6.5 or greater than 8.3 at any time unless these values are exceeded as a result of natural causes.
4. EPA may revoke, modify, or reissue this permit in accordance with EPA regulations in 40 Code of Federal Regulations (CFR) §122.62 and §122.63 to incorporate more stringent effluent limitations, increase the frequency of analyses, or impose additional sampling and analytical requirements.
5. All existing manufacturing, commercial, mining and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:
  - a. That any activity has occurred or will occur which would result in the discharge, on a routine basis, of any toxic pollutant which is not limited in the Permit, if that discharge will exceed the highest of the following "notification levels":
    - i. One hundred micrograms per liter (100 µg/l);
    - ii. Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
    - iii. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or
    - iv. Any other notification level established by the Director in accordance with 40 CFR §122.44(f).

**PART I.A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS, cont'd.**

b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

- i. Five hundred micrograms per liter (500 µg/l);
- ii. One milligram per liter (1 mg/l) for antimony;
- iii. Ten (10) times the maximum concentration value reported for that pollutant in the Permit application in accordance with 40 CFR §122.21(g)(7).
- iv. Any other notification level established by the Director in accordance with 40 CFR §122.44(f).

c. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.

6. Toxics Control

a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.

b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this Permit may be revised or amended in accordance with such standards.

7. Prohibitions

The use of blasting agents containing perchlorate, the use of surfactants except for the minimal amount in the current blasting agent, the use or storage of polychlorinated biphenyl transformers on-site, and the discharge of water which collects in the above ground storage tank (AST) containment areas are all prohibited by the draft permit.

**Part I.B. STORMWATER POLLUTION PREVENTION PLAN**

1. The permittee shall maintain a Stormwater Pollution Prevention Plan (SWPPP) designed to reduce, or prevent, the discharge of pollutants in stormwater to the receiving waters identified in this permit. The SWPPP shall be a written document and consistent with the terms of this permit. The permittee shall comply with the terms of its SWPPP.
2. The SWPPP, including the SWPPP site map, shall be updated and signed by the permittee within 90 days after the effective date of this Permit. The permittee shall certify that the SWPPP has been completed or updated and that it meets the requirements of the permit. The certification shall be signed in accordance with the requirements identified in 40 CFR §122.22. A copy of this certification and a hardcopy of the SWPPP shall be sent to EPA and MassDEP within thirty (30) days after the certification date.
3. The SWPPP shall be consistent with the general provisions for SWPPPs included in the most current version of the Multi-Sector General Permits for Stormwater Discharges Associated with Industrial Activities. (The current MSGP was effective June 4, 2015 – see [https://www.epa.gov/sites/production/files/2015-10/documents/msgp2015\\_finalpermit.pdf](https://www.epa.gov/sites/production/files/2015-10/documents/msgp2015_finalpermit.pdf)) The SWPPP shall include best management practices (BMPs) for on-site activities that will minimize the discharge of pollutants in stormwater to waters of the United States.
4. The SWPPP shall be prepared in accordance with good engineering practices, identify potential sources of pollution that may reasonably be expected to affect the quality of the stormwater discharges, and describe and ensure implementation of practices which will be used to reduce the pollutants and assure compliance with this permit. Specifically, the SWPPP shall contain the elements listed below:
  - a. A pollution prevention team responsible for developing, implementing, maintaining, revising and ensuring compliance with the SWPPP.
  - b. A site description which includes a list of activities at the facility; a site map showing drainage areas and direction of stormwater flows; receiving waters and outfall location; the location of industrial activities, storage, disposal, material handling; and all structural controls.
  - c. A summary of all pollutant sources which includes all areas where spills have occurred or could occur. For each source, identify the expected drainage and the corresponding pollutant.
  - d. A description of all stormwater controls, both structural and non-structural. All BMPs shall be properly maintained and be in effective operating conditions. BMPs must be selected and implemented to satisfy non-numeric technology-based effluent limitations in MSGP Part 2.1.2.: BMPs must include good housekeeping measures, preventative maintenance programs, spill and leak prevention and response procedures, erosion and sediment controls, and runoff management practices. The SWPPP shall describe how the BMPs are appropriate for the facility.

**Part I.B. STORMWATER POLLUTION PREVENTION PLAN, cont'd.**

- e. A record of the following information for all chemicals and chemical additives used at the facility, including all chemicals used in the treatment processes at the facility (e.g. flocculation) and for blasting:
- i. Product name, chemical formula, and manufacturer;
  - ii. Purpose or use of the chemical;
  - iii. Material Safety Data Sheet (MSDS) and Chemical Abstracts Service (CAS) Registry number for each chemical;
  - iv. The frequency (e.g., hourly, daily), duration (e.g., hours, days), quantity (e.g., maximum and average), and method of application for the chemical; and
  - v. The vendor's reported aquatic toxicity (NOAEL and/or LC50 in percent for aquatic organism(s)), when available.
- f. A description of the training to be provided for employees to assure they understand the goals, objectives, and procedures of the BMP plan, the requirements of the NPDES permit, and their individual responsibilities for complying with the goals and objectives of the BMP plan and the NPDES permit.
- g. Minimum documentation requirements are as follows:
- i. Records of operational and preventive maintenance activities, equipment inspections, procedure audits, and personnel training;
  - ii. Records of the collection and analysis of samples, including, but not limited to, sample location, any calculations done at the time of sampling, any sampling or analytical methods used for samples analyzed on site, and sample results;
  - iii. Any records of the collection and analysis of samples, the evaluation of design standards and operational changes, the selection, design, installation, and implementation of control measures, and/or evaluations, identifications, examinations and/or explanations documented in support of the residuals management BMP and/or environmental monitoring program requirement, below; and
  - iv. All documentation of BMP plan activities shall be kept at the facility for at least three years and provided to EPA or MassDEP upon request.
5. All areas identified in the SWPPP shall be inspected, at least on a quarterly basis. Inspections shall occur beginning the 1<sup>st</sup> quarter after the effective date of the permit. EPA considers quarters as follows: January to March; April to June; July to September; and October to December.

**Part I.B. STORMWATER POLLUTION PREVENTION PLAN, cont'd.**

6. The permittee shall amend and update the SWPPP within 14 days for any changes at the facility affecting the SWPPP. Changes which may affect the SWPPP include, but are not limited to, the following activities: a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to the waters of the United States; a release of a reportable quantity of pollutants as described in 40 CFR §302; or a determination by the permittee or EPA that the SWPPP appears to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges associated with industrial activity. Any amended or new versions of the SWPPP shall be re-certified by the permittee. Such re-certifications also shall be signed in accordance with the requirements identified in 40 CFR §122.22.

7. The permittee shall certify at least annually that the previous year's inspections and maintenance activities were conducted, results were recorded, records were maintained, and that the facility is in compliance with the SWPPP. If the facility is not in compliance with any aspect of the SWPPP, the annual certification shall state the non-compliance and the remedies which are being undertaken. Such annual certifications also shall be signed in accordance with the requirements identified in 40 CFR §122.22. The permittee shall keep a copy of the current SWPPP and all SWPPP certifications (the initial certification, recertifications, and annual certifications) signed during the effective period of this permit at the facility and shall make it available for inspection by EPA and MassDEP.

8. The permittee shall develop and implement site-specific BMPs; including BMPs to achieve the following:

- a. To ensure proper inspection and cleaning of the oil/water separator. The oil/water separator shall be inspected at least quarterly and cleaned at least annually.
- b. To require storage of materials and equipment such that contact with stormwater is limited, and avoided whenever possible.
- c. To ensure all site stormwater not discharged through Outfalls 001 or 002 remains on-site.
- d. To require proper cleanup of any residuals from previous manufacturing processes.
- e. To reduce the amount of turbidity in the effluent.

## **PART I.C. MONITORING AND REPORTING**

The monitoring program in the permit specifies sampling and analysis, which will provide continuous information on compliance and the reliability and effectiveness of the installed pollution abatement equipment. The approved analytical procedures found in 40 CFR Part 136 are required unless other procedures are explicitly required in the permit. The permittee is obligated to monitor and report sampling results to EPA and the MassDEP within the time specified within the permit. Unless otherwise specified in this permit, the permittee shall submit reports, requests, and information and provide notices in the manner described in this section.

### **1. Submittal of Reports as NetDMR Attachments**

After the permittee begins submitting DMR reports to EPA electronically using NetDMR, the permittee shall continue to electronically submit all reports to EPA as NetDMR attachments rather than as hard copies, unless otherwise specified in this permit. The permittee shall continue to send hard copies of reports other than DMRs to MassDEP until further notice from MassDEP. Because the due dates for reports described in this permit may not coincide with the due date for submitting DMRs (which is no later than the 15<sup>th</sup> day of the month), a report submitted electronically as a NetDMR attachment shall be considered timely if it is electronically submitted to EPA using NetDMR with the next DMR due following the particular report due date specified in this permit.

### **2. Submittal of Requests and Reports to EPA/OEP**

The following requests, reports, and information described in this permit shall be submitted to the EPA/OEP NPDES Applications Coordinator in EPA's Office Ecosystem Protection (OEP).

- a. Transfer of permit notice
- b. Request for changes in sampling location
- c. Request for reduction in testing frequency
- d. Request for reduction in WET Testing Requirement
- e. Report on unacceptable dilution water/request for alternative dilution water for WET testing
- f. Notification of proposal to add or replace chemicals, including chemical additives

### **3. Submittal of Requests and Reports to EPA/OEP**

These reports, information, and requests shall be submitted to EPA/OEP electronically at [R1NPDES.Notices.OEP@epa.gov](mailto:R1NPDES.Notices.OEP@epa.gov).

**PART I.C. MONITORING AND REPORTING, contd.**

4. Submittal of Reports in Hard Copy Form

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

- a. Written notifications required under Part II
- b. Notice of unauthorized discharges
- c. Reports and DMRs submitted prior to the use of NetDMR

The reports in hard copy form information shall be submitted to EPA/OES at the following address:

U.S. Environmental Protection Agency  
Office of Environmental Stewardship (OES)  
Water Technical Unit  
5 Post Office Square, Suite 100 (OES04-4)  
Boston, MA 02109-3912

Massachusetts Department of Environmental Protection  
Northeast Regional Office  
Bureau of Air and Waste  
205B Lowell St.  
Wilmington, MA 01887

5. State Reporting

Transfer or termination of permit notices shall be submitted to:

MassDEP  
Bureau of Water Resources  
Wastewater Management Program  
1 Winter Street, 5<sup>th</sup> Floor  
Boston, MA 02108



**PART I.C. MONITORING AND REPORTING, contd.**

Unless otherwise specified in this permit, duplicate signed copies of all reports, information, requests or notifications described in this permit, including the reports, information, requests or notifications described in Parts I.D.3 and I.D.4 also shall be submitted to the State at the following addresses:

Massachusetts Department of Environmental Protection  
Northeast Regional Office  
Bureau of Air and Waste  
205B Lowell Street  
Wilmington, MA 01887

Copies of toxicity tests only shall be submitted to:

Massachusetts Department of Environmental Protection  
Bureau of Water Resources  
8 New Bond Street  
Worcester, MA 01606

**6. Verbal Reports and Verbal Notifications**

Any verbal reports or verbal notifications, if required in Parts I and/or II of this permit, shall be made to both EPA-New England and to MassDEP. This includes verbal reports and notifications notification which require reporting within 24-hours. (As examples, see Part II.B.4.c. (2), Part II.B.5.c. (3), and Part II.D.1.e.) Verbal reports and verbal notifications shall be made to EPA's Office of Environmental Stewardship at: **(617) 918-1510**.

**Part I.D. STATE PERMIT CONDITIONS**

1. This authorization to discharge includes two separate and independent permit authorizations. The two permit authorizations are (i) a federal National Pollutant Discharge Elimination System permit issued by the U.S. Environmental Protection Agency (EPA) pursuant to the Federal Clean Water Act, 33 U.S.C. §§1251 et seq.; and (ii) an identical state surface water discharge permit issued by the Commissioner of the Massachusetts Department of Environmental Protection (MassDEP) pursuant to the Massachusetts Clean Waters Act, M.G.L. c. 21, §§26-53, and 314 CMR 3.00. All of the requirements contained in this authorization, as well as the standard conditions contained in 314 CMR 3.19, are hereby incorporated by reference into this state surface water discharge permit.

**Part I.D. STATE PERMIT CONDITIONS, contd.**

2. This authorization also incorporates the state water quality certification issued by MassDEP under §401(a) of the Federal Clean Water Act, 40 CFR 124.53, M.G.L. c. 21, §27 and 314 CMR 3.07. All of the requirements (if any) contained in MassDEP's water quality certification for the permit are hereby incorporated by reference into this state surface water discharge permit as special conditions pursuant to 314 CMR 3.11.

3. Each agency shall have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of this permit shall be effective only with respect to the agency taking such action, and shall not affect the validity or status of this permit as issued by the other agency, unless and until each agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this permit is declared invalid, illegal or otherwise issued in violation of state law such permit shall remain in full force and effect under federal law as a NPDES permit issued by the U.S. Environmental Protection Agency. In the event this permit is declared invalid, illegal or otherwise issued in violation of federal law, this permit shall remain in full force and effect under state law as a permit issued by the Commonwealth of Massachusetts.

# USEPA REGION 1 FRESHWATER ACUTE TOXICITY TEST PROCEDURE AND PROTOCOL

## I. GENERAL REQUIREMENTS

The permittee shall conduct acceptable acute toxicity tests in accordance with the appropriate test protocols described below:

- **Daphnid (Ceriodaphnia dubia) definitive 48 hour test.**
- **Fathead Minnow (Pimephales promelas) definitive 48 hour test.**

Acute toxicity test data shall be reported as outlined in Section VIII.

## II. METHODS

The permittee shall use 40 CFR Part 136 methods. Methods and guidance may be found at:

[http://water.epa.gov/scitech/methods/cwa/wet/disk2\\_index.cfm](http://water.epa.gov/scitech/methods/cwa/wet/disk2_index.cfm)

The permittee shall also meet the sampling, analysis and reporting requirements included in this protocol. This protocol defines more specific requirements while still being consistent with the Part 136 methods. If, due to modifications of Part 136, there are conflicting requirements between the Part 136 method and this protocol, the permittee shall comply with the requirements of the Part 136 method.

## III. SAMPLE COLLECTION

A discharge sample shall be collected. Aliquots shall be split from the sample, containerized and preserved (as per 40 CFR Part 136) for chemical and physical analyses required. The remaining sample shall be measured for total residual chlorine and dechlorinated (if detected) in the laboratory using sodium thiosulfate for subsequent toxicity testing. (Note that EPA approved test methods require that samples collected for metals analyses be preserved immediately after collection.) Grab samples must be used for pH, temperature, and total residual chlorine (as per 40 CFR Part 122.21).

Standard Methods for the Examination of Water and Wastewater describes dechlorination of samples (APHA, 1992). Dechlorination can be achieved using a ratio of 6.7 mg/L anhydrous sodium thiosulfate to reduce 1.0 mg/L chlorine. If dechlorination is necessary, a thiosulfate control (maximum amount of thiosulfate in lab control or receiving water) must also be run in the WET test.

All samples held overnight shall be refrigerated at 1- 6°C.

#### IV. DILUTION WATER

A grab sample of dilution water used for acute toxicity testing shall be collected from the receiving water at a point immediately upstream of the permitted discharge's zone of influence at a reasonably accessible location. Avoid collection near areas of obvious road or agricultural runoff, storm sewers or other point source discharges and areas where stagnant conditions exist. In the case where an alternate dilution water has been agreed upon an additional receiving water control (0% effluent) must also be tested.

If the receiving water diluent is found to be, or suspected to be toxic or unreliable, an alternate standard dilution water of known quality with a hardness, pH, conductivity, alkalinity, organic carbon, and total suspended solids similar to that of the receiving water may be substituted **AFTER RECEIVING WRITTEN APPROVAL FROM THE PERMIT ISSUING AGENCY(S)**. Written requests for use of an alternate dilution water should be mailed with supporting documentation to the following address:

Director  
Office of Ecosystem Protection (CAA)  
U.S. Environmental Protection Agency-New England  
5 Post Office Sq., Suite 100 (OEP06-5)  
Boston, MA 02109-3912

and

Manager  
Water Technical Unit (SEW)  
U.S. Environmental Protection Agency  
5 Post Office Sq., Suite 100 (OES04-4)  
Boston, MA 02109-3912

Note: USEPA Region 1 retains the right to modify any part of the alternate dilution water policy stated in this protocol at any time. Any changes to this policy will be documented in the annual DMR posting.

*See the most current annual DMR instructions which can be found on the EPA Region 1 website at <http://www.epa.gov/region1/enforcement/water/dmr.html> for further important details on alternate dilution water substitution requests.*

It may prove beneficial to have the proposed dilution water source screened for suitability prior to toxicity testing. EPA strongly urges that screening be done prior to set up of a full definitive toxicity test any time there is question about the dilution water's ability to support acceptable performance as outlined in the 'test acceptability' section of the protocol.

#### V. TEST CONDITIONS

The following tables summarize the accepted daphnid and fathead minnow toxicity test conditions and test acceptability criteria:

**EPA NEW ENGLAND EFFLUENT TOXICITY TEST CONDITIONS FOR THE DAPHNID, CERIODAPHNIA DUBIA 48 HOUR ACUTE TESTS<sup>1</sup>**

1.	Test type	Static, non-renewal
2.	Temperature (°C)	20 ± 1°C or 25 ± 1°C
3.	Light quality	Ambient laboratory illumination
4.	Photoperiod	16 hour light, 8 hour dark
5.	Test chamber size	Minimum 30 ml
6.	Test solution volume	Minimum 15 ml
7.	Age of test organisms	1-24 hours (neonates)
8.	No. of daphnids per test chamber	5
9.	No. of replicate test chambers per treatment	4
10.	Total no. daphnids per test concentration	20
11.	Feeding regime	As per manual, lightly feed YCT and <u>Selenastrum</u> to newly released organisms while holding prior to initiating test
12.	Aeration	None
13.	Dilution water <sup>2</sup>	Receiving water, other surface water, synthetic water adjusted to the hardness and alkalinity of the receiving water (prepared using either Millipore Milli-Q <sup>R</sup> or equivalent deionized water and reagent grade chemicals according to EPA acute toxicity test manual) or deionized water combined with mineral water to appropriate hardness.
14.	Dilution series	≥ 0.5, must bracket the permitted RWC
15.	Number of dilutions	5 plus receiving water and laboratory water control and thiosulfate control, as necessary. An additional dilution at the permitted effluent concentration (% effluent) is required if it is not included in the dilution

series.

- |                            |   |
|----------------------------|---|
| 16. Effect measured        | Mortality-no movement of body or appendages on gentle prodding  |
| 17. Test acceptability     | 90% or greater survival of test organisms in dilution water control solution  |
| 18. Sampling requirements  | For on-site tests, samples must be used within 24 hours of the time that they are removed from the sampling device. For off-site tests, samples must first be used within 36 hours of collection. |
| 19. Sample volume required | Minimum 1 liter   |

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Footnotes:

1. Adapted from EPA-821-R-02-012.
2. Standard prepared dilution water must have hardness requirements to generally reflect the characteristics of the receiving water.

**EPA NEW ENGLAND TEST CONDITIONS FOR THE FATHEAD MINNOW  
(PIMEPHALES PROMELAS) 48 HOUR ACUTE TEST<sup>1</sup>**

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1. Test Type	Static, non-renewal
2. Temperature (°C)	20 ± 1 ° C or 25 ± 1°C
3. Light quality	Ambient laboratory illumination
4. Photoperiod	16 hr light, 8 hr dark
5. Size of test vessels	250 mL minimum
6. Volume of test solution	Minimum 200 mL/replicate
7. Age of fish	1-14 days old and age within 24 hrs of each other
8. No. of fish per chamber	10
9. No. of replicate test vessels per treatment	4
10. Total no. organisms per concentration	40
11. Feeding regime	As per manual, lightly feed test age larvae using concentrated brine shrimp nauplii while holding prior to initiating test
12. Aeration	None, unless dissolved oxygen (D.O.) concentration falls below 4.0 mg/L, at which time gentle single bubble aeration should be started at a rate of less than 100 bubbles/min. (Routine D.O. check is recommended.)
13. dilution water <sup>2</sup>	Receiving water, other surface water, synthetic water adjusted to the hardness and alkalinity of the receiving water (prepared using either Millipore Milli-Q <sup>R</sup> or equivalent deionized and reagent grade chemicals according to EPA acute toxicity test manual) or deionized water combined with mineral water to appropriate hardness.
14. Dilution series	≥ 0.5, must bracket the permitted RWC

- |                            |  |
|----------------------------|--|
| 15. Number of dilutions    | 5 plus receiving water and laboratory water control and thiosulfate control, as necessary. An additional dilution at the permitted effluent concentration (% effluent) is required if it is not included in the dilution series. |
| 16. Effect measured        | Mortality-no movement on gentle prodding   |
| 17. Test acceptability     | 90% or greater survival of test organisms in dilution water control solution   |
| 18. Sampling requirements  | For on-site tests, samples must be used within 24 hours of the time that they are removed from the sampling device. For off-site tests, samples are used within 36 hours of collection.  |
| 19. Sample volume required | Minimum 2 liters   |

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Footnotes:

1. Adapted from EPA-821-R-02-012
2. Standard dilution water must have hardness requirements to generally reflect characteristics of the receiving water.



## VI. CHEMICAL ANALYSIS

At the beginning of a static acute toxicity test, pH, conductivity, total residual chlorine, oxygen, hardness, alkalinity and temperature must be measured in the highest effluent concentration and the dilution water. Dissolved oxygen, pH and temperature are also measured at 24 and 48 hour intervals in all dilutions. The following chemical analyses shall be performed on the 100 percent effluent sample and the upstream water sample for each sampling event.

<u>Parameter</u>	Effluent	Receiving Water	ML (mg/l)
Hardness <sup>1</sup>	x	x	0.5
Total Residual Chlorine (TRC) <sup>2, 3</sup>	x		0.02
Alkalinity	x	x	2.0
pH	x	x	--
Specific Conductance	x	x	--
Total Solids	x		--
Total Dissolved Solids	x		--
Ammonia	x	x	0.1
Total Organic Carbon	x	x	0.5
Total Metals			
Cd	x	x	0.0005
Pb	x	x	0.0005
Cu	x	x	0.003
Zn	x	x	0.005
Ni	x	x	0.005
Al	x	x	0.02
Other as permit requires			

### Notes:

1. Hardness may be determined by:
  - APHA Standard Methods for the Examination of Water and Wastewater , 21st Edition
    - Method 2340B (hardness by calculation)
    - Method 2340C (titration)
2. Total Residual Chlorine may be performed using any of the following methods provided the required minimum limit (ML) is met.
  - APHA Standard Methods for the Examination of Water and Wastewater , 21st Edition
    - Method 4500-CL E Low Level Amperometric Titration
    - Method 4500-CL G DPD Colorimetric Method
3. Required to be performed on the sample used for WET testing prior to its use for toxicity testing.

## **VII. TOXICITY TEST DATA ANALYSIS**

### LC50 Median Lethal Concentration (Determined at 48 Hours)

Methods of Estimation:

- Probit Method
- Spearman-Kärber
- Trimmed Spearman-Kärber
- Graphical

See the flow chart in Figure 6 on p. 73 of EPA-821-R-02-012 for appropriate method to use on a given data set.

### No Observed Acute Effect Level (NOAEL)

See the flow chart in Figure 13 on p. 87 of EPA-821-R-02-012.

## **VIII. TOXICITY TEST REPORTING**

A report of the results will include the following:

- Description of sample collection procedures, site description
- Names of individuals collecting and transporting samples, times and dates of sample collection and analysis on chain-of-custody
- General description of tests: age of test organisms, origin, dates and results of standard toxicant tests; light and temperature regime; other information on test conditions if different than procedures recommended. Reference toxicant test data should be included.
- All chemical/physical data generated. (Include minimum detection levels and minimum quantification levels.)
- Raw data and bench sheets.
- Provide a description of dechlorination procedures (as applicable).
- Any other observations or test conditions affecting test outcome.

# FRESHWATER CHRONIC TOXICITY TEST PROCEDURE AND PROTOCOL USEPA Region 1

## I. GENERAL REQUIREMENTS

The permittee shall be responsible for the conduct of acceptable chronic toxicity tests using three fresh samples collected during each test period. The following tests shall be performed as prescribed in Part 1 of the NPDES discharge permit in accordance with the appropriate test protocols described below. (Note: the permittee and testing laboratory should review the applicable permit to determine whether testing of one or both species is required).

- **Daphnid (Ceriodaphnia dubia) Survival and Reproduction Test.**
- **Fathead Minnow (Pimephales promelas) Larval Growth and Survival Test.**

Chronic toxicity data shall be reported as outlined in Section VIII.

## II. METHODS

Methods to follow are those recommended by EPA in: Short Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, Fourth Edition, October 2002. United States Environmental Protection Agency. Office of Water, Washington, D.C., EPA 821-R-02-013. The methods are available on-line at <http://www.epa.gov/waterscience/WET/> . Exceptions and clarification are stated herein.

## III. SAMPLE COLLECTION AND USE

A total of three fresh samples of effluent and receiving water are required for initiation and subsequent renewals of a freshwater, chronic, toxicity test. The receiving water control sample must be collected immediately upstream of the permitted discharge's zone of influence. Fresh samples are recommended for use on test days 1, 3, and 5. However, provided a total of three samples are used for testing over the test period, an alternate sampling schedule is acceptable. The acceptable holding times until initial use of a sample are 24 and 36 hours for on-site and off-site testing, respectively. A written waiver is required from the regulating authority for any hold time extension. All test samples collected may be used for 24, 48 and 72 hour renewals after initial use. All samples held for use beyond the day of sampling shall be refrigerated and maintained at a temperature range of 0-6° C.

All samples submitted for chemical and physical analyses will be analyzed according to Section VI of this protocol.

Sampling guidance dictates that, where appropriate, aliquots for the analysis required in this protocol shall be split from the samples, containerized and immediately preserved, or analyzed as per 40 CFR Part 136. EPA approved test methods require that samples collected for metals analyses be preserved immediately after collection. Testing for the presence of total residual chlorine (TRC) must be analyzed immediately or as soon as possible, for all effluent samples, prior to WET testing. TRC analysis may be performed on-site or by the toxicity testing laboratory and the samples must be dechlorinated, as necessary, using sodium thiosulfate prior to sample use for toxicity testing.

If any of the renewal samples are of sufficient potency to cause lethality to 50 percent or more of the test organisms in any of the test treatments for either species or, if the test fails to meet its permit limits, then chemical analysis for total metals (originally required for the initial sample only in Section VI) will be required on the renewal sample(s) as well.

#### IV. DILUTION WATER

Samples of receiving water must be collected from a location in the receiving water body immediately upstream of the permitted discharge's zone of influence at a reasonably accessible location. Avoid collection near areas of obvious road or agricultural runoff, storm sewers or other point source discharges and areas where stagnant conditions exist. EPA strongly urges that screening for toxicity be performed prior to the set up of a full, definitive toxicity test any time there is a question about the test dilution water's ability to achieve test acceptability criteria (TAC) as indicated in Section V of this protocol. The test dilution water control response will be used in the statistical analysis of the toxicity test data. All other control(s) required to be run in the test will be reported as specified in the Discharge Monitoring Report (DMR) Instructions, Attachment F, page 2, Test Results & Permit Limits.

The test dilution water must be used to determine whether the test met the applicable TAC. When receiving water is used for test dilution, an additional control made up of standard laboratory water (0% effluent) is required. This control will be used to verify the health of the test organisms and evaluate to what extent, if any, the receiving water itself is responsible for any toxic response observed.

If dechlorination of a sample by the toxicity testing laboratory is necessary a "sodium thiosulfate" control, representing the concentration of sodium thiosulfate used to adequately dechlorinate the sample prior to toxicity testing, must be included in the test.

If the use of an alternate dilution water (ADW) is authorized, in addition to the ADW test control, the testing laboratory must, for the purpose of monitoring the receiving water, also run a receiving water control.

If the receiving water diluent is found to be, or suspected to be toxic or unreliable an ADW of known quality with hardness similar to that of the receiving water may be substituted. Substitution is species specific meaning that the decision to use ADW is made for each species and is based on the toxic response of that particular species. Substitution to an ADW is authorized in two cases. The first is the case where repeating a test due to toxicity in the site dilution water requires an **immediate decision** for ADW use be made by the permittee and toxicity testing laboratory. The second is in the case where two of the most recent documented incidents of unacceptable site dilution water toxicity requires ADW use in future WET testing.

For the second case, written notification from the permittee requesting ADW use **and** written authorization from the permit issuing agency(s) is required **prior to** switching to a long-term use of ADW for the duration of the permit.

Written requests for use of ADW must be mailed with supporting documentation to the following addresses:

Director  
Office of Ecosystem Protection (CAA)  
U.S. Environmental Protection Agency, Region 1  
Five Post Office Square, Suite 100  
Mail Code OEP06-5  
Boston, MA 02109-3912

and

Manager  
Water Technical Unit (SEW)  
U.S. Environmental Protection Agency  
Five Post Office Square, Suite 100  
Mail Code OES04-4  
Boston, MA 02109-3912

Note: USEPA Region 1 retains the right to modify any part of the alternate dilution water policy stated in this protocol at any time. Any changes to this policy will be documented in the annual DMR posting.

*See the most current annual DMR instructions which can be found on the EPA Region 1 website at <http://www.epa.gov/region1/enforcementandassistance/dmr.html> for further important details on alternate dilution water substitution requests.*

## **V. TEST CONDITIONS AND TEST ACCEPTABILITY CRITERIA**

Method specific test conditions and TAC are to be followed and adhered to as specified in the method guidance document, EPA 821-R-02-013. If a test does not meet TAC the test must be repeated with fresh samples within 30 days of the initial test completion date.

### **V.1. Use of Reference Toxicity Testing**

Reference toxicity test results and applicable control charts must be included in the toxicity testing report.

If reference toxicity test results fall outside the control limits established by the laboratory for a specific test endpoint, a reason or reasons for this excursion must be evaluated, correction made and reference toxicity tests rerun as necessary.

If a test endpoint value exceeds the control limits at a frequency of more than one out of twenty then causes for the reference toxicity test failure must be examined and if problems are identified corrective action taken. The reference toxicity test must be repeated during the same month in which the exceedance occurred.

If two consecutive reference toxicity tests fall outside control limits, the possible cause(s) for the exceedance must be examined, corrective actions taken and a repeat of the reference toxicity test must take place immediately. Actions taken to resolve the problem must be reported.

#### V.1.a. Use of Concurrent Reference Toxicity Testing

In the case where concurrent reference toxicity testing is required due to a low frequency of testing with a particular method, if the reference toxicity test results fall slightly outside of laboratory established control limits, but the primary test met the TAC, the results of the primary test will be considered acceptable. However, if the results of the concurrent test fall well outside the established **upper** control limits i.e.  $\geq 3$  standard deviations for IC25 values and  $\geq$  two concentration intervals for NOECs, and even though the primary test meets TAC, the primary test will be considered unacceptable and must be repeated.

V.2. For the *C. dubia* test, the determination of TAC and formal statistical analyses must be performed using only the first three broods produced.

V.3. Test treatments must include 5 effluent concentrations and a dilution water control. An additional test treatment, at the permitted effluent concentration (% effluent), is required if it is not included in the dilution series.

## VI. CHEMICAL ANALYSIS

As part of each toxicity test's daily renewal procedure, pH, specific conductance, dissolved oxygen (DO) and temperature must be measured at the beginning and end of each 24-hour period in each test treatment and the control(s).

The additional analysis that must be performed under this protocol is as specified and noted in the table below.

<u>Parameter</u>	Effluent	Receiving Water	ML (mg/l)
Hardness <sup>1,4</sup>	x	x	0.5
Total Residual Chlorine (TRC) <sup>2, 3, 4</sup>	x		0.02
Alkalinity <sup>4</sup>	x	x	2.0
pH <sup>4</sup>	x	x	--
Specific Conductance <sup>4</sup>	x	x	--
Total Solids <sup>6</sup>	x		--
Total Dissolved Solids <sup>6</sup>	x		--
Ammonia <sup>4</sup>	x	x	0.1
Total Organic Carbon <sup>6</sup>	x	x	0.5
Total Metals <sup>5</sup>			
Cd	x	x	0.0005
Pb	x	x	0.0005
Cu	x	x	0.003
Zn	x	x	0.005
Ni	x	x	0.005
Al	x	x	0.02

Other as permit requires

#### Notes:

1. Hardness may be determined by:

- APHA Standard Methods for the Examination of Water and Wastewater , 21st Edition
    - Method 2340B (hardness by calculation)
    - Method 2340C (titration)
2. Total Residual Chlorine may be performed using any of the following methods provided the required minimum limit (ML) is met.
    - APHA Standard Methods for the Examination of Water and Wastewater , 21st Edition
      - Method 4500-CL E Low Level Amperometric Titration
      - Method 4500-CL G DPD Colorimetric Method
    - USEPA 1983. Manual of Methods Analysis of Water and Wastes
      - Method 330.5
  3. Required to be performed on the sample used for WET testing prior to its use for toxicity testing
  4. Analysis is to be performed on samples and/or receiving water, as designated in the table above, from all three sampling events.
  5. Analysis is to be performed on the initial sample(s) only unless the situation arises as stated in Section III, paragraph 4
  6. Analysis to be performed on initial samples only

## **VII. TOXICITY TEST DATA ANALYSIS AND REVIEW**

### A. Test Review

#### 1. Concentration / Response Relationship

A concentration/response relationship evaluation is required for test endpoint determinations from both Hypothesis Testing and Point Estimate techniques. The test report is to include documentation of this evaluation in support of the endpoint values reported. The dose-response review must be performed as required in Section 10.2.6 of EPA-821-R-02-013.

Guidance for this review can be found at

<http://water.epa.gov/scitech/methods/cwa/> . In most cases, the review will result in one of the following three conclusions: (1) Results are reliable and reportable; (2) Results are anomalous and require explanation; or (3) Results are inconclusive and a retest with fresh samples is required.

#### 2. Test Variability (Test Sensitivity)

This review step is separate from the determination of whether a test meets or does not meet TAC. Within test variability is to be examined for the purpose of evaluating test sensitivity. This evaluation is to be performed for the sub-lethal hypothesis testing endpoints reproduction and growth as required by the permit. The test report is to include documentation of this evaluation to support that the endpoint values reported resulted from a toxicity test of adequate sensitivity. This evaluation must be performed as required in Section 10.2.8 of EPA-821-R-02-013.

To determine the adequacy of test sensitivity, USEPA requires the calculation of test percent minimum significant difference (PMSD) values. In cases where NOEC determinations are made based on a non-parametric technique, calculation of a test PMSD value, for the sole purpose of assessing test sensitivity, shall be calculated using a comparable parametric statistical analysis technique. The calculated test PMSD is then compared to the upper and lower PMSD bounds shown for freshwater tests in Section 10.2.8.3, p. 52, Table 6 of EPA-821-R-02-013. The comparison will yield one of the following determinations.

- The test PMSD exceeds the PMSD upper bound test variability criterion in Table 6, the test results are considered highly variable and the test may not be sensitive enough to determine the presence of toxicity at the permit limit concentration (PLC). If the test results indicate that the discharge is not toxic at the PLC, then the test is considered insufficiently sensitive and must be repeated within 30 days of the initial test completion using fresh samples. If the test results indicate that the discharge is toxic at the PLC, the test is considered acceptable and does not have to be repeated.
- The test PMSD falls below the PMSD lower bound test variability criterion in Table 6, the test is determined to be very sensitive. In order to determine which treatment(s) are statistically significant and which are not, for the purpose of reporting a NOEC, the relative percent difference (RPD) between the control and each treatment must be calculated and compared to the lower PMSD boundary. See *Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the NPDES Program*, EPA 833-R-00-003, June 2002, Section 6.4.2. The following link: [Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the NPDES Program](#) can be used to locate the USEPA website containing this document. If the RPD for a treatment falls below the PMSD lower bound, the difference is considered statistically insignificant. If the RPD for a treatment is greater than the PMSD lower bound, then the treatment is considered statistically significant.
- The test PMSD falls within the PMSD upper and lower bounds in Table 6, the sub-lethal test endpoint values shall be reported as is.

## B. Statistical Analysis

### 1. General - Recommended Statistical Analysis Method

Refer to general data analysis flowchart, EPA 821-R-02-013, page 43

For discussion on Hypothesis Testing, refer to EPA 821-R-02-013, Section 9.6

For discussion on Point Estimation Techniques, refer to EPA 821-R-02-013, Section 9.7

### 2. *Pimephales promelas*

Refer to survival hypothesis testing analysis flowchart, EPA 821-R-02-013, page 79

Refer to survival point estimate techniques flowchart, EPA 821-R-02-013, page 80

Refer to growth data statistical analysis flowchart, EPA 821-R-02-013, page 92

### 3. *Ceriodaphnia dubia*

Refer to survival data testing flowchart, EPA 821-R-02-013, page 168

Refer to reproduction data testing flowchart, EPA 821-R-02-013, page 173



## VIII. TOXICITY TEST REPORTING

A report of results must include the following:

- Test summary sheets (2007 DMR Attachment F) which includes:
  - Facility name
  - NPDES permit number
  - Outfall number
  - Sample type
  - Sampling method
  - Effluent TRC concentration
  - Dilution water used
  - Receiving water name and sampling location
  - Test type and species
  - Test start date
  - Effluent concentrations tested (%) and permit limit concentration
  - Applicable reference toxicity test date and whether acceptable or not
  - Age, age range and source of test organisms used for testing
  - Results of TAC review for all applicable controls
  - Test sensitivity evaluation results (test PMSD for growth and reproduction)
  - Permit limit and toxicity test results
  - Summary of test sensitivity and concentration response evaluation

In addition to the summary sheets the report must include:

- A brief description of sample collection procedures
- Chain of custody documentation including names of individuals collecting samples, times and dates of sample collection, sample locations, requested analysis and lab receipt with time and date received, lab receipt personnel and condition of samples upon receipt at the lab(s)
- Reference toxicity test control charts
- All sample chemical/physical data generated, including minimum limits (MLs) and analytical methods used
- All toxicity test raw data including daily ambient test conditions, toxicity test chemistry, sample dechlorination details as necessary, bench sheets and statistical analysis
- A discussion of any deviations from test conditions
- Any further discussion of reported test results, statistical analysis and concentration-response relationship and test sensitivity review per species per endpoint

NPDES PART II STANDARD CONDITIONS  
(January, 2007)

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NPDES PART II STANDARD CONDITIONS  
(January, 2007)

PART II. A. GENERAL REQUIREMENTS

1. Duty to Comply

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

- a. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirements.
- b. The CWA provides that any person who violates Section 301, 302, 306, 307, 308, 318, or 405 of the CWA or any permit condition or limitation implementing any of such sections in a permit issued under Section 402, or any requirement imposed in a pretreatment program approved under Section 402 (a)(3) or 402 (b)(8) of the CWA is subject to a civil penalty not to exceed \$25,000 per day for each violation. Any person who negligently violates such requirements is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than 1 year, or both. Any person who knowingly violates such requirements is subject to a fine of not less than \$5,000 nor more than \$50,000 per day of violation, or by imprisonment for not more than 3 years, or both.
- c. Any person may be assessed an administrative penalty by the Administrator for violating Section 301, 302, 306, 307, 308, 318, or 405 of the CWA, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the CWA. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000.

Note: See 40 CFR §122.41(a)(2) for complete “Duty to Comply” regulations.

2. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or notifications of planned changes or anticipated noncompliance does not stay any permit condition.

3. Duty to Provide Information

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

NPDES PART II STANDARD CONDITIONS  
(January, 2007)

4. Reopener Clause

The Regional Administrator reserves the right to make appropriate revisions to this permit in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the CWA in order to bring all discharges into compliance with the CWA.

For any permit issued to a treatment works treating domestic sewage (including “sludge-only facilities”), the Regional Administrator or Director shall include a reopener clause to incorporate any applicable standard for sewage sludge use or disposal promulgated under Section 405 (d) of the CWA. The Regional Administrator or Director may promptly modify or revoke and reissue any permit containing the reopener clause required by this paragraph if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in the permit, or contains a pollutant or practice not limited in the permit.

Federal regulations pertaining to permit modification, revocation and reissuance, and termination are found at 40 CFR §122.62, 122.63, 122.64, and 124.5.

5. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from responsibilities, liabilities or penalties to which the permittee is or may be subject under Section 311 of the CWA, or Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).

6. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges.

7. Confidentiality of Information

- a. In accordance with 40 CFR Part 2, any information submitted to EPA pursuant to these regulations may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words “confidential business information” on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR Part 2 (Public Information).
- b. Claims of confidentiality for the following information will be denied:
  - (1) The name and address of any permit applicant or permittee;
  - (2) Permit applications, permits, and effluent data as defined in 40 CFR §2.302(a)(2).
- c. Information required by NPDES application forms provided by the Regional Administrator under 40 CFR §122.21 may not be claimed confidential. This includes information submitted on the forms themselves and any attachments used to supply information required by the forms.

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8. Duty to Reapply

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

9. State Authorities

Nothing in Part 122, 123, or 124 precludes more stringent State regulation of any activity covered by these regulations, whether or not under an approved State program.

10. Other Laws

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

PART II. B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the requirements of storm water pollution prevention plans. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Need to Halt or Reduce Not a Defense

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

3. Duty to Mitigate

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

4. Bypass

a. Definitions

- (1) *Bypass* means the intentional diversion of waste streams from any portion of a treatment facility.

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- (2) *Severe property damage* means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can be reasonably expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

### b. Bypass not exceeding limitations

The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provision of Paragraphs B.4.c. and 4.d. of this section.

### c. Notice

- (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.
- (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph D.1.e. of this part (Twenty-four hour reporting).

### d. Prohibition of bypass

Bypass is prohibited, and the Regional Administrator may take enforcement action against a permittee for bypass, unless:

- (1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
- (3) i) The permittee submitted notices as required under Paragraph 4.c. of this section.  
ii) The Regional Administrator may approve an anticipated bypass, after considering its adverse effects, if the Regional Administrator determines that it will meet the three conditions listed above in paragraph 4.d. of this section.

## 5. Upset

- a. Definition. *Upset* means an exceptional incident in which there is an unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph B.5.c. of this section are met. No determination made during

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administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

- c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
  - (1) An upset occurred and that the permittee can identify the cause(s) of the upset;
  - (2) The permitted facility was at the time being properly operated;
  - (3) The permittee submitted notice of the upset as required in paragraphs D.1.a. and 1.e. (Twenty-four hour notice); and
  - (4) The permittee complied with any remedial measures required under B.3. above.
- d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

**PART II. C. MONITORING REQUIREMENTS**

1. Monitoring and Records

- a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- b. Except for records for monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application except for the information concerning storm water discharges which must be retained for a total of 6 years. This retention period may be extended by request of the Regional Administrator at any time.
- c. Records of monitoring information shall include:
  - (1) The date, exact place, and time of sampling or measurements;
  - (2) The individual(s) who performed the sampling or measurements;
  - (3) The date(s) analyses were performed;
  - (4) The individual(s) who performed the analyses;
  - (5) The analytical techniques or methods used; and
  - (6) The results of such analyses.
- d. Monitoring results must be conducted according to test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, unless other test procedures have been specified in the permit.
- e. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by

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imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

### 2. Inspection and Entry

The permittee shall allow the Regional Administrator or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of credentials and other documents as may be required by law, to:

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location.

## PART II. D. REPORTING REQUIREMENTS

### 1. Reporting Requirements

- a. **Planned Changes.** The permittee shall give notice to the Regional Administrator as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is only required when:
  - (1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR§122.29(b); or
  - (2) The alteration or addition could significantly change the nature or increase the quantities of the pollutants discharged. This notification applies to pollutants which are subject neither to the effluent limitations in the permit, nor to the notification requirements at 40 CFR§122.42(a)(1).
  - (3) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition or change may justify the application of permit conditions different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
- b. **Anticipated noncompliance.** The permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- c. **Transfers.** This permit is not transferable to any person except after notice to the Regional Administrator. The Regional Administrator may require modification or revocation and reissuance of the permit to change the name of the permittee and



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incorporate such other requirements as may be necessary under the CWA. (See 40 CFR Part 122.61; in some cases, modification or revocation and reissuance is mandatory.)

- d. Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.
  - (1) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices.
  - (2) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in the permit, the results of the monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Director.
  - (3) Calculations for all limitations which require averaging or measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.
  
- e. Twenty-four hour reporting.
  - (1) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances.

A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
  - (2) The following shall be included as information which must be reported within 24 hours under this paragraph.
    - (a) Any unanticipated bypass which exceeds any effluent limitation in the permit. (See 40 CFR §122.41(g).)
    - (b) Any upset which exceeds any effluent limitation in the permit.
    - (c) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Regional Administrator in the permit to be reported within 24 hours. (See 40 CFR §122.44(g).)
  - (3) The Regional Administrator may waive the written report on a case-by-case basis for reports under Paragraph D.1.e. if the oral report has been received within 24 hours.

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- f. Compliance Schedules. Reports of compliance or noncompliance with, any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.
  - g. Other noncompliance. The permittee shall report all instances of noncompliance not reported under Paragraphs D.1.d., D.1.e., and D.1.f. of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in Paragraph D.1.e. of this section.
  - h. Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Administrator, it shall promptly submit such facts or information.
2. Signatory Requirement
- a. All applications, reports, or information submitted to the Regional Administrator shall be signed and certified. (See 40 CFR §122.22)
  - b. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 2 years per violation, or by both.
3. Availability of Reports.

Except for data determined to be confidential under Paragraph A.8. above, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State water pollution control agency and the Regional Administrator. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statements on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the CWA.

PART II. E. DEFINITIONS AND ABBREVIATIONS

1. Definitions for Individual NPDES Permits including Storm Water Requirements

*Administrator* means the Administrator of the United States Environmental Protection Agency, or an authorized representative.

*Applicable standards and limitations* means all, State, interstate, and Federal standards and limitations to which a “discharge”, a “sewage sludge use or disposal practice”, or a related activity is subject to, including “effluent limitations”, water quality standards, standards of performance, toxic effluent standards or prohibitions, “best management practices”, pretreatment standards, and “standards for sewage sludge use and disposal” under Sections 301, 302, 303, 304, 306, 307, 308, 403, and 405 of the CWA.

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*Application* means the EPA standard national forms for applying for a permit, including any additions, revisions, or modifications to the forms; or forms approved by EPA for use in “approved States”, including any approved modifications or revisions.

*Average* means the arithmetic mean of values taken at the frequency required for each parameter over the specified period. For total and/or fecal coliforms and Escherichia coli, the average shall be the geometric mean.

*Average monthly discharge limitation* means the highest allowable average of “daily discharges” over a calendar month calculated as the sum of all “daily discharges” measured during a calendar month divided by the number of “daily discharges” measured during that month.

*Average weekly discharge limitation* means the highest allowable average of “daily discharges” measured during the calendar week divided by the number of “daily discharges” measured during the week.

*Best Management Practices (BMPs)* means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of “waters of the United States.” BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

*Best Professional Judgment (BPJ)* means a case-by-case determination of Best Practicable Treatment (BPT), Best Available Treatment (BAT), or other appropriate technology-based standard based on an evaluation of the available technology to achieve a particular pollutant reduction and other factors set forth in 40 CFR §125.3 (d).

*Coal Pile Runoff* means the rainfall runoff from or through any coal storage pile.

*Composite Sample* means a sample consisting of a minimum of eight grab samples of equal volume collected at equal intervals during a 24-hour period (or lesser period as specified in the section on Monitoring and Reporting) and combined proportional to flow, or a sample consisting of the same number of grab samples, or greater, collected proportionally to flow over that same time period.

*Construction Activities* - The following definitions apply to construction activities:

- (a) Commencement of Construction is the initial disturbance of soils associated with clearing, grading, or excavating activities or other construction activities.
- (b) Dedicated portable asphalt plant is a portable asphalt plant located on or contiguous to a construction site and that provides asphalt only to the construction site that the plant is located on or adjacent to. The term dedicated portable asphalt plant does not include facilities that are subject to the asphalt emulsion effluent limitation guideline at 40 CFR Part 443.
- (c) Dedicated portable concrete plant is a portable concrete plant located on or contiguous to a construction site and that provides concrete only to the construction site that the plant is located on or adjacent to.

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- (d) Final Stabilization means that all soil disturbing activities at the site have been complete, and that a uniform perennial vegetative cover with a density of 70% of the cover for unpaved areas and areas not covered by permanent structures has been established or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.
- (e) Runoff coefficient means the fraction of total rainfall that will appear at the conveyance as runoff.

*Contiguous zone* means the entire zone established by the United States under Article 24 of the Convention on the Territorial Sea and the Contiguous Zone.

*Continuous discharge* means a “discharge” which occurs without interruption throughout the operating hours of the facility except for infrequent shutdowns for maintenance, process changes, or similar activities.

CWA means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub. L. 92-500, as amended by Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483, and Pub. L. 97-117; 33 USC §§1251 et seq.

*Daily Discharge* means the discharge of a pollutant measured during the calendar day or any other 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the “daily discharge” is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the “daily discharge” is calculated as the average measurement of the pollutant over the day.

*Director* normally means the person authorized to sign NPDES permits by EPA or the State or an authorized representative. Conversely, it also could mean the Regional Administrator or the State Director as the context requires.

*Discharge Monitoring Report Form (DMR)* means the EPA standard national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees. DMRs must be used by “approved States” as well as by EPA. EPA will supply DMRs to any approved State upon request. The EPA national forms may be modified to substitute the State Agency name, address, logo, and other similar information, as appropriate, in place of EPA’s.

*Discharge of a pollutant* means:

- (a) Any addition of any “pollutant” or combination of pollutants to “waters of the United States” from any “point source”, or
- (b) Any addition of any pollutant or combination of pollutants to the waters of the “contiguous zone” or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation (See “Point Source” definition).

This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead

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to a treatment works; and discharges through pipes, sewers, or other conveyances leading into privately owned treatment works.

This term does not include an addition of pollutants by any “indirect discharger.”

*Effluent limitation* means any restriction imposed by the Regional Administrator on quantities, discharge rates, and concentrations of “pollutants” which are “discharged” from “point sources” into “waters of the United States”, the waters of the “contiguous zone”, or the ocean.

*Effluent limitation guidelines* means a regulation published by the Administrator under Section 304(b) of CWA to adopt or revise “effluent limitations”.

*EPA* means the United States “Environmental Protection Agency”.

*Flow-weighted composite sample* means a composite sample consisting of a mixture of aliquots where the volume of each aliquot is proportional to the flow rate of the discharge.

*Grab Sample* – An individual sample collected in a period of less than 15 minutes.

*Hazardous Substance* means any substance designated under 40 CFR Part 116 pursuant to Section 311 of the CWA.

*Indirect Discharger* means a non-domestic discharger introducing pollutants to a publicly owned treatment works.

*Interference* means a discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

- (a) Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and
- (b) Therefore is a cause of a violation of any requirement of the POTW’s NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act (CWA), the Solid Waste Disposal Act (SWDA) (including Title II, more commonly referred to as the Resources Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to Subtitle D of the SDWA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection Research and Sanctuaries Act.

*Landfill* means an area of land or an excavation in which wastes are placed for permanent disposal, and which is not a land application unit, surface impoundment, injection well, or waste pile.

*Land application unit* means an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for treatment or disposal.

*Large and Medium municipal separate storm sewer system* means all municipal separate storm sewers that are either: (i) located in an incorporated place (city) with a population of 100,000 or more as determined by the latest Decennial Census by the Bureau of Census (these cities are listed in Appendices F and 40 CFR Part 122); or (ii) located in the counties with unincorporated urbanized

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populations of 100,000 or more, except municipal separate storm sewers that are located in the incorporated places, townships, or towns within such counties (these counties are listed in Appendices H and I of 40 CFR 122); or (iii) owned or operated by a municipality other than those described in Paragraph (i) or (ii) and that are designated by the Regional Administrator as part of the large or medium municipal separate storm sewer system.

*Maximum daily discharge limitation* means the highest allowable “daily discharge” concentration that occurs only during a normal day (24-hour duration).

*Maximum daily discharge limitation (as defined for the Steam Electric Power Plants only) when applied to Total Residual Chlorine (TRC) or Total Residual Oxidant (TRO)* is defined as “maximum concentration” or “Instantaneous Maximum Concentration” during the two hours of a chlorination cycle (or fraction thereof) prescribed in the Steam Electric Guidelines, 40 CFR Part 423. These three synonymous terms all mean “a value that shall not be exceeded” during the two-hour chlorination cycle. This interpretation differs from the specified NPDES Permit requirement, 40 CFR § 122.2, where the two terms of “Maximum Daily Discharge” and “Average Daily Discharge” concentrations are specifically limited to the daily (24-hour duration) values.

*Municipality* means a city, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribe organization, or a designated and approved management agency under Section 208 of the CWA.

*National Pollutant Discharge Elimination System* means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318, and 405 of the CWA. The term includes an “approved program”.

*New Discharger* means any building, structure, facility, or installation:

- (a) From which there is or may be a “discharge of pollutants”;
- (b) That did not commence the “discharge of pollutants” at a particular “site” prior to August 13, 1979;
- (c) Which is not a “new source”; and
- (d) Which has never received a finally effective NPDES permit for discharges at that “site”.

This definition includes an “indirect discharger” which commences discharging into “waters of the United States” after August 13, 1979. It also includes any existing mobile point source (other than an offshore or coastal oil and gas exploratory drilling rig or a coastal oil and gas exploratory drilling rig or a coastal oil and gas developmental drilling rig) such as a seafood processing rig, seafood processing vessel, or aggregate plant, that begins discharging at a “site” for which it does not have a permit; and any offshore rig or coastal mobile oil and gas exploratory drilling rig or coastal mobile oil and gas developmental drilling rig that commences the discharge of pollutants after August 13, 1979, at a “site” under EPA’s permitting jurisdiction for which it is not covered by an individual or general permit and which is located in an area determined by the Regional Administrator in the issuance of a final permit to be in an area of biological concern. In determining whether an area is an area of biological concern, the Regional Administrator shall consider the factors specified in 40 CFR §§125.122 (a) (1) through (10).

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An offshore or coastal mobile exploratory drilling rig or coastal mobile developmental drilling rig will be considered a “new discharger” only for the duration of its discharge in an area of biological concern.

*New source* means any building, structure, facility, or installation from which there is or may be a “discharge of pollutants”, the construction of which commenced:

- (a) After promulgation of standards of performance under Section 306 of CWA which are applicable to such source, or
- (b) After proposal of standards of performance in accordance with Section 306 of CWA which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal.

*NPDES* means “National Pollutant Discharge Elimination System”.

*Owner or operator* means the owner or operator of any “facility or activity” subject to regulation under the NPDES programs.

*Pass through* means a Discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW’s NPDES permit (including an increase in the magnitude or duration of a violation).

*Permit* means an authorization, license, or equivalent control document issued by EPA or an “approved” State.

*Person* means an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof.

*Point Source* means any discernible, confined, and discrete conveyance, including but not limited to any pipe ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff (see 40 CFR §122.2).

*Pollutant* means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. §§2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean:

- (a) Sewage from vessels; or
- (b) Water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well is used either to facilitate production or for disposal purposes is approved by the authority of the State in which the well is located, and if the State determines that the injection or disposal will not result in the degradation of ground or surface water resources.

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*Primary industry category* means any industry category listed in the NRDC settlement agreement (Natural Resources Defense Council et al. v. Train, 8 E.R.C. 2120 (D.D.C. 1976), modified 12 E.R.C. 1833 (D. D.C. 1979)); also listed in Appendix A of 40 CFR Part 122.

*Privately owned treatment works* means any device or system which is (a) used to treat wastes from any facility whose operation is not the operator of the treatment works or (b) not a “POTW”.

*Process wastewater* means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

*Publicly Owned Treatment Works (POTW)* means any facility or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a “State” or “municipality”.

This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment.

*Regional Administrator* means the Regional Administrator, EPA, Region I, Boston, Massachusetts.

*Secondary Industry Category* means any industry which is not a “primary industry category”.

*Section 313 water priority chemical* means a chemical or chemical category which:

- (1) is listed at 40 CFR §372.65 pursuant to Section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) (also known as Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986);
- (2) is present at or above threshold levels at a facility subject to EPCRA Section 313 reporting requirements; and
- (3) satisfies at least one of the following criteria:
  - (i) are listed in Appendix D of 40 CFR Part 122 on either Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols), or Table V (certain toxic pollutants and hazardous substances);
  - (ii) are listed as a hazardous substance pursuant to Section 311(b)(2)(A) of the CWA at 40 CFR §116.4; or
  - (iii) are pollutants for which EPA has published acute or chronic water quality criteria.

*Septage* means the liquid and solid material pumped from a septic tank, cesspool, or similar domestic sewage treatment system, or a holding tank when the system is cleaned or maintained.

*Sewage Sludge* means any solid, semisolid, or liquid residue removed during the treatment of municipal wastewater or domestic sewage. Sewage sludge includes, but is not limited to, solids removed during primary, secondary, or advanced wastewater treatment, scum, septage, portable toilet pumpings, Type III Marine Sanitation Device pumpings (33 CFR Part 159), and sewage sludge products. Sewage sludge does not include grit or screenings, or ash generated during the incineration of sewage sludge.



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*Sewage sludge use or disposal practice* means the collection, storage, treatment, transportation, processing, monitoring, use, or disposal of sewage sludge.

*Significant materials* includes, but is not limited to: raw materials, fuels, materials such as solvents, detergents, and plastic pellets, raw materials used in food processing or production, hazardous substance designated under section 101(14) of CERCLA, any chemical the facility is required to report pursuant to EPCRA Section 313, fertilizers, pesticides, and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharges.

*Significant spills* includes, but is not limited to, releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the CWA (see 40 CFR §110.10 and §117.21) or Section 102 of CERCLA (see 40 CFR § 302.4).

*Sludge-only facility* means any “treatment works treating domestic sewage” whose methods of sewage sludge use or disposal are subject to regulations promulgated pursuant to Section 405(d) of the CWA, and is required to obtain a permit under 40 CFR §122.1(b)(3).

*State* means any of the 50 States, the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Trust Territory of the Pacific Islands.

*Storm Water* means storm water runoff, snow melt runoff, and surface runoff and drainage.

*Storm water discharge associated with industrial activity* means the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant. (See 40 CFR §122.26 (b)(14) for specifics of this definition.

*Time-weighted composite* means a composite sample consisting of a mixture of equal volume aliquots collected at a constant time interval.

*Toxic pollutants* means any pollutant listed as toxic under Section 307 (a)(1) or, in the case of “sludge use or disposal practices” any pollutant identified in regulations implementing Section 405(d) of the CWA.

*Treatment works treating domestic sewage* means a POTW or any other sewage sludge or wastewater treatment devices or systems, regardless of ownership (including federal facilities), used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated for the disposal of sewage sludge. This definition does not include septic tanks or similar devices.

For purposes of this definition, “domestic sewage” includes waste and wastewater from humans or household operations that are discharged to or otherwise enter a treatment works. In States where there is no approved State sludge management program under Section 405(f) of the CWA, the Regional Administrator may designate any person subject to the standards for sewage sludge use and disposal in 40 CFR Part 503 as a “treatment works treating domestic sewage”, where he or she finds that there is a potential for adverse effects on public health and the environment from poor sludge quality or poor sludge handling, use or disposal practices, or where he or she finds that such designation is necessary to ensure that such person is in compliance with 40 CFR Part 503.

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*Waste Pile* means any non-containerized accumulation of solid, non-flowing waste that is used for treatment or storage.

*Waters of the United States* means:

- (a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of tide;
- (b) All interstate waters, including interstate “wetlands”;
- (c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, “wetlands”, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
  - (1) Which are or could be used by interstate or foreign travelers for recreational or other purpose;
  - (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
  - (3) Which are used or could be used for industrial purposes by industries in interstate commerce;
- (d) All impoundments of waters otherwise defined as waters of the United States under this definition;
- (e) Tributaries of waters identified in Paragraphs (a) through (d) of this definition;
- (f) The territorial sea; and
- (g) “Wetlands” adjacent to waters (other than waters that are themselves wetlands) identified in Paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds as defined in 40 CFR §423.11(m) which also meet the criteria of this definition) are not waters of the United States.

*Wetlands* means those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

*Whole Effluent Toxicity (WET)* means the aggregate toxic effect of an effluent measured directly by a toxicity test. (See Abbreviations Section, following, for additional information.)

2. Definitions for NPDES Permit Sludge Use and Disposal Requirements.

*Active sewage sludge unit* is a sewage sludge unit that has not closed.

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*Aerobic Digestion* is the biochemical decomposition of organic matter in sewage sludge into carbon dioxide and water by microorganisms in the presence of air.

*Agricultural Land* is land on which a food crop, a feed crop, or a fiber crop is grown. This includes range land and land used as pasture.

*Agronomic rate* is the whole sludge application rate (dry weight basis) designed:

- (1) To provide the amount of nitrogen needed by the food crop, feed crop, fiber crop, cover crop, or vegetation grown on the land; and
- (2) To minimize the amount of nitrogen in the sewage sludge that passes below the root zone of the crop or vegetation grown on the land to the ground water.

*Air pollution control device* is one or more processes used to treat the exit gas from a sewage sludge incinerator stack.

*Anaerobic digestion* is the biochemical decomposition of organic matter in sewage sludge into methane gas and carbon dioxide by microorganisms in the absence of air.

*Annual pollutant loading rate* is the maximum amount of a pollutant that can be applied to a unit area of land during a 365 day period.

*Annual whole sludge application rate* is the maximum amount of sewage sludge (dry weight basis) that can be applied to a unit area of land during a 365 day period.

*Apply sewage sludge or sewage sludge applied to the land* means land application of sewage sludge.

*Aquifer* is a geologic formation, group of geologic formations, or a portion of a geologic formation capable of yielding ground water to wells or springs.

*Auxiliary fuel* is fuel used to augment the fuel value of sewage sludge. This includes, but is not limited to, natural gas, fuel oil, coal, gas generated during anaerobic digestion of sewage sludge, and municipal solid waste (not to exceed 30 percent of the dry weight of the sewage sludge and auxiliary fuel together). Hazardous wastes are not auxiliary fuel.

*Base flood* is a flood that has a one percent chance of occurring in any given year (i.e. a flood with a magnitude equaled once in 100 years).

*Bulk sewage sludge* is sewage sludge that is not sold or given away in a bag or other container for application to the land.

*Contaminate an aquifer* means to introduce a substance that causes the maximum contaminant level for nitrate in 40 CFR §141.11 to be exceeded in ground water or that causes the existing concentration of nitrate in the ground water to increase when the existing concentration of nitrate in the ground water exceeds the maximum contaminant level for nitrate in 40 CFR §141.11.

*Class I sludge management facility* is any publicly owned treatment works (POTW), as defined in 40 CFR §501.2, required to have an approved pretreatment program under 40 CFR §403.8 (a) (including any POTW located in a state that has elected to assume local program responsibilities pursuant to 40 CFR §403.10 (e) and any treatment works treating domestic sewage, as defined in 40 CFR § 122.2,

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classified as a Class I sludge management facility by the EPA Regional Administrator, or, in the case of approved state programs, the Regional Administrator in conjunction with the State Director, because of the potential for sewage sludge use or disposal practice to affect public health and the environment adversely.

*Control efficiency* is the mass of a pollutant in the sewage sludge fed to an incinerator minus the mass of that pollutant in the exit gas from the incinerator stack divided by the mass of the pollutant in the sewage sludge fed to the incinerator.

*Cover* is soil or other material used to cover sewage sludge placed on an active sewage sludge unit.

*Cover crop* is a small grain crop, such as oats, wheat, or barley, not grown for harvest.

*Cumulative pollutant loading rate* is the maximum amount of inorganic pollutant that can be applied to an area of land.

*Density of microorganisms* is the number of microorganisms per unit mass of total solids (dry weight) in the sewage sludge.

*Dispersion factor* is the ratio of the increase in the ground level ambient air concentration for a pollutant at or beyond the property line of the site where the sewage sludge incinerator is located to the mass emission rate for the pollutant from the incinerator stack.

*Displacement* is the relative movement of any two sides of a fault measured in any direction.

*Domestic septage* is either liquid or solid material removed from a septic tank, cesspool, portable toilet, Type III marine sanitation device, or similar treatment works that receives only domestic sewage. Domestic septage does not include liquid or solid material removed from a septic tank, cesspool, or similar treatment works that receives either commercial wastewater or industrial wastewater and does not include grease removed from a grease trap at a restaurant.

*Domestic sewage* is waste and wastewater from humans or household operations that is discharged to or otherwise enters a treatment works.

*Dry weight basis* means calculated on the basis of having been dried at 105 degrees Celsius (°C) until reaching a constant mass (i.e. essentially 100 percent solids content).

*Fault* is a fracture or zone of fractures in any materials along which strata on one side are displaced with respect to the strata on the other side.

*Feed crops* are crops produced primarily for consumption by animals.

*Fiber crops* are crops such as flax and cotton.

*Final cover* is the last layer of soil or other material placed on a sewage sludge unit at closure.

*Fluidized bed incinerator* is an enclosed device in which organic matter and inorganic matter in sewage sludge are combusted in a bed of particles suspended in the combustion chamber gas.

*Food crops* are crops consumed by humans. These include, but are not limited to, fruits, vegetables, and tobacco.

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*Forest* is a tract of land thick with trees and underbrush.

*Ground water* is water below the land surface in the saturated zone.

*Holocene time* is the most recent epoch of the Quaternary period, extending from the end of the Pleistocene epoch to the present.

*Hourly average* is the arithmetic mean of all the measurements taken during an hour. At least two measurements must be taken during the hour.

*Incineration* is the combustion of organic matter and inorganic matter in sewage sludge by high temperatures in an enclosed device.

*Industrial wastewater* is wastewater generated in a commercial or industrial process.

*Land application* is the spraying or spreading of sewage sludge onto the land surface; the injection of sewage sludge below the land surface; or the incorporation of sewage sludge into the soil so that the sewage sludge can either condition the soil or fertilize crops or vegetation grown in the soil.

*Land with a high potential for public exposure* is land that the public uses frequently. This includes, but is not limited to, a public contact site and reclamation site located in a populated area (e.g., a construction site located in a city).

*Land with low potential for public exposure* is land that the public uses infrequently. This includes, but is not limited to, agricultural land, forest and a reclamation site located in an unpopulated area (e.g., a strip mine located in a rural area).

*Leachate collection system* is a system or device installed immediately above a liner that is designed, constructed, maintained, and operated to collect and remove leachate from a sewage sludge unit.

*Liner* is soil or synthetic material that has a hydraulic conductivity of  $1 \times 10^{-7}$  centimeters per second or less.

*Lower explosive limit for methane gas* is the lowest percentage of methane gas in air, by volume, that propagates a flame at 25 degrees Celsius and atmospheric pressure.

*Monthly average (Incineration)* is the arithmetic mean of the hourly averages for the hours a sewage sludge incinerator operates during the month.

*Monthly average (Land Application)* is the arithmetic mean of all measurements taken during the month.

*Municipality* means a city, town, borough, county, parish, district, association, or other public body (including an intermunicipal agency of two or more of the foregoing entities) created by or under State law; an Indian tribe or an authorized Indian tribal organization having jurisdiction over sewage sludge management; or a designated and approved management agency under section 208 of the CWA, as amended. The definition includes a special district created under state law, such as a water district, sewer district, sanitary district, utility district, drainage district, or similar entity, or an integrated waste management facility as defined in section 201 (e) of the CWA, as amended, that has as one of its principal responsibilities the treatment, transport, use or disposal of sewage sludge.

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*Other container* is either an open or closed receptacle. This includes, but is not limited to, a bucket, a box, a carton, and a vehicle or trailer with a load capacity of one metric ton or less.

*Pasture* is land on which animals feed directly on feed crops such as legumes, grasses, grain stubble, or stover.

*Pathogenic organisms* are disease-causing organisms. These include, but are not limited to, certain bacteria, protozoa, viruses, and viable helminth ova.

*Permitting authority* is either EPA or a State with an EPA-approved sludge management program.

*Person* is an individual, association, partnership, corporation, municipality, State or Federal Agency, or an agent or employee thereof.

*Person who prepares sewage sludge* is either the person who generates sewage sludge during the treatment of domestic sewage in a treatment works or the person who derives a material from sewage sludge.

*pH* means the logarithm of the reciprocal of the hydrogen ion concentration; a measure of the acidity or alkalinity of a liquid or solid material.

*Place sewage sludge or sewage sludge placed* means disposal of sewage sludge on a surface disposal site.

*Pollutant (as defined in sludge disposal requirements)* is an organic substance, an inorganic substance, a combination of organic and inorganic substances, or pathogenic organism that, after discharge and upon exposure, ingestion, inhalation, or assimilation into an organism either directly from the environment or indirectly by ingestion through the food chain, could on the basis on information available to the Administrator of EPA, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunction in reproduction) or physical deformations in either organisms or offspring of the organisms.

*Pollutant limit (for sludge disposal requirements)* is a numerical value that describes the amount of a pollutant allowed per unit amount of sewage sludge (e.g., milligrams per kilogram of total solids); the amount of pollutant that can be applied to a unit of land (e.g., kilograms per hectare); or the volume of the material that can be applied to the land (e.g., gallons per acre).

*Public contact site* is a land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.

*Qualified ground water scientist* is an individual with a baccalaureate or post-graduate degree in the natural sciences or engineering who has sufficient training and experience in ground water hydrology and related fields, as may be demonstrated by State registration, professional certification, or completion of accredited university programs, to make sound professional judgments regarding ground water monitoring, pollutant fate and transport, and corrective action.

*Range land* is open land with indigenous vegetation.

*Reclamation site* is drastically disturbed land that is reclaimed using sewage sludge. This includes, but is not limited to, strip mines and construction sites.

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*Risk specific concentration* is the allowable increase in the average daily ground level ambient air concentration for a pollutant from the incineration of sewage sludge at or beyond the property line of a site where the sewage sludge incinerator is located.

*Runoff* is rainwater, leachate, or other liquid that drains overland on any part of a land surface and runs off the land surface.

*Seismic impact zone* is an area that has 10 percent or greater probability that the horizontal ground level acceleration to the rock in the area exceeds 0.10 gravity once in 250 years.

*Sewage sludge* is a solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to: domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in treatment works.

*Sewage sludge feed rate* is either the average daily amount of sewage sludge fired in all sewage sludge incinerators within the property line of the site where the sewage sludge incinerators are located for the number of days in a 365 day period that each sewage sludge incinerator operates, or the average daily design capacity for all sewage sludge incinerators within the property line of the site where the sewage sludge incinerators are located.

*Sewage sludge incinerator* is an enclosed device in which only sewage sludge and auxiliary fuel are fired.

*Sewage sludge unit* is land on which only sewage sludge is placed for final disposal. This does not include land on which sewage sludge is either stored or treated. Land does not include waters of the United States, as defined in 40 CFR §122.2.

*Sewage sludge unit boundary* is the outermost perimeter of an active sewage sludge unit.

*Specific oxygen uptake rate (SOUR)* is the mass of oxygen consumed per unit time per unit mass of total solids (dry weight basis) in sewage sludge.

*Stack height* is the difference between the elevation of the top of a sewage sludge incinerator stack and the elevation of the ground at the base of the stack when the difference is equal to or less than 65 meters. When the difference is greater than 65 meters, stack height is the creditable stack height determined in accordance with 40 CFR §51.100 (ii).

*State* is one of the United States of America, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Trust Territory of the Pacific Islands, the Commonwealth of the Northern Mariana Islands, and an Indian tribe eligible for treatment as a State pursuant to regulations promulgated under the authority of section 518(e) of the CWA.

*Store or storage of sewage sludge* is the placement of sewage sludge on land on which the sewage sludge remains for two years or less. This does not include the placement of sewage sludge on land for treatment.

*Surface disposal site* is an area of land that contains one or more active sewage sludge units.

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*Total hydrocarbons* means the organic compounds in the exit gas from a sewage sludge incinerator stack measured using a flame ionization detection instrument referenced to propane.

*Total solids* are the materials in sewage sludge that remain as residue when the sewage sludge is dried at 103 to 105 degrees Celsius.

*Treat or treatment of sewage sludge* is the preparation of sewage sludge for final use or disposal. This includes, but is not limited to, thickening, stabilization, and dewatering of sewage sludge. This does not include storage of sewage sludge.

*Treatment works* is either a federally owned, publicly owned, or privately owned device or system used to treat (including recycle and reclaim) either domestic sewage or a combination of domestic sewage and industrial waste of a liquid nature.

*Unstable area* is land subject to natural or human-induced forces that may damage the structural components of an active sewage sludge unit. This includes, but is not limited to, land on which the soils are subject to mass movement.

*Unstabilized solids* are organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.

*Vector attraction* is the characteristic of sewage sludge that attracts rodents, flies, mosquitoes, or other organisms capable of transporting infectious agents.

*Volatile solids* is the amount of the total solids in sewage sludge lost when the sewage sludge is combusted at 550 degrees Celsius in the presence of excess air.

*Wet electrostatic precipitator* is an air pollution control device that uses both electrical forces and water to remove pollutants in the exit gas from a sewage sludge incinerator stack.

*Wet scrubber* is an air pollution control device that uses water to remove pollutants in the exit gas from a sewage sludge incinerator stack.

3. Commonly Used Abbreviations

BOD	Five-day biochemical oxygen demand unless otherwise specified
CBOD	Carbonaceous BOD
CFS	Cubic feet per second
COD	Chemical oxygen demand
Chlorine	
Cl <sub>2</sub>	Total residual chlorine
TRC	Total residual chlorine which is a combination of free available chlorine (FAC, see below) and combined chlorine (chloramines, etc.)



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TRO	Total residual chlorine in marine waters where halogen compounds are present
FAC	Free available chlorine (aqueous molecular chlorine, hypochlorous acid, and hypochlorite ion)
Coliform	
Coliform, Fecal	Total fecal coliform bacteria
Coliform, Total	Total coliform bacteria
Cont. (Continuous)	Continuous recording of the parameter being monitored, i.e. flow, temperature, pH, etc.
Cu. M/day or M <sup>3</sup> /day	Cubic meters per day
DO	Dissolved oxygen
kg/day	Kilograms per day
lbs/day	Pounds per day
mg/l	Milligram(s) per liter
ml/l	Milliliters per liter
MGD	Million gallons per day
Nitrogen	
Total N	Total nitrogen
NH <sub>3</sub> -N	Ammonia nitrogen as nitrogen
NO <sub>3</sub> -N	Nitrate as nitrogen
NO <sub>2</sub> -N	Nitrite as nitrogen
NO <sub>3</sub> -NO <sub>2</sub>	Combined nitrate and nitrite nitrogen as nitrogen
TKN	Total Kjeldahl nitrogen as nitrogen
Oil & Grease	Freon extractable material
PCB	Polychlorinated biphenyl
pH	A measure of the hydrogen ion concentration. A measure of the acidity or alkalinity of a liquid or material
Surfactant	Surface-active agent

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Temp. °C	Temperature in degrees Centigrade
Temp. °F	Temperature in degrees Fahrenheit
TOC	Total organic carbon
Total P	Total phosphorus
TSS or NFR	Total suspended solids or total nonfilterable residue
Turb. or Turbidity	Turbidity measured by the Nephelometric Method (NTU)
ug/l	Microgram(s) per liter
WET	“Whole effluent toxicity” is the total effect of an effluent measured directly with a toxicity test.
C-NOEC	“Chronic (Long-term Exposure Test) – No Observed Effect Concentration”. The highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specified time of observation.
A-NOEC	“Acute (Short-term Exposure Test) – No Observed Effect Concentration” (see C-NOEC definition).
LC <sub>50</sub>	LC <sub>50</sub> is the concentration of a sample that causes mortality of 50% of the test population at a specific time of observation. The LC <sub>50</sub> = 100% is defined as a sample of undiluted effluent.
ZID	Zone of Initial Dilution means the region of initial mixing surrounding or adjacent to the end of the outfall pipe or diffuser ports.

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
NEW ENGLAND - REGION I  
5 POST OFFICE SQUARE, SUITE 100  
BOSTON, MASSACHUSETTS 02109-3912**

**FACT SHEET**

DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES PURSUANT TO THE  
CLEAN WATER ACT (CWA)

NPDES PERMIT NUMBER: **MA0001830**

PUBLIC NOTICE START AND END DATES: August 11, 2016 – September 9, 2016

NAME AND MAILING ADDRESS OF APPLICANT:

**Aggregate Industries – Northeast Region, Inc.  
1715 Broadway  
Saugus, MA 01906**

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

**Aggregate Industries  
30 Danvers Road  
Swampscott, MA 01907**

RECEIVING WATERS: Foster Pond (Outfall 001); a wetlands system which includes  
Thompson's Meadow and is adjacent to Forest River (Outfall 002)

CLASSIFICATION: Class B

SIC CODE: 1429 (Crushed and Broken Stone)

LATITUDE: 42.48                      LONGITUDE: -70.92

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## LIST OF ATTACHMENTS

- A - Aerial photo of Aggregate Industries Northeast Region (AINER) facility in Swampscott, MA
- B - Facility process diagram
- C - Maps of Foster Pond and Forest River
- D - Map of the Thompson's Meadow wetlands system
- E - Monitoring data summary
- F - Outfall 001 plans for 2010 modification of Holding Lagoon; January 2016 photographs
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- H - Total Ammonia calculation
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## 1.0 PROPOSED ACTION, TYPE OF FACILITY AND DISCHARGE LOCATION

### 1.1 Proposed Action

The above named applicant has applied to the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) for the re-issuance of a National Pollutant Discharge Elimination System (NPDES) permit to discharge commingled process water and stormwater into the designated receiving waters. The permit, which was issued to Aggregate Industries - Northeast Region, Inc. (AINER) on May 1, 2008, became effective on July 1, 2008 and expired on June 30, 2013. EPA received a permit renewal application from AINER on April 4, 2013. Since the permit renewal application was deemed timely and complete by EPA, the permit has been administratively continued.

### 1.2 Type of Facility and Discharge Location

AINER is located at 30 Danvers Road in Swampscott, MA and operates a rock quarry and associated stone crushing operations, a maintenance garage, and supporting activities at the facility (See Attachment A for an aerial photo). Rock from the quarry is harvested by first blasting the rock and subsequently crushing the rock to various sizes in two crushing plants located on the quarry floor. Previously, AINER operated a Ready-Mix Concrete (RMC) plant in the northeastern portion of the site. The RMC plant was closed in 2007 and removed in 2014. AINER also historically operated a granules plant and an asphalt plant, both formerly located on the eastern part of the site. AINER dismantled and removed the granules plant in 2012. In the granules plant operations, manufactured sand was washed to remove chipped particles used to manufacture granules. The chipped particles were coated with mineral oil to form the crushed concrete granules product. The asphalt plant, where hot mix asphalt was combined and stored, was dismantled and removed prior to 2005. The following AINER products are sold externally and used internally: 1½" dense grade aggregate, 1" dense grade aggregate, dust, pond silt, 12" stone, 2-4" stone, 1 ½" stone, ¾" stone, ½" stone, and ⅜" stone.

The quarry operation involves the use of explosives to blast stone from the quarry walls and benches. Blasting is performed by a contractor approximately fifty (50) times per year using water resistant ammonium nitrate. The contractor takes excess blasting materials and other equipment off-site after blasting is completed. No blasting agents containing perchlorate are currently used. The rock fragments from blasting are fed into various crushing and processing operations, both wet and dry, to produce a variety of construction grade aggregates (stone and sand). These aggregates are then screened, segregated, and stored according to fragment size on the quarry floor.

The wash plant located on the quarry floor processes dry stone dust after crushing. The wash plant runs most days per week, all year round, unless on-site water required for washing is frozen. A majority of stone sand produced on-site is washed stone dust recovered from this wash process. The remaining stone sand is discharged into the wash plant settling pond which is excavated and stockpiled on-site as a saleable product.

Within the quarry, there are three treatment ponds used to manage process dust and to promote settling of solids: a smaller Settling Pond by the wash plant, the larger Northern Pond, and Southern Pond. A fourth and final treatment pond for on-site process water, the Holding Lagoon, is located outside of the quarry wall and discharges to Foster Pond (Outfall 001). A process diagram for the facility is included in Attachment B.

Supporting operations for the site include dust control, truck fueling and maintenance, and oil storage. Dust control for crushing operations and truck transport is performed in all areas of the site. Truck fueling occurs at the maintenance garage or throughout the site using a mobile truck. The location and contents of oil and fuel containers (drums and Above-ground Storage Tanks, or ASTs) are stored on-site. Dielectric oil (non-polychlorinated biphenyl) transformers that are not in use and other canisters containing water are kept near the maintenance garage. Locations of transformers, ASTs, and other storage tanks are noted in the Stormwater Pollution Prevention Plan (SWPPP).

Additionally, a quarry wall slip failure in the northern portion of the site has been fenced off for safety reasons.

## 2.0 RECEIVING WATER DESCRIPTION

### 2.1 Classification

The receiving water for Outfall 001, freshwater Foster Pond, is designated as Class B. Class B waters are designated as a habitat for fish, other aquatic life, and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation. Class B waters must also maintain “good aesthetic value”, as directed in 314 Code of Massachusetts Regulations (CMR) 4.05(3)(b). The pond is approximately 4.6 acres large, abuts a number of residential properties with private access, is managed and maintained by AINER, and is regulated under Massachusetts Article 97: Land Disposition Policy<sup>1</sup>. Foster Pond is within 100 feet of the MassDEP’s wetland buffer zone and development impacting Foster Pond is overseen by the Swampscott Conservation Commission.

Section 303(d) of the Clean Water Act (CWA) requires states to identify those waterbodies that are not expected to meet surface water quality standards after the implementation of technology-based controls and, as such, require the development of Total Maximum Daily Loads (TMDLs). Foster Pond is listed as impaired for dichlorodiphenyltrichloroethane (DDT), and requires a TMDL, as noted in the Final Massachusetts Year 2014 Integrated List of Waters.

The Final Massachusetts Year 2014 Integrated List of Waters states that Forest River, which receives flow from Outfall 002 via Thompson’s Meadow, is listed as impaired due to dissolved oxygen saturation and requires a TMDL. Thompson’s Meadow is in a wetlands complex that is bordered by woodlands on most sides, except for train tracks that border the complex on the

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<sup>1</sup> Open Space and Recreation Plan 2013-2020: Town of Swampscott. December 2013.



southeasterly edge. The Dilisio Brothers Golf Range borders the other side of Forest River on the northwesterly edge of the wetlands complex. Highland Park and Olde Salem Greens Golf Course is found further to the north.

## 2.2 Water Quality Assessment

Foster Pond is currently under a fish consumption advisory, with the hazard designated as DDT<sup>2</sup>. The original water impairment designation and fish advisory resulted from DDT data collected during MassDEP's 2002 Fish Toxics Monitoring<sup>3</sup> conducted by public request. However, although samples from the 2002 monitoring included detected concentrations of DDT, the report concluded that there was no evidence of an ongoing source of DDT contamination. DDT in Foster Pond may have originated from historical pesticide use on residential property surrounding the pond. The Massachusetts Department of Public Health (MDPH) currently recommends that the general public, including children younger than 12 years of age, pregnant women, women of childbearing age who may become pregnant, and nursing mothers, should not eat American Eel from Foster Pond due the potential of DDT accumulating in eel lipid.

A Department of Public Works representative cited in the Swampscott Open Space and Recreation Plan<sup>1</sup> noted a sign-posted warning about the dangers of fish consumption at Windsor Avenue adjacent to the pond. The representative also noted there has been no action taken by the town with regards to the DDT contamination. The Open Space and Recreation plan also categorizes Foster Pond's main activities as "passive recreation" and the pond's condition for residents is rated as "fair".

Forest River is connected to the Thompson's Meadow wetlands complex to the west and east. A portion of Forest River's designated uses were assessed for quality in 2014 as part of the Integrated Waters listing. The aesthetic value, primary and secondary contact recreation uses were given a status of "good", the shellfish harvesting use was not assessed, and aquatic life and wildlife use was assessed as "impaired".

Additionally, state-wide safe eating guidelines from MDPH include the recommendation that pregnant women, women who may become pregnant, nursing mothers and children under 12 years old should not eat freshwater fish caught in any streams, rivers, lakes, and ponds in Massachusetts (including Foster Pond and Forest River) due to concerns about contaminants such as mercury and polychlorinated biphenyls (PCBs)<sup>4</sup>. Maps of Foster Pond and Forest River in relation to the facility are contained in Attachment C.

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<sup>2</sup> Freshwater Fish Consumption Advisory List. Massachusetts Department of Public Health: Bureau of Environmental Health. August 2013.

<sup>3</sup> 2002 Fish Toxics Monitoring Public Request and Year 2 Watershed Surveys. Massachusetts Department of Environmental Protection: Divisions of Watershed Management and Environmental Analysis. July 2004.

<sup>4</sup> Fish Consumption Advisory for Marine and Fresh Water Bodies. Massachusetts Department of Public Health. 2009.

## 3.0 PERMIT BASIS: STATUTORY AND REGULATORY AUTHORITY

### 3.1 General Background

The Clean Water Act (CWA) prohibits the discharge of pollutants to waters of the United States without a National Pollutant Discharge Elimination System (NPDES) permit unless such a discharge is otherwise authorized by the CWA. The NPDES permit is the mechanism used to implement technology and water quality-based effluent limitations and other requirements including monitoring and reporting. The draft NPDES permit was developed in accordance with various statutory and regulatory requirements established pursuant to the CWA and applicable State regulations. The regulations governing the EPA NPDES permit program are generally found at 40 CFR Parts 122, 124, 125, and 136. In this permit EPA considered (a) technology-based requirements, (b) water quality-based requirements, and (c) all limitations and requirements in the current/existing permit, when developing the permit limits.

### 3.2 Technology-Based Requirements

Subpart A of 40 CFR §125 establishes criteria and standards for the imposition of technology-based treatment requirements in permits under Section 301(b) of the CWA, including the application of EPA promulgated effluent limitations and case-by-case determinations of effluent limitations under Section 402(a)(1) of the CWA.

Technology-based treatment requirements represent the minimum level of control that must be imposed under Sections 301(b) and 402 of the CWA (see 40 CFR §125 Subpart A) to meet best practicable control technology currently available (BPT) for conventional pollutants and some metals, best conventional control technology (BCT) for conventional pollutants, and best available technology economically available (BAT) for toxic and non-conventional pollutants. In general, technology-based effluent guidelines for non-POTW facilities must have been complied with as expeditiously as practicable but in no case later than three years after the date such limitations are established and in no case later than March 31, 1989. *See* 40 CFR §125.3(a)(2). Compliance schedules and deadlines not in accordance with the statutory provisions of the CWA cannot be authorized by a NPDES permit. In the absence of published technology-based effluent guidelines, the permit writer is authorized under Section 402(a)(1)(B) of the CWA to establish effluent limitations on a case-by-case basis using best professional judgment (BPJ). Compliance schedules and deadlines not in accordance with the statutory provisions of the CWA cannot be authorized by a NPDES permit.

EPA has promulgated technology-based National Effluent Limitation Guidelines (ELGs) for Mineral Mining and Processing Point Source Category. Specifically, both the Crushed Stone and Construction Sand and Gravel ELGs limit the pH range to 6.0-9.0 SU. Discharge of stormwater from the facility is currently covered under this individual permit but will be informed by the Multi-Sector General Permit (MSGP). Subsector J1 (Sand and Gravel Mining) in the MSGP includes a benchmark monitoring of 0.68 mg/L for Nitrate plus Nitrite Nitrogen.

### 3.3 Water Quality-Based Requirements

Section 301(b)(1)(C) of the CWA requires that effluent limitations based on water quality considerations be established for point source discharges when such limitations are necessary to meet state or federal water quality standards that are applicable to the designated receiving water. This is necessary when technology-based limitations would interfere with the attainment or maintenance of water quality in the receiving water. Under Section 301(b)(1)(C) of the CWA and EPA regulations, NPDES permits must contain effluent limits more stringent than technology-based limits where more stringent limits are necessary to maintain or achieve state or federal water quality standards.

Water quality standards consist of three parts: (1) beneficial designated uses for a waterbody or a segment of a waterbody; (2) numeric and/or narrative water quality criteria sufficient to protect the assigned designated use(s); and (3) anti-degradation requirements to ensure that once a use is attained it will not be degraded. The Massachusetts Surface Water Quality Standards, found at 314 CMR 4.00, include these elements. The state will limit or prohibit discharges of pollutants to surface waters to assure that surface water quality standards of the receiving waters are protected and maintained or attained. These standards also include requirements for the regulation and control of toxic constituents and require that EPA criteria, established pursuant to Section 304(a) of the CWA, shall be used unless a site specific criterion is established.

#### 3.3.1 Reasonable Potential Analysis

The draft permit must limit any pollutant or pollutant parameter (conventional, non-conventional, and toxic) that is or may be discharged at a level that causes or has the “reasonable potential” to cause or contribute to an excursion above any water quality standard. *See* 40 CFR §122.44(d). An excursion occurs if the projected or actual in-stream concentration exceeds an applicable water quality criterion. In determining “reasonable potential”, EPA considers: (1) existing controls on point and non-point sources of pollution; (2) pollutant concentration and variability in the effluent and receiving water as determined from the permit's re-issuance application, monthly discharge monitoring reports (DMRs), and State and Federal Water Quality Reports; (3) sensitivity of the indicator species used in toxicity testing; (4) known water quality impacts of processes on waste waters; and (5) where appropriate, dilution of the effluent in the receiving water.

#### 3.3.2 Antidegradation

Federal regulations found at 40 CFR §131.12 require states to develop and adopt a statewide antidegradation policy which maintains and protects existing instream water uses and the level of water quality necessary to protect the existing uses, and maintains the quality of waters which exceed levels necessary to support propagation of fish, shellfish, and wildlife and to support recreation in and on the water. The Massachusetts Antidegradation Regulations, found at 314 CMR 4.04, apply to any new or increased activity that would lower water quality or affect existing or designated uses, including increased loadings to a waterbody from an existing activity. All existing instream uses and the level of water quality necessary to protect the existing uses of the receiving waters shall be maintained and protected.

This draft permit is being reissued with allowable effluent limits as stringent as or more stringent than the previous permit and accordingly will continue to protect the existing uses of Foster Pond and Thompson's Meadow. Therefore, MassDEP is not required to conduct an antidegradation review regarding this permit reissuance.

### 3.4 Antibacksliding

A permit may not be renewed, reissued or modified with less stringent limitations or conditions than those contained in the previous permit unless in compliance with the antibacksliding requirements of the CWA [see Sections 402(o) and 303(d)(4) of the CWA and 40 CFR §122.44(l)(1 and 2)]. EPA's antibacksliding provisions prohibit the relaxation of permit limits, standards, and conditions except under certain circumstances. Effluent limits based on BPJ, water quality, and state certification requirements must also meet the antibacksliding provisions found at Section 402(o) and 303(d)(4) of the CWA. All proposed permit conditions are at least as stringent as those found in the current permit. Therefore, the draft permit complies with the antibacksliding requirements of the CWA.

## 4.0 DESCRIPTION OF OUTFALLS AND INTAKE STRUCTURE

### 4.1 Outfall 001

AINER primarily draws water from Northern Pond for use in aggregate washing operations. Water from Northern Pond is pumped to the top of a wet screen tower where it is used to wash aggregate material. The wastewater is conveyed from the wet screen tower via a sluiceway and discharged into the Settling Pond, where the majority of solids settle out. The pond is dredged annually. No flocculants are used to promote settling in the Settling Pond, although a granular flocculant is used in the wash plant. Water from the Settling Pond is pumped to the Southern Pond, where further settling occurs. A pump connecting Southern Pond and Northern Pond in order to recycle process water, or discharge directly to the Holding Lagoon, is rarely used.

The discharge to Southern Pond includes water from the maintenance garage area, where truck washing occurs, after treatment by an underground oil/water separator. No surfactants are used in vehicle washing or anywhere on the site. Catch Basin #1 (CB1) is located in front of the maintenance garage where it collects wash water and is connected to a series of dry wells. The dry well system is connected to an underground oil/water separator by a PVC pipe. The discharge from the separator is routed to two bore holes that are drilled through the eastern quarry rock face and outlet into Southern Pond. Sources of potential pollutants used in the maintenance garage are engine and transmission oils, lubricant for servicing vehicles/equipment, solvents used for cleaning, vehicle brake dust, and fuel oil; however, all floor drains located within the maintenance garage have been blocked.

In addition to water pumped from the Settling Pond, water in Southern Pond also includes a minimal amount of groundwater that passively seeps through the quarry walls. No water is drawn via an in-ground well from the quarry. Water from Southern Pond is pumped over the quarry wall, from an elevation of approximately 40 feet below sea level to an elevation of

approximately 110 feet above sea level (over the quarry wall) and into the Holding Lagoon, at approximately 90 feet above sea level, when necessary.

The Holding Lagoon is located on the southwest corner of the property. The Holding Lagoon discharges water through Outfall 001<sup>5</sup>, via gravity flow, through a plastic pipe in a stone weir located at the eastern end of Foster Pond. The outfall was recently built into a more discernible point source in 2010 to better allow for representative sampling of the discharge. Additional modifications in the Holding Lagoon for the purpose of reducing turbidity in the discharge to Foster Pond are planned for 2016 and required prior local approval. A chain link fence surrounds the Holding Lagoon to prevent fishing or other incidental contact activities with the final treatment pond.

The final discharge at Outfall 001 to Foster Pond consists of treated process water and stormwater, as well as a contribution from minimal groundwater seepage from the quarry walls that flows into Southern Pond. Foster Pond flows by gravity to Jackson Brook and the brook leads to the Valley Road/Manson Street headwall. From the headwall, the water flows via a concrete pipe to the Lynn Storm Sewer System, which drains to King's Beach in Lynn and into the Atlantic Ocean. Neil Johnson, an engineer at Lynn Water and Sewer Commission, confirmed this flow path on February 23, 2016, via telephone.

Sampling is performed at the outfall to Foster Pond, at a representative point close to a plastic pipe that channels water by gravity flow over a stone berm. The discharge pipe condition shall be inspected weekly during sampling so that an appropriate point source sampling location can be maintained during all seasonal conditions and any future construction activity.

#### 4.2 Outfall 002

A stormwater holding area is located on the eastern portion of the site, adjacent to Danvers Road, and nearby the former granules and RMC plant locations. The area includes a catchment basin, Catch Basin #4 (CB4), and a well connecting the area to Thompson's Meadow to the east of the road. There are small water holding tanks used for dust control located nearby the road. A well previously located in the former granules plant area from which water was pumped for use on-site and to supply non-potable water to the toilets and sinks in the office building was removed when the granules plant was removed in 2012.

The stormwater discharge at Outfall 002 was formerly covered under the Stormwater Multi-Sector General Permit (MSGP). AINER sought and received coverage for both process water and stormwater discharges under a single individual permit and filed the appropriate Notice of Termination with regard to MSGP coverage in 2009. Stormwater coverage shall continue under this individual permit.

There has been no discharge from Outfall 002 in the past several years. In the event of a discharge, the discharge from Outfall 002 would consist of dust control water and stormwater runoff. The stormwater consists of runoff from the former RMC plant area, the former granules

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<sup>5</sup> The outfall is named 003 in the monitoring record and in Attachment E.

plant area, and a fueling area. AINER constructed modifications to the area around Outfall 002, including an earthen berm and improved catch basin design, to allow for safer stormwater handling and a more accessible sampling point. AINER has installed an inflatable balloon plug in a well adjacent to CB4 to keep stormwater on-site and has monitored the condition and operation of the plug to verify its proper function.

The discharge through Outfall 002 collects at CB4. In the case of a discharge, the flow from CB4 would empty into the Thompson's Meadow wetlands complex adjacent to Forest River. Forest River flows to Salem Harbor, which empties into the Atlantic Ocean. See Attachment D for a map of the wetlands system.

In the event of an episodic discharge, a sample representative of the stormwater discharge through Outfall 002 shall be taken at CB4 (located near the former granules plant area), at a location where all stormwater runoff which flows through Outfall 002 collects prior to discharge.

## 5.0 PROPOSED EFFLUENT LIMITATIONS, CONDITIONS

A monitoring data summary report for Outfalls 001 and 002 is included in Attachment E. Outfall 001 is denoted in the DMR and in Attachment E as Outfall 003. Regular water quality monitoring for Outfall 001 and 002 is identified by outfall codes 003A and 002A, respectively, and WET test results at Outfall 001 is identified by DMR outfall code 003T. DMR entries with "no discharge" codes for Outfall 002 were removed for clarity. For WET testing data, only the required annual WET testing entries under outfall code 003T, the code denoting the WET testing entries in the DMR data included in Attachment E, were retained.

### 5.1 Outfall 001

AINER modified Outfall 001<sup>6</sup> to a more discernible point source in 2010. The plans for this modification and a photograph of the outfall taken in January 2016 can be found in Attachment F. A weekly inspection of stormwater outfalls is required as specified by the SWPPP in Section 5.3.1 below. Outfall 001 contains both process water and stormwater, as these commingle on-site. Weekly inspections shall continue under this draft permit.

#### 5.1.1 Flow

The current permit requires the permittee to estimate and report the maximum daily and average monthly flow for Outfall 001. Up until January 2012, the monthly average flow was estimated and substituted in for maximum daily flow. The average estimated flow from January 2012 to the end of February 2016 was 0.439 MGD. The maximum daily flow from January 2012 to February 2016 was 6.081 MGD. AINER may continue to estimate flow by extrapolation of rainfall data and surface area drainage in the event of a discharge.

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<sup>6</sup> This outfall is named 003 in the monitoring record and in Attachment E.

### 5.1.2 pH

The pH limitation range of 6.5-8.3 standard units (SU) has been retained in the draft permit in accordance with anti-backsliding requirements found in 40 CFR §122.44(l). The pH limits are based on the Massachusetts Surface Water Quality Standards (Massachusetts SWQSs), 314 CMR, for Class B waters at 4.05 (3)(b)3, and are also retained as they are more stringent than the ELG-based pH limitation of 6.0 to 9.0 SU. These standards require that the pH of the receiving water be in the range of 6.5 to 8.3 SU and no more than 0.5 units outside the background range. There shall be no change from background conditions that would impair any use assigned to this Class. The water quality criteria have been adopted as discharge limitations based on certification requirements under Section 401(a)(1) of the CWA, as described in 40 CFR 124.53 and 124.55. The pH limitation range based on the SWQSs is retained in this draft permit due to antibacksliding.

Review of the DMR data reveals that the pH limit range was exceeded on five occasions, but not by more than 0.5 units. The highest exceedance was 8.5 SU and the lowest was 6.1 SU. Based on these monitoring results, the sampling frequency for pH shall remain unchanged as once per week.

### 5.1.3 Total Suspended Solids (TSS)

In the absence of published technology-based effluent guidelines, the permit writer is authorized under CWA §402(a)(1)(B) to establish effluent limitations on a case-by-case basis using best professional judgment (BPJ). EPA previously conducted a site-specific BPJ analysis to determine the appropriate technology-based effluent limit (TBEL) and based the monthly average TSS limit of 25 mg/L and the daily maximum TSS limit of 45 mg/L on Sector J (Mineral Mining and Dressing) of the MSGP. These limits have been retained in this permit to avoid antibacksliding requirements found in 40 CFR §122.44(l).

Additionally, EPA's Quality Criteria for Water, 1986 (the Gold Book<sup>7</sup>) cites many potential problems associated with high suspended solids and turbidity in a waterbody, including harm to pelagic and benthic organisms; reduced primary production and ecosystem health; and safety issues for swimming and other recreational uses of the waterbody. In addition, pollutants such as toxic metals and phosphorus are likely to be adsorbed onto sediment particles. Based on available information, EPA believes that the discharge of these pollutants will be adequately controlled by limiting the suspended solids and turbidity in the Holding Lagoon discharge.

Water quality-based effluent limits for TSS were determined based on available literature and guidance. National as well as state water quality criteria are narrative for solids and turbidity.

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<sup>7</sup> available at:

[http://water.epa.gov/scitech/swguidance/standards/criteria/aqlife/upload/2009\\_01\\_13\\_criteria\\_goldbook.pdf](http://water.epa.gov/scitech/swguidance/standards/criteria/aqlife/upload/2009_01_13_criteria_goldbook.pdf)

The Massachusetts water quality standards for Class B waters at 314 CMR 4.05(3)(b)5 require that:

[t]hese waters shall be free from floating, suspended, and settleable solids in concentrations and combinations that would impair any use assigned to this Class, that would cause aesthetically objectionable conditions, or that would impair the benthic biota or degrade the chemical composition of the bottom.

The Gold Book proposes the same criteria for solids as EPA's 1972 Water Quality Criteria report<sup>8</sup>.

Prescriptive requirements for recreation and aesthetics recommend managing solids with reference to waterbody historical/baseline data; and suspended solids recommendations to provide a high level of protection to aquatic communities is 25 mg/L. A high level of protection is appropriate for the discharge based on the receiving waterbody impairments. Thus a monthly average TSS limit of 25 mg/L or less is sufficient to ensure the discharge does not cause or contribute to a water quality violation.

Review of DMR data reveals that the discharge has not exceeded the current permit's monthly average or maximum daily permit limits for TSS since 2008. Based on these monitoring results, the sampling frequency for TSS will be maintained at once per month in order to assure that the permittee is controlling the release of solids in the discharge.

#### 5.1.4 Turbidity

In accordance with antibacksliding requirements found in 40 CFR §122.44(l), the average monthly limit of 8 NTU and the maximum daily limit of 25 NTU have been retained in the draft permit. The Massachusetts Surface Water Quality Standards under 314 CMR 4.05(3)(b)6 require that Class B waters shall be free from turbidity in concentrations or combinations that are aesthetically objectionable or would impair any use assigned to this class. Turbidity of water is related to the amount of suspended and colloidal material present in the water column. Aside from the aesthetic problems of color that a turbid discharge can create, turbidity reduces water clarity; therefore, the penetration of light into that water column is reduced, negatively impacting the growth and life cycles of various aquatic species (plants and animals).

Review of DMR data reveals that the maximum daily effluent limitation has been exceeded on 2 occasions, and the average monthly limit has been exceeded on 6 occasions. Based on these monitoring results, the sampling frequency for turbidity shall remain unchanged at once per week.

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<sup>8</sup> available at:

<http://nepis.epa.gov/Exe/ZyNET.exe/2000XOYT.TXT?ZyActionD=ZyDocument&Client=EPA&Index=Prior+to+1976&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C70thru75%5CTxt%5C00000003%5C2000XOYT.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=p%7Cf&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL>



In 2015, the permittee proposed to construct a porous berm in the Holding Lagoon in order to reduce turbidity levels. In November 2015, AINER received a Determination of Applicability from the Town of Swampscott Conservation Commission that no further action under the Massachusetts Wetlands Protection Act (MGL c. 131 §40) is required in order to proceed with the project. See Attachment G for the Determination of Applicability document. The draft permit requires the permittee to develop and implement BMPs, pursuant to the SWPPP, and to implement treatment options in the future, such as the modifications to the Holding Lagoon planned for 2016, in order to reduce the amount of turbidity in the discharge from the facility.

#### 5.1.5 Total Ammonia Nitrogen

The current permit required weekly monitoring and the reporting of the average monthly concentration for Total Ammonia. EPA's current *National Recommended Water Quality Criteria*, freshwater criteria for Ammonia are pH, temperature, and life-stage dependent. According to the procedures described in the *Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses*, except possibly where a very sensitive species is important at a site, freshwater aquatic life should be protected if both conditions specified in Appendix C to the Preamble - Calculation of Freshwater Ammonia Criterion are satisfied. The more toxic neutral form of ammonia (chemical formula  $\text{NH}_3$ ), rather than the ammonium ion (chemical formula  $\text{NH}_4^+$ ), is found in the environment at higher concentrations at higher temperatures and higher pH, and thus those conditions are of greater concern. However, the criteria are conveniently expressed in mass of Total Ammonia Nitrogen (mass of nitrogen from both neutral ammonia and the ammonium ion), and can be compared to monitoring data on a Total Ammonia Nitrogen basis.

Assuming salmonid fish are absent and using the maximum pH value of 8.5 SU, the one-hour average concentration of total ammonia nitrogen, expressed as mass of total ammonia in units mg Total Ammonia/L, shall not exceed, more than once every three years on the average, a CMC (the acute criterion) of 4080  $\mu\text{g}$  Total Ammonia Nitrogen/L. Using a temperature range of 5°C during the winter and 25°C during the summer, the maximum monitored pH of 8.5, and assuming early life stages of fish are absent, the thirty-day concentration of Total Ammonia Nitrogen shall not exceed, more than once every three years on the average, a CCC (chronic criterion) range of 2570  $\mu\text{g}$  Total Ammonia Nitrogen/L during the winter and of 705  $\mu\text{g}$  Total Ammonia Nitrogen/L during the summer. In addition, the highest four-day average within a 30-day period should not exceed 2.5 times the CCC, or 1760  $\mu\text{g}$  Total Ammonia Nitrogen/L (See Attachment H for the Total Ammonia calculation).

EPA considers the available dilution when determining water quality based limitations in a NPDES permit. Massachusetts SWQSs at 314 CMR 4.03(3)(c), which applies to lakes and ponds, states that "the Department will establish extreme hydrologic conditions at which aquatic life criteria must be applied on a case-by-case basis. In all cases existing uses shall be protected and the selection shall not interfere with the attainment of designated uses." The relatively small size of Foster Pond and low flow to Jackson Brook would afford very little, if any, dilution to this discharge. Therefore, EPA is assuming zero dilution for the Foster Pond receiving water and water quality-based effluent limits (WQBELs) would be set at criteria values.

Review of DMR data reveals that the highest three average monthly concentrations of Total Ammonia were 2440 µg/L (October 2012), 2240 µg/L (January 2009), and 1770 µg/L (October 2011); and the average of all monitored values was 268 µg/L. The CMC was never exceeded. Comparison of these CCC values shows that the chronic criterion at 25°C (705 µg/L) was exceeded three times between 2009 and 2012, and 2.5 times the CCC (1760 µg/L) was exceeded the same three times. Based on the reported data there is reasonable potential to cause or contribute to an excursion of the chronic water quality criterion for Total Ammonia in Foster Pond. The draft permit includes an average monthly limit of 705 µg/L and a daily maximum limit of 1760 µg/L. The daily maximum limit was based on the restriction that 2.5 times the CCC was never to be exceeded. In addition, the draft permit increases monitoring frequency from monthly to once per week.

#### 5.1.6 Oil and Grease (O&G)

The maximum daily limit for oil and grease is based on The Massachusetts Surface Water Quality Standards. These standards under 314 CMR 4.05(3)(b)7, state:

These waters shall be free from oil, grease and petrochemicals that produce a visible film in the surface of the water, to impart an oily taste to the water or an oily or other undesirable taste to the edible portions of aquatic life, coat the banks or bottom of the water course, or are deleterious or became toxic to aquatic life.

An effluent concentration of 15 mg/L, the current permit limit, is recognized as the concentration at which many oils produce a visible sheen and/or cause an undesirable taste in edible fish. The only two detected O&G monitoring results were 7.11 mg/L and 5.94 mg/L (February and October 2009). In accordance with antibacksliding requirements found in 40 CFR §122.44(l), the draft permit retains the maximum daily O&G effluent limitation of 15 mg/L, monitored monthly, to ensure compliance with State water quality standards.

#### 5.1.7 Benzene, Toluene, Ethylbenzene, and Total Xylene (BTEX)

Refined petroleum products contain numerous types of hydrocarbons. Individual components partition to environmental media on the basis of their physical/chemical properties (e.g., solubility, vapor pressure). Rather than attempt to establish effluent limits for every compound found in a petroleum release, limits are typically established for the compounds that would be most difficult to remove as well as which demonstrate the greatest degree of toxicity. Generally, the higher the solubility of a volatile organic compound (VOC) in water, the more difficult it is to remove.

VOCs such as benzene, toluene, ethylbenzene, and the three xylene compounds (BTEX) are normally found at relatively high concentrations in gasoline and light distillate products (e.g., diesel fuel). The traditional approach for limiting effluents contaminated with gasoline or other light distillates is to place limits on the individual BTEX compounds and/or the sum of total BTEX compounds. This approach stems from the petroleum-industry practice of determining the quality of fuels by measuring BTEX, which are highly variable among gasoline products. Based on fueling that occurs outside at the maintenance garage area and elsewhere on-site with the

mobile fueling truck, the permit formerly required monthly monitoring and reporting for Total BTEX, as well as the individual BTEX compounds benzene, toluene, ethylbenzene, and xylene.

Since the start of monitoring for BTEX at this location, there was only one detected incidence of benzene at 1.3 µg/L in May 2013 (Total BTEX was also 1.3 µg/L). To characterize the potential for gasoline and/or light distillates to come in contact with stormwater via product spills during fueling operations, the draft permit includes a monthly monitoring requirement for Total BTEX. Additional reporting for individual BTEX compounds has been eliminated from the draft permit because total BTEX is a sufficiently appropriate indicator of the fuel pollutants of concern. The monitoring frequency for Total BTEX shall also be reduced to quarterly.

#### 5.1.8 Total Nitrate Nitrogen

EPA's current *National Recommended Water Quality Criteria* for nitrates is 10,000 µg/L for human health consumption of water and organisms. One previous monitoring result from the 2013 permit re-application for nitrate of 5.4 mg/L (5,400 µg/L) was below this human health criterion. However, since ammonium nitrate is used as an explosive on-site, there is potential for presence of nitrates in the stormwater at the facility. Therefore, the draft permit shall require the continued monitoring for total nitrate (total nitrate nitrogen) at a frequency of once per month.

The benchmark concentration for nitrate-nitrite nitrogen is 0.68 mg/L (National Urban Runoff Program median concentration, 2015 MSGP Table 8.J-1: Sand and Gravel Mining, SIC codes 1442 and 1446). Benchmarks are the pollutant concentrations above which EPA determined represent a level of concern. The level of concern is a concentration at which a stormwater discharge could potentially impair, or contribute to impairing, water quality or affect human health from ingestion of water of fish. Levels below such benchmarks are also viewed by EPA as representing minimal/negligible potential for water quality concern. As such, the benchmarks also provide an appropriate level to determine whether a facility's stormwater pollution prevention measures are successfully implemented. The benchmark concentrations are not effluent limitations and should not be interpreted or adopted as such. These values are merely levels which EPA has used to determine if a stormwater discharge from any given facility merits further monitoring to ensure that the facility has been successful in implementing SWPPP. As such these levels represent a target concentration for a facility to achieve through implementation of pollution prevention measures at the facility. However, EPA is not requiring a benchmark concentration for Total Nitrate at this time.

#### 5.1.9 Total Aluminum

AINER blasts approximately fifty times a year using a water-resistant blasting agent composed primarily of ammonium nitrate. However, the blasting agent also contains aluminum, up to 10% by weight. (The granular flocculant used in the wash plant does not contain aluminum. See Attachment I for the blasting agent and flocculant Safety Data Sheets.)

EPA's current National Recommended Water Quality Criteria for Total Aluminum for freshwater aquatic organisms is 750 µg/L for the acute criterion (CMC) and 87 µg/L for the chronic criterion (CCC), where the metal concentration is expressed as total recoverable fraction in the water column. The annual Whole Effluent Toxicity (WET) testing requirement, discussed

in more detail below, includes a reporting requirement for Total Aluminum. The highest reported Total Aluminum concentration reported as part of the previous WET testing for this outfall location was 1.58 mg/L in March 2010. The mean concentration was 0.29 mg/L. Total Aluminum has exceeded the CMC once at the highest reported value and has exceeded the CCC three times between July 2008 and February 2016. The relatively small size of Foster Pond and low flow to Jackson Brook would afford very little, if any, dilution to this discharge. Because zero dilution for Foster Pond is assumed, WQBELs for Total Aluminum would be set at criteria values. Based on these data, and the lack of dilution in Foster Pond, there is reasonable potential to cause or contribute an excursion above the acute and chronic water quality standards for Total Aluminum. Due to the frequency of blasting, the draft permit shall require an average monthly Total Aluminum limit of 87 µg/L and a daily maximum Total Aluminum limit of 750 µg/L at the outfall, monitored at a frequency of once per week.

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

Whole effluent toxicity (WET) testing is conducted to assess whether certain effluents are discharged in a combination which produces a toxic amount of pollutants in the receiving water. Toxicity testing is used in conjunction with pollutant specific control procedures to control the discharge of toxic pollutants. Sections 402(a)(2) and 308(a) of the CWA provide EPA and States with the authority to require toxicity testing. Section 308 specifically describes biological monitoring methods as techniques that may be used to carry out objectives of the CWA.

Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on water quality standards. The Massachusetts Surface Water Quality Standards include the following narrative statement and requires that EPA criteria established pursuant to Section 304(a)(1) of the CWA be used as guidance for interpretation of the following narrative criteria:

All surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife.

The Region typically includes toxicity testing requirements where a combination of toxic constituents may be toxic to humans, aquatic life, or wildlife. Section 101(a)(3) of the CWA specifically prohibits the discharge of toxic pollutants in toxic amounts. Additionally, NPDES regulations under 40 CFR. §122.44(d)(1)(iv) and (v) require WET effluent limits in a permit when the permitting authority determines that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a State's narrative or numeric criterion within an applicable State water quality standard for toxicity.

Due to the pollutants that may be present in the process water and stormwater discharged from the facility, and potential for toxicity resulting from the combination of pollutants rather than individual pollutants, in accordance with EPA national and regional policy, and in accordance with MassDEP policy, the draft permit includes acute and chronic toxicity monitoring requirements. See Policy for the Development of Water Quality-Based Permit Limitations for Toxic Pollutants, §50 Fed. Reg. 30,784 (July 24, 1985); EPA's "Technical Support Document for Water Quality-Based Toxics Control" on September, 1991; and MassDEP's "Implementation Policy for the Control of Toxic Pollutants in Surface Waters" (February 23, 1990).

The permittee has conducted annual freshwater acute and chronic WET tests for the daphnid, *Ceriodaphnia dubia*, and fathead minnow, *Pimephales promelas*. The use of an alternate dilution water for annual WET testing was requested and obtained for the *Pimephales Promelas* (fathead minnow) but not for the *Ceriodaphnia Dubia* (daphnid) in May 2012. The ADW may continue to be used (for the fathead minnow species only), as toxicity testing has met acceptable criteria<sup>9</sup> since the ADW was used. There is no reasonable potential for the facility to cause or contribute to an excursion of WET criteria based on the DMR data for 2014 and 2015 and no WET limits are needed at this time.

The draft permit requires that the permittee conduct freshwater acute and chronic WET tests for the Outfall 001 effluent during each year of the permit. The permittee shall test the daphnid, *Ceriodaphnia dubia*, and fathead minnow, *Pimephales promelas* and WET tests must be performed in accordance with test procedures and protocols specified in Attachment A (USEPA Region 1 Freshwater Acute Toxicity Test Procedure and Protocol) and B (USEPA Region 1 Freshwater Chronic Toxicity Test Procedure and Protocol) of the permit. As of 2013, modified acute toxicity tests are no longer part of the chronic toxicity testing protocol. The alternate dilution water (ADW) shall have a hardness closely matching that of Foster Pond, which is comprised of moderately hard water. In addition, control samples for Foster Pond and synthetic lab water must be analyzed.

## 5.2 Outfall 002

There has been no discharge from Outfall 002 for the past several years. The Department of Public Works for the Town of Swampscott currently maintains the drain outlet on the other side of Danvers Road.

A weekly inspection of stormwater outfalls, including Outfall 002 even in the absence of a discharge, is specified by the SWPPP. Weekly inspections shall continue to be required under this draft permit to keep stormwater and dust control water on-site. AINER shall continue to monitor the inflatable balloon plug and ensure that there is no discharge from this outfall during or after rain events. EPA and MassDEP shall be notified within 24 hours of an episodic discharge: an episodic discharge is defined as the failure to maintain stormwater and dust control water on-site, such as a discharge caused by the failure of the balloon plug.

AINER is currently assessing whether the discharge location will continue to be necessary. If the outfall is eliminated, EPA and MassDEP shall also be notified, and the permit will be modified accordingly.

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<sup>9</sup> For acute WET testing the TAC (Test Acceptability Criteria) is 90% survival for each species, *Pimephales Promelas* (fathead minnow) and *Ceriodaphnia dubia* (daphnid). For the fathead minnow chronic survival and growth test methods, the TAC is 80% survival and an average minimum of 0.25 mg, respectively. For the daphnid method, the TAC is 80% for survival, and for reproduction, 60% of the surviving females must have 3 broods with an average neonate production minimum of 15 young.

### 5.2.1 Flow

There has been no discharge from this location for the past several years. AINER may continue to estimate flow by extrapolation of rainfall data and surface area drainage rather than use a flow metering device in the event of a discharge.

### 5.2.2 pH

The current permit requires an effluent limitation range for pH of 6.5-8.3 SU, based on the Massachusetts Surface Water Quality Standards, 314 CMR, Inland Water, Class B at 4.05 (3)(b)3. These standards require that the pH of the receiving water be in the range of 6.5 to 8.3 standard units and no more than 0.5 units outside the background range. There shall no change from background conditions that would impair any use assigned to this class. The water quality criteria have been adopted as discharge limitations based on certification requirements under Section 401(a)(1) of the CWA, as described in 40 CFR 124.53 and 124.55. The draft permit retains these limits and requires that pH shall be monitored in the event of a discharge.

### 5.2.3 Total Suspended Solids (TSS)

The monthly average limit of 25 mg/L and the daily maximum limit of 45 mg/L TSS were developed using BPJ and MSGP Sector J (Mineral Mining and Dressing) as guidance. Furthermore, a monthly average TSS limit of 25 mg/L or less is sufficient to ensure the discharge does not cause or contribute to a water quality violation. The draft permit limits for TSS of 25 mg/L as a monthly average and 45 mg/L as a daily maximum have been retained to prevent backsliding.

### 5.2.4 Oil and Grease (O&G)

The draft permit shall maintain an O&G maximum daily effluent limitation of 15 mg/L, monitored in the event of a discharge, to ensure compliance with State water quality standards, and to prevent backsliding.

### 5.2.5 Benzene, Toluene, Ethylbenzene, and Total Xylene (BTEX)

Monitoring for BTEX compounds is required in the draft permit based on fueling that occurs outside the maintenance garage area. At Outfall 001, reporting for individual BTEX compounds has been eliminated because Total BTEX is a sufficiently appropriate indicator of fuel pollutants of concern. The monitoring frequency for Total BTEX shall be maintained in the event of a discharge and reporting for individual BTEX compounds will no longer be required.

## 5.3 Special Conditions

### 5.3.1 Stormwater Pollution Prevention Plan (SWPPP)

This facility engages in activities which could result in the discharge of pollutants to waters of the United States either directly or indirectly through stormwater runoff. These operations include at least one of the following in an area potentially exposed to precipitation or stormwater: material storage, in-facility transfer, material processing, material handling, or loading and unloading. To control the activities/operations, which could contribute pollutants to waters of the United States, potentially violating the State's Water Quality Standards, the permit requires the facility to implement and maintain a Stormwater Pollution Prevention Plan (SWPPP) containing best management practices (BMPs) appropriate for this specific facility (See Sections 304(e) and 402(a)(1) of the CWA and 40 CFR §125.103(b)). Specifically, at this facility, aggregate storage is an example of material storage operations, stone processing is an example of processing operations, and transporting of crushed stone throughout the site as well as fueling is an example of handling operations that shall continue to be included in the SWPPP.

The goal of the SWPPP is to reduce, or prevent, the discharge of pollutants through the stormwater system. The SWPPP requirements in the permit are intended to provide a systematic approach by which the permittee shall at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of the permit. The SWPPP shall be prepared in accordance with good engineering practices and identify potential sources of pollutants, which may reasonably be expected to affect the quality of stormwater discharges associated with industrial activity from the facility. The SWPPP, upon implementation, becomes a supporting element to any numerical effluent limitations in the permit. Consequently, the SWPPP is as equally enforceable as the numerical limits in this permit.

This process involves the following five main steps:

- 1) Forming a team of qualified facility personnel who will be responsible for developing and updating the SWPPP and assisting the plant manager in its implementation;
- 2) Assessing all potential stormwater pollution sources;
- 3) Selecting and implementing appropriate management practices and controls for these potential pollution sources;
- 4) Reevaluating, periodically, the effectiveness of the SWPPP in preventing stormwater contamination and in complying with the various terms and conditions of the draft permit; and

5) Developing and implementing of site specific BMPs:

- a. To ensure proper inspection and cleaning of the oil/water separator. The oil/water separator shall be inspected at least quarterly and cleaned at least annually.
- b. To require storage of materials and equipment such that contact with stormwater is limited, and avoided whenever possible.
- c. To ensure all site stormwater not discharged through Outfalls 001 or 002 remains on-site.
- d. To require proper cleanup of any residuals from previous manufacturing processes.
- e. To reduce the amount of turbidity in the effluent.

There have been major changes to the features of the site (e.g. the removal of the RMC facility and granules plant, and the modifications to the Holding Lagoon) since the last permit was issued and since the 2013 permit reapplication. The draft permit requires the permittee to certify that it has updated its SWPPP site map and overall SWPPP within ninety (90) days of the issuance of this permit and provide a copy of this certification and the updated SWPPP to MassDEP and EPA. With regards to 5(b), the permittee may examine up-to-date Federal Emergency Management Agency reporting of flood hazards in the areas adjacent to and including the site at least every six (6) months in order to specifically assess potential impacts to existing storage and maintenance BMPs.

### 5.3.2 Compliance Schedule

EPA recognizes that the permittee may not be able to meet the Total Ammonia and Total Aluminum limit upon the effective date of the permit. In these situations EPA would typically issue an Administrative Order to the Permittee with a schedule for compliance with this new effluent limitation. Also, the Massachusetts SWQSS at 314 CMR 4.03(1)(b) authorizes the use of compliance schedules in NPDES permits and may include interim effluent limits as determined by MassDEP. EPA invites comment on the limit, a reasonable compliance schedule, and the means for specifying a compliance schedule through an Administrative Order or in the final permit.

### 5.4 Prohibitions

The use of blasting agents containing perchlorate, the use of surfactants except for the minimal amount in the current blasting agent, the use or storage of polychlorinated biphenyl transformers on-site, and the discharge of water which collects in the above ground storage tank (AST) containment areas are all prohibited by the draft permit.



## 6.0 ESSENTIAL FISH HABITAT

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. §1801 *et seq.*(1998)), EPA is required to consult with National Marine Fisheries Service (NMFS) if EPA's action or proposed actions that it funds, permits, or undertakes, "may adversely impact any essential fish habitat." *See* 16 U.S.C. §1855(b). The Amendments broadly define "essential fish habitat" (EFH) as: "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." *See* 16 U.S.C. §1802(10). Adversely impact means any impact which reduces the quality and/or quantity of essential fish habitat (EFH). *See* 50 CFR §600.910(a). Adverse impacts may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

Essential fish habitat is only designated for fish species for which federal Fisheries Management Plans exist. *See* 16 U.S.C. §1855(b)(1)(A). EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999. In some cases, a narrative identifies rivers and other waterways that should be considered EFH due to present or historic use by federally managed species.

Foster Pond and Thompson's Meadow are not designated EFH for any federally managed species. The Massachusetts Office of Coastal Zone Management has confirmed that Foster Pond is not part of an anadromous/catadromous fish run in conjunction with the permit reapplication in 2013. However, Thompson's Meadow is adjacent to Forest River, and Forest River is connected to Salem Harbor, where protected species are present. EPA has determined that the limitations and conditions in the draft permit will minimize any adverse impacts to EFH for the following reasons:

- This permit action does not constitute a new source of pollutants. It is the reissuance of an existing NPDES permit;
- The draft permit contains water quality-based limits for pH, total suspended solids, oil and grease, total ammonia, and turbidity;
- The draft permit prohibits the discharge of pollutants or combinations of pollutants in toxic amounts;
- The permit requires annual toxicity testing to ensure that the discharge does not exhibit toxicity.

This finding is based on the amount and frequency of the discharge, as well as effluent limitations and other permit requirements that are identified in this Fact Sheet. EPA believes that the conditions and limitations contained within the draft permit adequately protect all aquatic life, and that further mitigation is not warranted. Therefore, EPA has determined that no EFH consultation with NMFS is required at this time. If adverse effects are detected as a result of this permit action, NMFS will be notified and an EFH consultation will be initiated promptly.

## 7.0 ENDANGERED SPECIES ACT

Section 7(a) of the Endangered Species Act (ESA) of 1973, as amended (the “Act”), grants authority to and imposes requirements upon federal agencies regarding endangered or threatened species of fish, wildlife, or plants (“listed species”) and the habitats of such species that have been designated as critical (“critical habitat”). The NMFS administers Section 7 consultations for marine species and anadromous fish. The United States Fish and Wildlife Service (USFWS) administers Section 7 consultations for freshwater species. In consultation with and with the assistance of the Secretary of the Interior, Section 7(a)(2) of the Act requires every federal agency ensure that any action it authorizes, funds, or carries out, in the United States or upon the high seas, will not jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat.

EPA has reviewed the federal endangered or threatened species of fish, wildlife, or plants to see if any such listed species might potentially be impacted by the issuance of this NPDES permit. The review has focused on freshwater aquatic species since the discharge is into Foster Pond and a wetlands system which includes Thompson’s Meadow and is adjacent to Forest River. Although shortnose sturgeon and Atlantic sturgeon are listed as endangered and may be found in the Merrimack River in Massachusetts, NMFS has verified that no shortnose sturgeon or Atlantic sturgeon is present in Foster Pond or the wetlands system which includes Thompson’s Meadow. Based on this information, EPA expects that there are no Atlantic or shortnose sturgeon in the vicinity of the discharge and that the draft permit will have no effect on endangered species. Therefore, consultation under Section 7 of the ESA is not required at this time. If adverse effects do occur as a result of this permit action, or if new information becomes available that changes the basis for this conclusion, then EPA will notify and initiate consultation with the USFWS and/or NMFS.

## 8.0 MONITORING AND REPORTING

The permit’s monitoring requirements have been established to yield data representative of the facility’s pollutant discharges under the authority of Sections 308(a) and 402(a)(2) of the CWA and consistent with 40 CFR §§122.41 (j), 122.43(a), 122.44(i) and 122.48. The monitoring program in the permit specifies routine sampling and analysis which will provide ongoing, representative information on the levels of regulated constituents in the wastewater discharge streams. The approved analytical procedures are found in 40 CFR §136 unless other procedures are explicitly required in the permit.

The draft permit requires the permittee to continue to electronically report monitoring results obtained during each calendar month as Discharge Monitoring Report (DMRs) to EPA and the state using NetDMR no later than the 15th day of the month following the completed reporting period.

NetDMR is a national web-based tool for regulated CWA permittees to submit DMRs electronically via a secure internet application to U.S. EPA through the Environmental Information Exchange Network. NetDMR allows participants to discontinue mailing in hard

copy forms under 40 CFR §122.41 and §403.12. NetDMR is accessed from the following url: <http://www.epa.gov/netdmr>. Further information about NetDMR can be found on the EPA Region 1 NetDMR website located at <http://www.epa.gov/region1/npdes/netdmr/index.html>. In most cases, reports required under the permit shall be submitted to EPA as an electronic attachment through NetDMR. Certain exceptions are provided in the permit such as for providing written notifications required under the Part II Standard Permit Conditions. With the use of NetDMR to report DMRs and reports, the permittee is no longer be required to submit hard copies of DMRs or other reports to EPA and is no longer be required to submit hard copies of DMRs to MassDEP. However, permittees must continue to send hard copies of reports other than DMRs to MassDEP until further notice from MassDEP. State reporting requirements are further explained in the draft permit.

## 9.0 STATE CERTIFICATION REQUIREMENTS

Under §401 of the CWA, EPA is required to obtain certification from the state in which the discharge is located that all water quality standards or other applicable requirements of state law, in accordance with Section 301(b)(1)(C) of the CWA, are satisfied. EPA permits are to include any conditions required in the state's §401 certification as being necessary to ensure compliance with state water quality standards or other applicable requirements of state law. See CWA Section 401(a) and 40 CFR §124.53(e). Regulations governing §401 certification are set out at 40 CFR §§124.53 and 124.55. EPA regulations pertaining to permit limits based upon water quality standards and state requirements are contained in 40 CFR §122.44(d).

The MassDEP has reviewed the draft permit and advised EPA that the limitations are adequate to protect water quality and continue to meet the requirements of the anti-degradation policy. EPA has requested permit certification by the State pursuant to 40 CFR §124.53 and expects the draft permit will be certified. The draft permit includes, in part, non-numeric water quality-based requirements necessary to meet Massachusetts SWQSS in Part I.A.3.

## 10.0 PUBLIC COMMENT PERIOD, PUBLIC HEARING REQUESTS, AND PROCEDURES FOR FINAL DECISION

All persons, including applicants, who believe any condition of the draft permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to Undine Kipka, U.S. EPA, Office of Ecosystem Protection, Industrial Permits Section, Mailcode OEP 06-01, 5 Post Office Square, Suite 100, Boston, Massachusetts 02109-3912.

Prior to such date, any person may submit a written request for a public hearing to consider the draft permit to EPA and the State Agency. Such requests shall state the nature of the issues proposed to be raised in the hearing. EPA will consider any request for a hearing and may decide to hold a public hearing if the criteria stated in 40 CFR §124.12 are satisfied. In reaching a final decision on the draft permit, the EPA will respond to all significant comments and make these responses available to the public at EPA's Boston office.

Following the close of the comment period and any public hearings that may be held, the EPA will issue a final permit decision and forward a copy of the final decision, including responses to any significant comments, to the applicant and each person who has submitted written comments or requested notice. Within 30 days following the notice of the final permit decision, any interested person may submit a petition for review of the permit to EPA's Environmental Appeals Board consistent with 40 CFR §124.19.

## 11.0 EPA AND MASSDEP CONTACTS

Additional information concerning the draft permit may be obtained between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday, excluding holidays, from the EPA and MassDEP contacts below:

Undine Kipka  
U.S. Environmental Protection Agency  
5 Post Office Square, Suite 100 (OEP 06-01)  
Boston, Massachusetts 02109-3912  
kipka.undine@epa.gov  
(617) 918-1335

Xiaodan Ruan  
Massachusetts Department of Environmental Protection  
Bureau of Water Resources  
1 Winter Street, Boston, Massachusetts 02108  
xiaodan.ruan@state.ma.us  
(617) 654-6517

8/4/2016

Ken Moraff, Director  
Office of Ecosystem Protection  
US Environmental Protection Agency

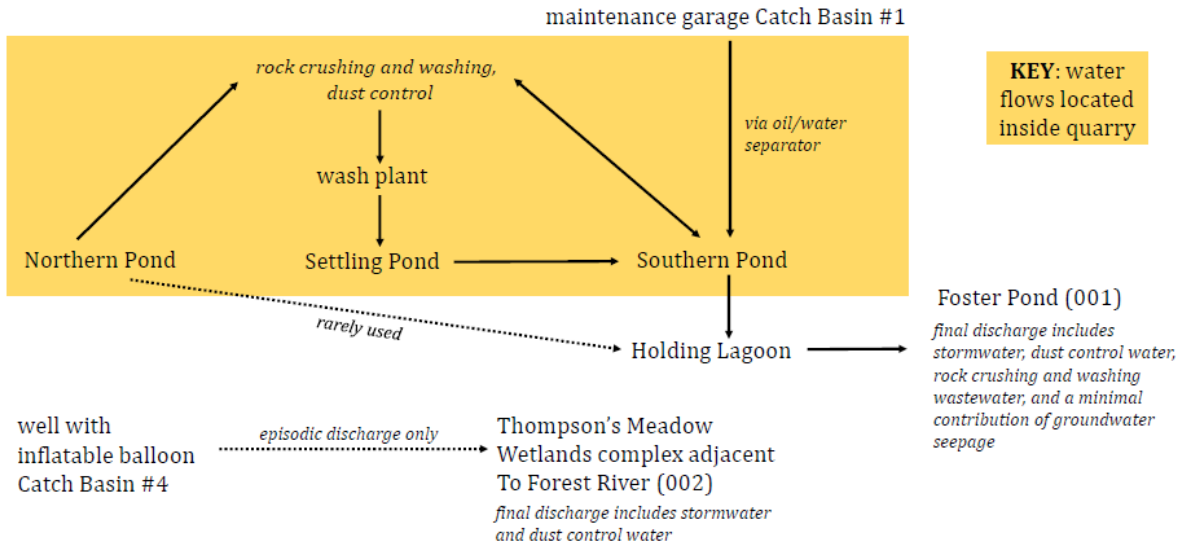
Attachment A: Aerial Photo of Aggregate Industries – Northeast Region (AINER) facility in Swampscott MA



Source: Bing Maps, Microsoft Corporation, 2016.

# Attachment B: Facility process diagram

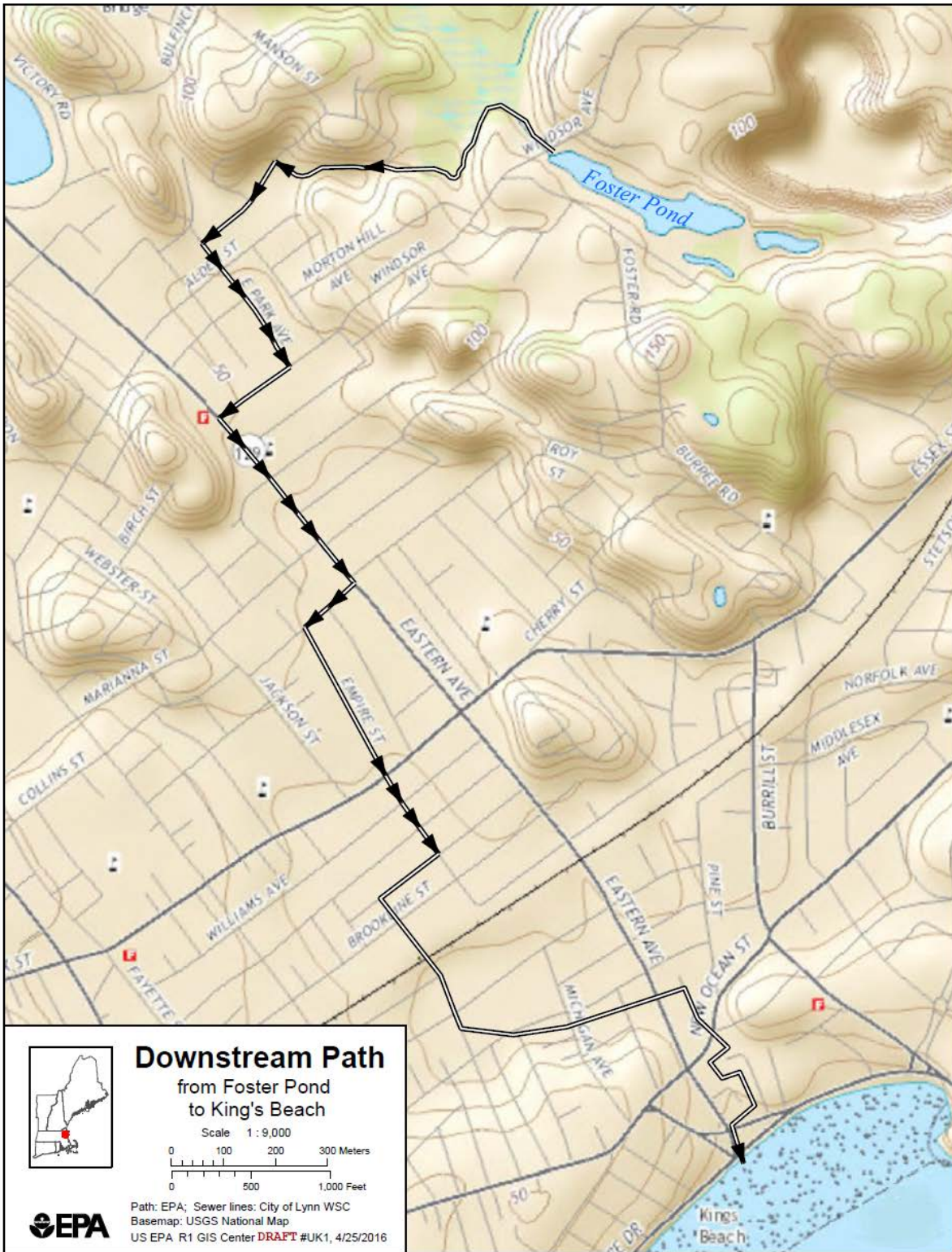
## PROCESS FLOW DIAGRAM for Outfalls 001 & 002



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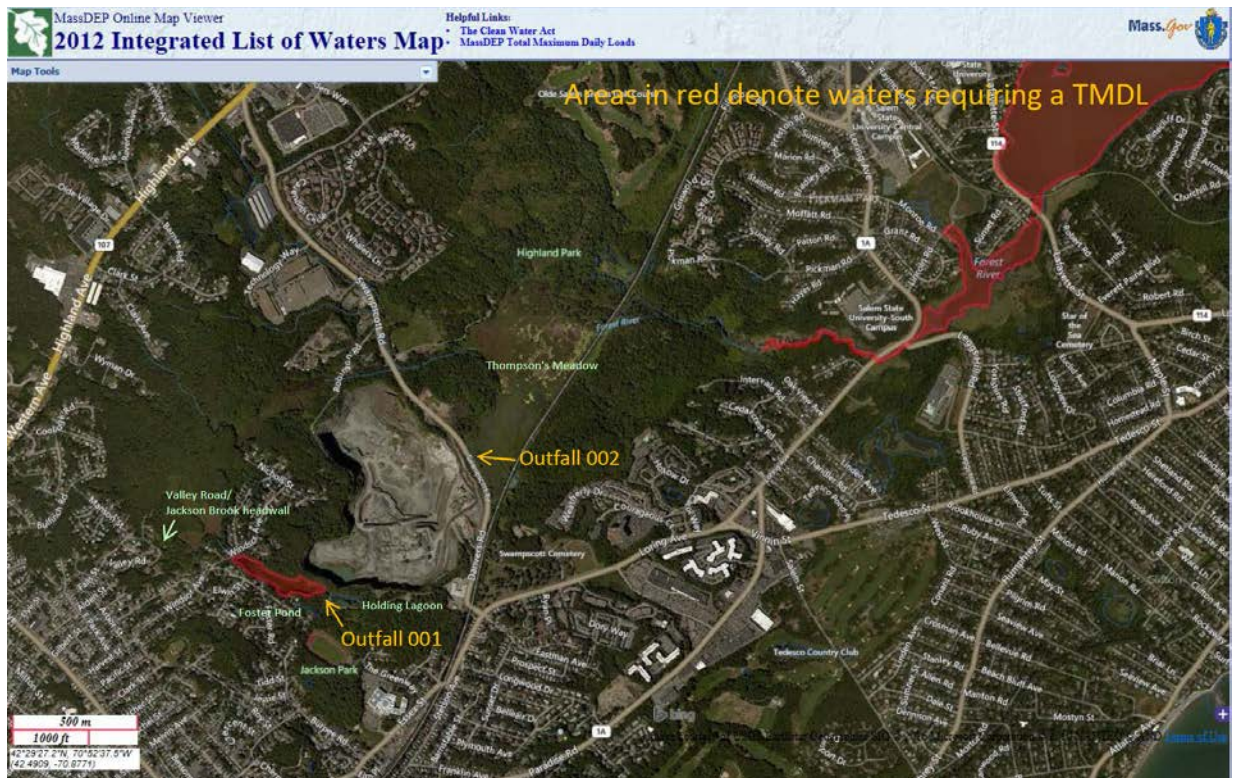


# Attachment C: Map of Foster Pond and Forest River



Foster Pond to King's Beach flow path via Eastern Avenue, Lynn, MA.





Please note: the 2012 listing does not differ from the 2014 listing for this area. Forest River leading to Salem Harbor is visible to the top right of the image in red above.

Source: 2012 Integrated List of Waters Map Online Viewer.

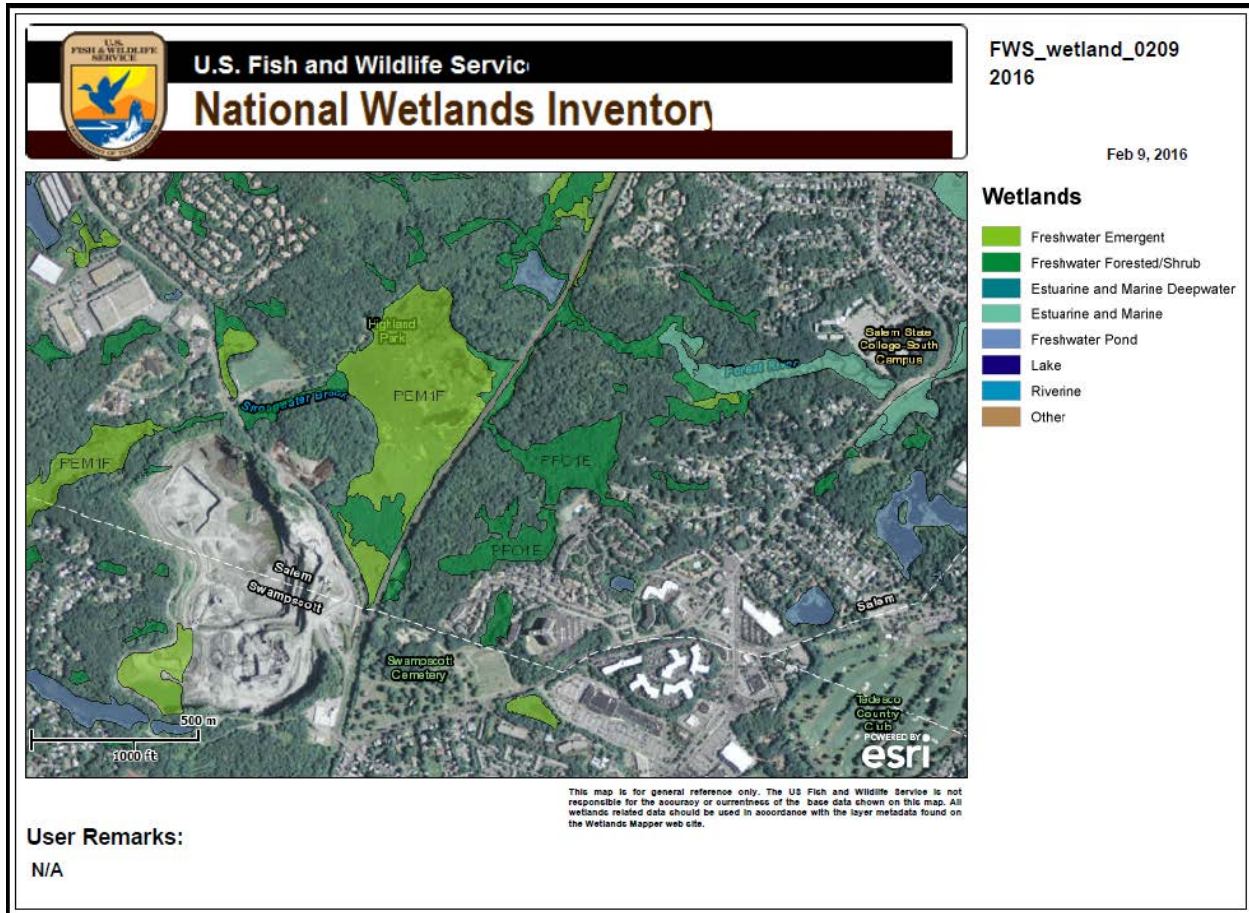


Manson Street/Valley Road headwall and Jackson Brook. Approximate coordinates: 40.484059, -70.930298, approximate address: 5 Manson Street, Lynn, MA.

Source: Google Street View, 2016.



# Attachment D: Map of the Thompson's Meadow Wetlands System



Source: US Fish and Wildlife Service, 2016.

Attachment E: Monitoring Data Summary

DRAFT

**NPDES Permit Factsheet Table**

Search Criteria: Monitoring Period Range: 07/01/2008 to 04/30/2016 and NPDES Permit ID: MA0001830

**Outfall - Monitoring Location - Limit Set: 002A**

NO DISCHARGE

**Outfall - Monitoring Location - Limit Set: 003A**

Monitoring Period End Date	Ammonia & ammonium-total						Flow, in conduit or thru treatment plant		Oil & grease		Solids, total suspended	
	Mon, ug/L	BTEX Mon, ug/L	Benzene Mon, ug/L	Ethylbenzene Mon, ug/L	Mon, MGD	Mon, MGD	15, mg/L	25, mg/L	45, mg/L			
	MO AVG	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MX	
7/31/2008	230	NODI: R	NODI: R	NODI: R	NODI: R	NODI: R	0.5	0.5	NODI: R	0	0	
8/31/2008	0		0	0	0	0	0.51	0.51		0	0	
9/30/2008	0		0	0	0	0	0.33	0.33		0	0	
10/31/2008	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	
11/30/2008	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	
12/31/2008	0		0	0	0	0	0.78	0.78		0	0	
1/31/2009	2240		0	0	0	0	0.69	0.69		0	0	
2/28/2009	0		0	0	0	0	0.606	0.606	7.11	0	0	
3/31/2009	167		0	0	0	0	0.655	0.655		0	0	
4/30/2009	305		0	0	0	0	0.64	0.64		0	0	
5/31/2009	307		0	0	0	0	0.386	0.386		0	0	
6/30/2009	0		0	0	0	0	0.482	0.337		0	0	
7/31/2009	225		0	0	0	0	0.449	0.449		0	0	
8/31/2009	298		0	0	0	0	0.422	0.272		0	0	
9/30/2009	227		0	0	0	0	0.284	0.237		0	0	
10/31/2009	0		0	0	0	0	0.534	0.362	5.94	0	0	
11/30/2009	161		0	0	0	0	0.923	0.282		0	0	
12/31/2009	200		0	0	0	0	0.964	0.392		0	0	
1/31/2010	357		0	0	0	0	0.286	0.24		0	0	
2/28/2010	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	
3/31/2010	0		0	0	0	0	0.648	0.648		0	5.9	
4/30/2010	257		0	0	0	0	0.363	0.072		0	0	
5/31/2010	171		0	0	0	0	0.421	0.421		0	0	
6/30/2010	175		0	0	0	0	0.461	0.429		0	0	
7/31/2010	146		0	0	0	0	0.52	0.52		0	0	
8/31/2010	302		0	0	0	0	0.486	0.486		0	0	
9/30/2010	137		0	0	0	0	0.398	0.398		0	0	
10/31/2010	93		0	0	0	0	0.415	0.415		0	0	
11/30/2010	0		0	0	0	0	0.446	0.446		0	0	
12/31/2010	0		0	0	0	0	0.384	0.384		0	0	
1/31/2011	39		0	0	0	0	0.43	0.43		0	0	
2/28/2011	NODI: E	NODI: E	NODI: E	NODI: E	NODI: E	NODI: E	0.218	0.218	NODI: E	NODI: E	NODI: E	
3/31/2011	434		0	0	0	0	0.313	0.313		0	0	
4/30/2011	180		0	0	0	0	0.508	0.508		0	0	
5/31/2011	511		0	0	0	0	0.284	0.284		0	0	
6/30/2011	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	0.37	0.37	NODI: C	NODI: C	NODI: C	

7/31/2011	187	0	0	0	0	0	0.492	0.492	0	0	0
8/31/2011	84	0	0	0	0	0	0.372	0.372	0	0	0
9/30/2011	452	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	0.858	0.858	NODI: C	NODI: C	NODI: C
10/31/2011	1770	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	0.386	0.386	NODI: C	NODI: C	NODI: C
11/30/2011	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	0.77	0.77	NODI: C	NODI: C	NODI: C
12/31/2011	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	0.524	0.524	NODI: C	NODI: C	NODI: C
1/31/2012	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	1.509	0.535	NODI: C	NODI: C	NODI: C
2/29/2012	120	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	3.821	0.263	NODI: C	NODI: C	NODI: C
3/31/2012	122	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	1.656	0.214	NODI: C	NODI: C	NODI: C
4/30/2012	169	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	6.081	0.405	NODI: C	NODI: C	NODI: C
5/31/2012	212	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	0.241	0.241	NODI: C	NODI: C	NODI: C
6/30/2012	75	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	0.209	0.195	NODI: C	NODI: C	NODI: C
7/31/2012	157	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	0.425	0.26	NODI: C	NODI: C	NODI: C
8/31/2012	299	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	0.406	0.315	NODI: C	NODI: C	NODI: C
9/30/2012	84	NODI: B	NODI: B	NODI: B	NODI: B	NODI: B	0.543	0.217	NODI: B	NODI: B	NODI: B
10/31/2012	2440	NODI: B	NODI: B	NODI: B	NODI: B	NODI: B	0.341	0.253	NODI: B	NODI: B	NODI: B
11/30/2012	222	NODI: B	NODI: B	NODI: B	NODI: B	NODI: B	0.42	0.364	NODI: B	NODI: B	NODI: B
12/31/2012	NODI: B	NODI: B	NODI: B	NODI: B	NODI: B	NODI: B	0.161	0.125	NODI: B	NODI: B	NODI: B
1/31/2013	0	0	0	0	0	0	0.376	0.376	0	0	0
2/28/2013	416	0	0	0	0	0	0.4	0.4	0	0	0
3/31/2013	134	0	0	0	0	0	0.714	0.714	0	5	5
4/30/2013	0	0	0	0	0	0	0.631	0.505	0	0	0
5/31/2013	515	1.3	1.3	1.3	0	0	0.217	0.168	0	0	0
6/30/2013	444	0	0	0	0	0	0.705	0.705	0	0	0
7/31/2013	251	0	0	0	0	0	0.354	0.354	0	0	0
8/31/2013	0	0	0	0	0	0	0.259	0.243	0	0	0
9/30/2013	226	0	0	0	0	0	0.286	0.143	0	0	0
10/31/2013	522	0	0	0	0	0	0.236	0.122	0	0	0
11/30/2013	593	0	0	0	0	0	0.17	0.07	0	0	0
12/31/2013	242	0	0	0	0	0	0.419	0.379	0	0	0
1/31/2014	159	0	0	0	0	0	0.538	0.538	0	0	0
2/28/2014	78	0	0	0	0	0	0.807	0.144	0	0	0
3/31/2014	75	0	0	0	0	0	0.587	0.397	0	0	0
4/30/2014	75	0	0	0	0	0	1.21	1.01	0	0	0
5/31/2014	130	0	0	0	0	0	0.847	0.465	0	0	0
6/30/2014	105	0	0	0	0	0	0.665	0.199	0	0	0
7/31/2014	209	0	0	0	0	0	0.508	0.279	0	0	0
8/31/2014	254	0	0	0	0	0	0.2	0.161	0	0	0
9/30/2014	378	0	0	0	0	0	0.232	0.178	0	0	0
10/31/2014	324	0	0	0	0	0	0.551	0.391	0	0	0
11/30/2014	574	0	0	0	0	0	0.7	0.7	0	0	0
12/31/2014	456	0	0	0	0	0	0.118	0.367	0	0	0
1/31/2015	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
2/28/2015	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
3/31/2015	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
4/30/2015	439	0	0	0	0	0	1.152	1	0	0	0
5/31/2015	0	0	0	0	0	0	1.003	1.003	0	0	0
6/30/2015	0	0	0	0	0	0	1.003	0.97	0	0	0
7/31/2015	0	0	0	0	0	0	1.003	1.003	0	0	0
8/31/2015	95	0	0	0	0	0	1.003	0.744	0	0	0

9/30/2015	NODI: 8	NODI: 8	NODI: 8	NODI: 8	NODI: 8	NODI: 8	NODI: 8	1.008	0.471	NODI: 8	NODI: 8	NODI: 8
10/31/2015	282	0	0	0	0	0	0	0.95	0.674	0	0	0
11/30/2015	339	0	0	0	0	0	0	0.693	0.601	0	0	0
12/31/2015	259	0	0	0	0	0	0	0.766	0.47	0	0	0
1/31/2016	0	0	0	0	0	0	0	0.806	0.728	0	0	0
2/29/2016	82	0	0	0	0	0	0	1.142	0.591	0	0	0

**Outfall - Monitoring Location - Limit Set: 003A, continued**

Monitoring Period End Date	Toluene		Turbidity		Xylene		pH	
	Mon, ug/L	Mon, ug/L	25, NTU	8, NTU	Mon, ug/L	Mon, ug/L	6.5, SU	8.3, SU
	DAILY MX	MO AVG	DAILY MX	MO AVG	DAILY MX	MO AVG	MINIMUM	MAXIMUM
7/31/2008	NODI: R	NODI: R	5.4	5.4	NODI: R	NODI: R	7.8	7.8
8/31/2008	0	0	4.41	3.76	0	0	7.7	7.8
9/30/2008	0	0	2.65	2.65	0	0	7.6	7.6
10/31/2008	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
11/30/2008	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
12/31/2008	0	0	17	12.65	0	0	7.2	7.4
1/31/2009	0	0	3.81	3.81	0	0	6.2	6.2
2/28/2009	0	0	8.69	4.3	0	0	7.3	7.5
3/31/2009	0	0	10.6	4.15	0	0	7.3	7.7
4/30/2009	0	0	5.59	5.3	0	0	7.6	7.8
5/31/2009	0	0	4.62	3.42	0	0	7.7	8.2
6/30/2009	0	0	2.89	2.28	0	0	7.4	7.7
7/31/2009	0	0	17.9	6.52	0	0	7.4	7.7
8/31/2009	0	0	1.76	1.67	0	0	7.3	7.4
9/30/2009	0	0	4.4	4.4	0	0	7.7	7.7
10/31/2009	0	0	8.06	6.54	0	0	7.8	7.8
11/30/2009	0	0	6.16	3.58	0	0	6.1	7.7
12/31/2009	0	0	6.58	5.22	0	0	7.3	7.3
1/31/2010	0	0	21	6.51	0	0	7.5	7.8
2/28/2010	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
3/31/2010	0	0	51	27.15	0	0	7.8	8.2
4/30/2010	0	0	51	26.6	0	0	7.9	8
5/31/2010	0	0	2	1.7	0	0	7	8.1
6/30/2010	0	0	1.4	1.02	0	0	7.7	7.8
7/31/2010	0	0	1.1	0.49	0	0	7.5	8.1
8/31/2010	0	0	1.1	0.84	0	0	7.5	7.8
9/30/2010	0	0	1.7	1.19	0	0	7.7	8.1
10/31/2010	0	0	1.2	1	0	0	7.8	8
11/30/2010	0	0	1.1	0.965	0	0	7.6	8
12/31/2010	0	0	0.8	0.75	0	0	7.8	8
1/31/2011	0	0	5.1	2.43	0	0	7.5	7.7
2/28/2011	NODI: E	NODI: E	1.4	1.11	NODI: E	NODI: E	7.6	7.7
3/31/2011	0	0	2.2	1.68	0	0	7.4	8
4/30/2011	0	0	1.6	1.4	0	0	8.2	8.5
5/31/2011	0	0	1.3	1.18	0	0	7.8	8.1
6/30/2011	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
7/31/2011	0	0	1.1	0.83	0	0	7.5	7.8
8/31/2011	0	0	1.1	0.975	0	0	7.4	7.6
9/30/2011	NODI: C	NODI: C	1.6	0.982	NODI: C	NODI: C	7	8

10/31/2011	NODI: C	NODI: C	3.1	2.46	NODI: C	NODI: C	7.5	7.7
11/30/2011	NODI: C	NODI: C	1.2	1.06	NODI: C	NODI: C	7.3	7.7
12/31/2011	NODI: C	NODI: C	2.2	11.624	NODI: C	NODI: C	6.3	8
1/31/2012	NODI: C	NODI: C	7.3	3.75	NODI: C	NODI: C	6.5	7.9
2/29/2012	NODI: C	NODI: C	2.5	1.94	NODI: C	NODI: C	7.5	7.8
3/31/2012	NODI: C	NODI: C	0.4	2.35	NODI: C	NODI: C	7.4	7.8
4/30/2012	NODI: C	NODI: C	2.7	2.133	NODI: C	NODI: C	7.7	7.8
5/31/2012	NODI: C	NODI: C	2.9	2.14	NODI: C	NODI: C	7.6	8.4
6/30/2012	NODI: C	NODI: C	2.7	2.36	NODI: C	NODI: C	7	8.1
7/31/2012	NODI: C	NODI: C	4.4	2.73	NODI: C	NODI: C	7.6	8.1
8/31/2012	NODI: C	NODI: C	3.1	2.15	NODI: C	NODI: C	6.9	7.6
9/30/2012	NODI: B	NODI: B	2.9	2.7	NODI: B	NODI: B	7.7	7.9
10/31/2012	NODI: B	NODI: B	2.9	2.3	NODI: B	NODI: B	7.6	7.9
11/30/2012	NODI: B	NODI: B	3	1.89	NODI: B	NODI: B	7.7	8
12/31/2012	NODI: B	NODI: B	NODI: B	NODI: B	NODI: B	NODI: B	7.9	8
1/31/2013	0	0	11	5.56	0	0	7.7	8
2/28/2013	0	0	5.2	3.25	0	0	7.8	7.9
3/31/2013	0	0	12	7.85	0	0	7.9	8
4/30/2013	0	0	6	3.53	0	0	7.9	8.1
5/31/2013	0	0	4.8	3.65	0	0	7.7	8.2
6/30/2013	0	0	9.7	5.68	0	0	7.5	8
7/31/2013	0	0	7.4	5.72	0	0	7.7	8.2
8/31/2013	0	0	6.3	4	0	0	7.8	8
9/30/2013	0	0	5.4	3.63	0	0	7.8	8
10/31/2013	0	0	3.3	3.15	0	0	7.7	7.9
11/30/2013	0	0	2.8	2.8	0	0	7.8	7.8
12/31/2013	0	0	14	7.94	0	0	7.7	7.9
1/31/2014	0	0	11	6.9	0	0	7.6	8
2/28/2014	0	0	8.2	8.2	0	0	7.6	7.6
3/31/2014	0	0	12	5.8	0	0	7.6	7.9
4/30/2014	0	0	13	7.1	0	0	7.8	8
5/31/2014	0	0	2.9	2.85	0	0	7.7	8.1
6/30/2014	0	0	3.1	2	0	0	7.5	7.9
7/31/2014	0	0	3.9	3.13	0	0	7.7	8
8/31/2014	0	0	2.5	2.1	0	0	7.8	8
9/30/2014	0	0	2.9	2.9	0	0	7.8	7.9
10/31/2014	0	0	9.9	5.26	0	0	7.7	7.9
11/30/2014	0	0	8.7	4.45	0	0	7.7	8.2
12/31/2014	0	0	13	9.65	0	0	7.5	7.9
1/31/2015	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
2/28/2015	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
3/31/2015	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C	NODI: C
4/30/2015	0	0	3.3	2.9	0	0	7.3	8.2
5/31/2015	0	0	3.5	2.76	0	0	7.9	8.2
6/30/2015	0	0	4	3.55	0	0	7.5	8.1
7/31/2015	0	0	7.3	3.08	0	0	7.8	8.1
8/31/2015	0	0	3.3	2.1	0	0	7.9	8.1
9/30/2015	NODI: 8	NODI: 8	2.4	1.95	NODI: 8	NODI: 8	7.9	8
10/31/2015	0	0	3.6	2.1	0	0	7.9	8.1
11/30/2015	0	0	2.8	2.26	0	0	7.4	7.9

12/31/2015	0	0	1.7	1.22	0	0	7.6	7.9
1/31/2016	0	0	3.5	1.9	0	0	7.5	7.9
2/29/2016	0	0	8.5	4.85	0	0	7.8	8

**Outfall - Monitoring Location - Limit Set: 003T**

Monitoring Period End Date	Alkalinity,	Aluminum,	Ammonia &	Cadmium,	Calcium, total	Carbon, tot	Chlorine, total	pH
	total (as	total (as Al)	ammonium-	total (as Cd)	(as Ca)	organic (TOC)	residual	
	CaCO3)	Mon, mg/L	total	Mon, mg/L	Mon, mg/L	Mon, mg/L	Mon, mg/L	
	Mon, mg/L	Mon, mg/L	Mon, mg/L	Mon, mg/L	Mon, mg/L	Mon, mg/L	Mon, mg/L	Mon, SU
	RPT AVG	RPT AVG	RPT AVG	RPT AVG	RPT AVG	RPT AVG	RPT AVG	RPT AVG
3/31/2009	115	0.068	0.282	0.001	79.7	3.2	0.2	7.92
3/31/2010	91	1.58	0.367	0.001	43.9	2.5	0.2	7.8
5/31/2011	103	0.02	0.323	0.001	66.9	2.5	0.2	7.5
6/30/2012	105	0.06	0.2	0.005	76.8	4	0.2	7.91
5/31/2013	120	0.146	0.2	0.01	78.8	1.8	0.02	8.06
5/31/2014	110	0.094	0.1	0.0005	59	3.4	0.002	7.93
5/31/2015	110	0.061	0.1	0.0005	56	3.2	0.02	8.03

Monitoring Period End Date	Chromium,	Copper, total	Hardness,	LC50 Static	LC50 Static	Lead, total (as	Magnesium,
	total (as Cr)	(as Cu)	total (as	48Hr Acute	48Hr Acute	Pb)	total (as Mg)
	Mon, mg/L	Mon, mg/L	CaCO3)	Ceriodaphnia	Pimephales	Mon, mg/L	Mon, mg/L
	Mon, mg/L	Mon, mg/L	Mon, mg/L	Mon, %	Mon, %	Mon, mg/L	Mon, mg/L
	RPT AVG	RPT AVG	RPT AVG	MO AV MN	MO AV MN	RPT AVG	RPT AVG
3/31/2009	0.005	0.003	278	100	100	0.005	19.2
3/31/2010	0.005	0.006	154	100	100	0.005	10.7
5/31/2011	0.005	0.005	223	100	100	0.005	13.5
6/30/2012	0.01	0.01	262	100	100	0.01	16.9
5/31/2013	0.01	0.01	262	100	100	0.05	15.8
5/31/2014	0.002	0.004	220	100	100	0.0005	15
5/31/2015	0.002	0.002	200	100	100	0.0005	12

Monitoring Period End Date	Nickel, total	Noel Static	Noel Static	Oxygen,	Solids, total	Specific	Zinc, total (as
	(as Ni)	7Day Chronic	7Day Chronic	dissolved		Conductance	Zn)
	Mon, mg/L	Ceriodaphnia	Pimephales	(DO)		Mon, um/sec	Mon, mg/L
	Mon, mg/L	Mon, %	Mon, %	Mon, mg/L	Mon, mg/L	Mon, um/sec	Mon, mg/L
	RPT AVG	MO AV MN	MO AV MN	RPT AVG	RPT AVG	RPT AVG	RPT AVG
3/31/2009	0.004	100	100	7.6	520	754	0.004
3/31/2010	0.004	50	100	9.87	390	535	0.012
5/31/2011	0.004	100	6.25	9.87	410	591	0.014
6/30/2012	0.01	6.25	25	8.4	510	780	0.021
5/31/2013	0.01	50	100	10.8	4	805	0.01
5/31/2014	0.002	100	100	9.8	510	772	0.004
5/31/2015	0.006	100	100	9.6	360	641	0.005



**DMR No Data Indicator (NODI) Codes**

C: No discharge

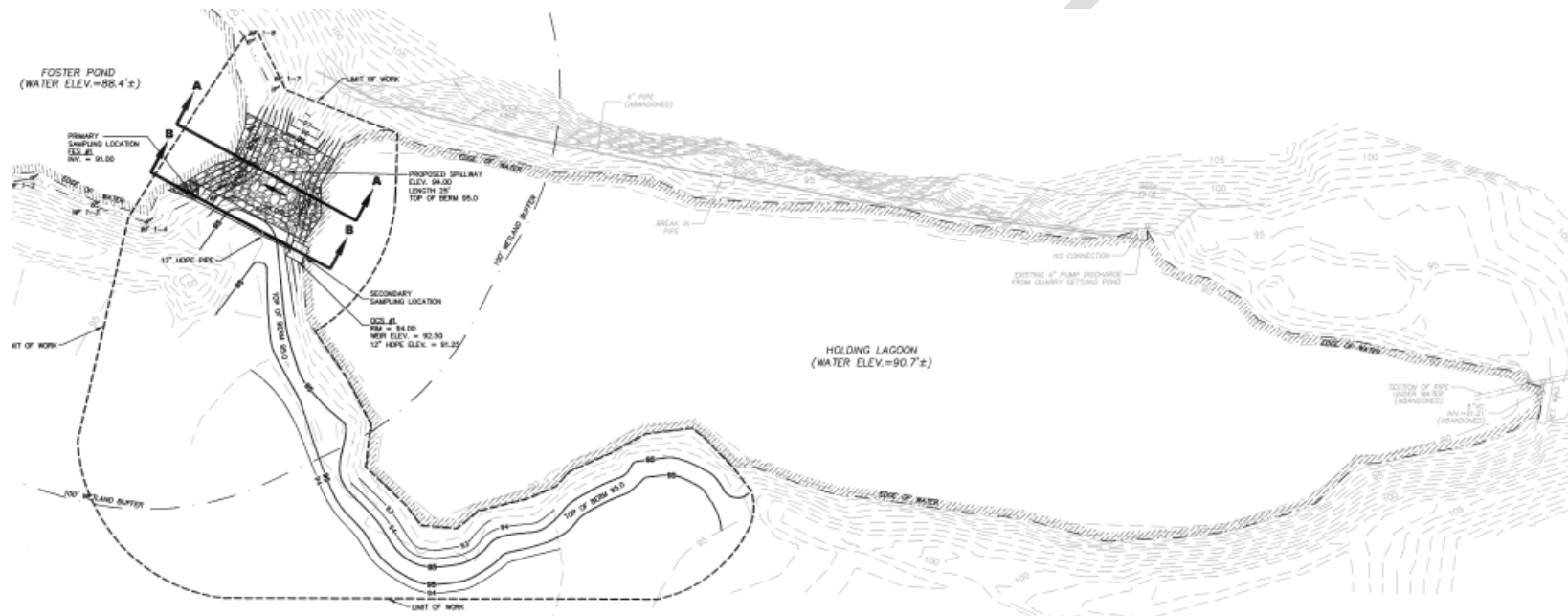
9: Conditional monitoring – not required this period

E: Analysis not conducted – no sample

B: Below detection limit/no detection

DRAFT

# Attachment F: Outfall 001 Plans for 2010 Holding Lagoon Modification and January 2016 Photographs



Source: AINER, January 2016. Drawing excerpt by BSC Group for AINER, 2008 (for permitting and not for construction).



Holding Lagoon (Foster Pond is off to the left of the photograph). Source: site visit, 2016.



Outfall 001, Foster Pond. Source: site visit 2016.

# Attachment G: Town of Swampscott Conservation Commission Determination on Proposed Holding Lagoon Modification



## TOWN OF SWAMPSCOTT CONSERVATION COMMISSION

ELIHU THOMSON ADMINISTRATION BUILDING  
22 MONUMENT AVENUE, SWAMPSCOTT, MA 01907

**MEMBERS**  
MARK MAHONEY, CHAIR  
TOM RUSKIN, VICE CHAIR  
MARC ANDLER  
TONIA BANDROWICZ  
NELSON KESSLER  
ROBERT SALTER  
MONICA TAMBORINI

**APPLICANT:** Aggregate Industries – Northeast Region, Inc.  
1715 Broadway  
Saugus, MA 01906

**PROJECT LOCATION:** 30 Danvers Road, Swampscott (Parcel 12-99)

**DATE OF ISSUANCE:** November 13, 2015

Dear Applicant:

Enclosed is the Determination of Applicability for your project. The Conservation Commission has made a **negative** determination – no further action under the Wetlands Protection Act is required by the applicant. Please take a moment and read it over.

If you have any questions about any part of your Determination, please contact the Planning Department at 781-596-8829.

Sincerely,

Mark Mahoney, Chair

**Enclosure:** Form 2 – Determination of Applicability  
**CC:** MassDEP, Town Clerk, ConCom File,  
Building Inspector (letter only), Board of Health (letter only), DPW (letter only)

## Attachment H: Calculations Total Ammonia Effluent Limitation

### Ammonia (Lognormal distribution, ND)

#### Daily Maximum Effluent Derivation (some measurements < detection limit)

Detection Limit\*\* =

$u_y = \text{Avg of Nat. Log of daily Discharge (mg/L)} = 5.44$

$S (y_i - u)^2 = 38.5$

$k = \text{number of daily samples} = 79$

$r = \text{number of non-detects} = 16$

$s_y^2 = \text{estimated variance} = (S[(y_i - u_y)^2]) / (k-r-1) = 0.622$

$s_y = \text{standard deviation} = \text{square root } s_y^2 = 0.788$

$\delta = \text{number of nondetect values/number of samples} = 0.203$

$z_{99\text{th percentile}} = z\text{-score}[(0.99-\delta)/(1-\delta)] = 2.24$

$z_{95\text{th percentile}} = z\text{-score}[(0.95-\delta)/(1-\delta)] = 1.53$

**Daily Max =  $\exp (u_y + z\text{-score} \cdot s_y)$**

**99th Percentile Daily Max Estimate = 1349 ug/L**

**99th Percentile Daily Max Estimate including dilution factor = 1349 ug/L**

**95th Percentile Daily Max Estimate = 772 ug/L**

**95th Percentile Daily Max Estimate including dilution factor = 772 ug/L**

\*\* Detection limit here is the detection limit that resulted in the greatest number of Non Detects in the dataset

### National Acute Criteria for Freshwater Aquatic Life

*Salmonid species absent, CMC units in mg Total Ammonia Nitrogen/L (mg ammonia and ammonium per liter)*

$$CMC = \frac{0.411}{1 + 10^{7.204-pH}} + \frac{58.4}{1 + 10^{pH-7.204}}$$

### National Chronic Criteria for Freshwater Aquatic Life

*Early life stages absent, CCC units in mg Total Ammonia Nitrogen/L (mg ammonia and ammonium per liter)*

$$\left( \frac{0.0577}{1 + 10^{7.688-pH}} + \frac{2.487}{1 + 10^{pH-7.688}} \right) \times 1.45 \times 10^{0.028(25-MAX(T,7))}$$

Notes: pH is in standard units (S.U.) and temperature T is in degrees Celcius.

### Calculation

CMC, salmonid species absent, using first formula above:

pH	CMC mg Total Ammonia N/L
8.5	4.08

CCC, early life stages absent, using second formula on previous page:

at 25°C:

pH	CCC Equation Part 1	CCC multiplier	CCC final mg Total Ammonia N/L
6.1	2.43	1.76	4.48
8.5	0.382	1.76	0.705

at 5°C:

pH	CCC Equation Part 1	CCC multiplier	CCC final mg Total Ammonia N/L
6.1	2.43	5.26	16.3
8.5	0.382	5.26	2.57

### Reference

1999 Update of Ambient Water Quality Criteria for Ammonia, U.S. Environmental Protection Agency, Office of Water, Office of Science and Technology, Washington, D.C., Office of Research and Development, Mid-Continent Ecology Division, Duluth, Minnesota; EPA-822-R-99-014, December 1999



# Attachment I: Blasting Agent and Wash Plant Flocculant Safety Data Sheets



## Safety Data Sheet

P240 - Ground/bond container and receiving equipment. Consult manufacturer for detailed guidance on appropriate grounding/bonding.  
 P260 - Do not breathe dust, mist, vapors.  
 P264 - Wash hands, forearms and exposed areas thoroughly after handling.  
 P273 - Avoid release to the environment.  
 P280 - Wear eye protection, protective clothing, protective gloves.  
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P308+P313 - If exposed or concerned: Get medical advice/attention.  
 P314 - Get medical advice/attention if you feel unwell.  
 P337+P313 - If eye irritation persists: Get medical advice/attention.  
 P370+P378 - In case of fire: Do NOT attempt to fight fire.  
 P370+P380 - In case of fire: Evacuate area.  
 P372 - Explosion risk in case of fire.  
 P373 - DO NOT fight fire when fire reaches explosives.  
 P401 - Store as defined in the Explosives Act of Canada and the provisions of the Bureau of Alcohol, Tobacco and Firearms regulations contained in 27 CFR Part 555..  
 P405 - Store locked up.  
 P501 - Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS			
Mixture			
Name	Product identifier	% (w/w)	Ingredient Classification (GHS-US)
Ammonium nitrate	(CAS No) 6484-52-2	65 - 90	Ox. Sol. 3, H272 Eye Irrit. 2A, H319
Fuel oil / mineral oil blend	(CAS No) 68476-30-2	3 - 9	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 3, H402 Aquatic Chronic 2, H411
Aluminum	(CAS No) 7429-90-5	0.1 - 10	Comb. Dust Flam. Sol. 1, H228 Water-react. 2, H261
Polymeric Surfactant	NA	0.5 - 2	Not available
More than one of the ranges of concentration prescribed by Controlled Products Regulations has been used where necessary, due to varying composition. Ingredients, other than those mentioned above, as used in this product are not hazardous as defined under current Department of Labor regulations, or are present in deminimus concentrations (less than 0.1% for carcinogens, less than 1.0% for other hazardous materials).			

SECTION 4 - FIRST AID MEASURES
<b>Description of First Aid Measures</b>
<b>General:</b> Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
<b>Inhalation:</b> Remove to fresh air and keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

Note: Only the first page is included, as it relates to chemical composition relevant to potential Total Ammonium, Total Nitrate, and Total Aluminum pollutant sources for the facility.

Source: AINER blasting contractor, 2016.





## SAFETY DATA SHEET

OPTIMER® 83949

### Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : OPTIMER® 83949

Other means of identification : Not applicable.

Recommended use : FLOCCULANT

Restrictions on use : Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.

Company : Nalco Company  
1601 W. Diehl Road  
Naperville, Illinois 60563-1198  
USA  
TEL: (630)305-1000

Emergency telephone number : (800) 424-9300 (24 Hours) CHEMTREC

Issuing date : 04/24/2014

### Section: 2. HAZARDS IDENTIFICATION

#### GHS Classification

Not a hazardous substance or mixture.

#### GHS Label element

Precautionary Statements : **Prevention:**  
Wash hands thoroughly after handling.  
**Response:**  
Specific measures: consult MSDS Section 4.  
**Storage:**  
Store in accordance with local regulations.

Other hazards : None known.

### Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

No hazardous ingredients

### Section: 4. FIRST AID MEASURES

In case of eye contact : Rinse with plenty of water. Get medical attention if symptoms occur.

In case of skin contact : Wash off with soap and plenty of water. Get medical attention if symptoms occur.

If swallowed : Rinse mouth. Get medical attention if symptoms occur.

If inhaled : Get medical attention if symptoms occur.

Protection of first-aiders : In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.

Note: Only the first page is included, as it relates to chemical composition relevant to potential pollutant sources for the facility. No effluent limit monitoring requirement resulted from the use of this product.

Source: AINER blasting contractor, 2016.

MASSACHUSETTS DEPARTMENT OF  
ENVIRONMENTAL PROTECTION  
COMMONWEALTH OF MASSACHUSETTS  
1 WINTER STREET  
BOSTON, MASSACHUSETTS 02108

UNITED STATES ENVIRONMENTAL  
PROTECTION AGENCY – REGION 1  
OFFICE OF ECOSYSTEM PROTECTION  
5 POST OFFICE SQUARE  
BOSTON, MASSACHUSETTS 02109

JOINT PUBLIC NOTICE OF A DRAFT NATIONAL POLLUTANT DISCHARGE  
ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE INTO WATERS OF THE  
UNITED STATES UNDER SECTIONS 301 AND 402 OF THE CLEAN WATER ACT, AS  
AMENDED, AND SECTIONS 27 AND 43 OF THE MASSACHUSETTS CLEAN WATERS  
ACT, AS AMENDED, AND REQUEST FOR STATE CERTIFICATION UNDER SECTION  
401 OF THE CLEAN WATER ACT.

DATE OF PUBLIC NOTICE PERIOD: August 11, 2016 – September 9, 2016

PERMIT NUMBER: **MA0001830**

PUBLIC NOTICE NUMBER: MA-017-2016

NAME AND MAILING ADDRESS OF APPLICANT:

Aggregate Industries – Northeast Region, Inc.  
1715 Broadway  
Saugus, MA 01906

NAME AND ADDRESS OF THE FACILITY WHERE DISCHARGE OCCURS:

Aggregate Industries – Northeast Region, Inc.  
30 Danvers Road  
Swampscott, MA 01907

RECEIVING WATER: Foster Pond (Outfall 001); a wetlands system which includes Thompson's  
Meadow and is adjacent to Forest River (Outfall 002)

The U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of  
Environmental Protection (MassDEP) have cooperated in the development of a draft permit for  
Aggregate Industries' Swampscott sand and gravel facility, which discharges commingled  
process water and stormwater. The effluent limits and permit conditions imposed have been  
drafted to assure compliance with the Clean Water Act, 33 U.S.C. sections 1251 et seq., the  
Massachusetts Clean Waters Act, G.L. c. 21, §§ 26-53, 314 CMR 3.00, and State Surface Water  
Quality Standards at 314 CMR 4.00. EPA has requested that the State certify this draft permit  
pursuant to Section 401 of the Clean Water Act and expects that the draft permit will be certified.

INFORMATION ABOUT THE DRAFT PERMIT:

The draft permit and explanatory fact sheet may be obtained at no cost at [http://www.epa.gov/region1/npdes/draft\\_permits\\_listing\\_ma.html](http://www.epa.gov/region1/npdes/draft_permits_listing_ma.html) or by contacting:

Undine Kipka  
U.S. Environmental Protection Agency – Region 1  
5 Post Office Square, Suite 100 (OEP06-1)  
Boston, MA 02109-3912  
Telephone: (617) 918-1335  
kipka.undine@epa.gov

The administrative record containing all documents relating to this draft permit including all data submitted by the applicant may be inspected at the EPA Boston office mentioned above between 9:00 a.m. and 5:00 p.m., Monday through Friday, except holidays.

PUBLIC COMMENT AND REQUEST FOR PUBLIC HEARING:

All persons, including applicants, who believe any condition of this draft permit is inappropriate, must raise all issues and submit all available arguments and all supporting material for their arguments in full by **September 9, 2016**, to the address or email address listed above. Any person, prior to such date, may submit a request in writing to EPA and MassDEP for a public hearing to consider this draft permit. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty days public notice whenever the Regional Administrator finds that response to this notice indicates significant public interest. In reaching a final decision on this draft permit, the Regional Administrator will respond to all significant comments and make the responses available to the public at EPA's Boston office.

FINAL PERMIT DECISION:

Following the close of the comment period, and after a public hearing, if such hearing is held, the Regional Administrator will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice.

DAVID FERRIS, DIRECTOR  
MASSACHUSETTS WASTEWATER  
MANAGEMENT PROGRAM

KEN MORAFF, DIRECTOR  
OFFICE OF ECOSYSTEM PROTECTION  
EPA-REGION 1