

AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 et seq.; the "CWA", and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

Massachusetts Bay Transportation Authority (MBTA)
10 Park Plaza
Boston, MA 02116

is authorized to discharge from an underground pump station system located at the corner of

Granite Street & Parking Way
Quincy, MA 02169

to receiving water named Town Brook which drains to the Weymouth Fore River Basin

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

This permit shall become effective 60 days after signature.

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

This permit supersedes the last permit issued on September 30, 1997.

This permit consists of 10 pages in Part I including effluent limitations and monitoring requirements, Attachment 1 Freshwater Chronic Toxicity Test Procedure and Protocol, and 25 pages in Part II including General Conditions and Definitions.

Signed this 4th day of May, 2007

/S/ SIGNATURE ON FILE

Stephen S. Perkins, Director
Office of Ecosystem Protection
Environmental Protection Agency
Boston, MA

Glenn Haas, Director
Division of Watershed Management
Department of Environmental Protection
Commonwealth of Massachusetts
Boston, MA

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

<p>1. During the period beginning with the effective date and lasting through expiration, the permittee is authorized to discharge ground water commingled with storm water from Outfall Serial Number 001 to Town Brook. 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.</p>				
<u>EFFLUENT CHARACTERISTIC</u>	<u>MONITORING REQUIREMENTS</u>			
PARAMETER	<u>AVERAGE MONTHLY</u>	<u>DAILY LIMIT</u>	<u>SAMPLING FREQUENCY</u> ⁶	<u>SAMPLE TYPE</u> ²
Flow (MGD) ³	Report	Report maximum	Daily	Continuous ¹
Number of Pumping Events	Report	14 events minimum ¹¹	Daily	Count ¹
Total Suspended Solids (TSS) (mg/L)	----	Report maximum	Monthly	Composite ⁴
Oil and Grease (mg/L)	----	15 mg/l maximum	Quarterly	Grab ¹
pH Range (SU) ⁵	6.5 - 8.3 SU		Monthly	Grab ¹

(Part I.A.1 continued)

<u>EFFLUENT CHARACTERISTIC</u>	<u>MONITORING REQUIREMENTS</u>			
PARAMETER	<u>AVERAGE MONTHLY</u>	<u>DAILY LIMIT</u>	<u>SAMPLING FREQUENCY</u> ⁶	<u>SAMPLE TYPE</u> ²
Whole Effluent Toxicity	----	≥ 100%	Quarterly	Composite ⁴
50 (%) ^{7,8,9,10}	----	≥ 100%	Quarterly	Composite ⁴
Acute LC ^{7,8,9,10}	----	Report	Quarterly	Composite ⁴
Chronic C-NOEC (%) ^{7,8,9,10}	----	Report	Quarterly	Composite ⁴
Hardness (mg/L) ¹²	----	Report	Quarterly	Composite ⁴
Alkalinity (mg/L) ¹²	----	Report	Quarterly	Composite ⁴
pH (SU) ¹²	----	Report	Quarterly	Composite ⁴
Specific Conductance (µmhos/cm) ¹²	----	Report	Quarterly	Composite ⁴
Total Solids (mg/L) ¹²	----	Report	Quarterly	Composite ⁴
Ammonia (mg/L) ¹²	----	Report	Quarterly	Composite ⁴
Total Organic Carbon (mg/L) ¹²	----	Report	Quarterly	Composite ⁴
Total Residual Chlorine (mg/L) ¹²	----	Report	Quarterly	Composite ⁴
Dissolved Oxygen (mg/L) ¹²	----	Report	Quarterly	Composite ⁴
Total Cadmium (mg/L) ¹²	----	Report	Quarterly	Composite ⁴
Total Chromium (mg/L) ¹²	----	Report	Quarterly	Composite ⁴
Total Lead (mg/L) ¹²	----	Report	Quarterly	Composite ⁴
Total Copper (mg/L) ¹²	----	Report	Quarterly	Composite ⁴
Total Zinc (mg/L) ¹²	----	Report	Quarterly	Composite ⁴
Total Nickel (mg/L) ¹²	----	Report	Quarterly	Composite ⁴
Total Aluminum (mg/L) ¹²	----	Report	Quarterly	Composite ⁴
Total Magnesium (mg/L) ¹²	----	Report	Quarterly	Composite ⁴
Total Calcium (mg/L) ¹²	----	Report	Quarterly	Composite ⁴

Footnotes:

1. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: at the manhole system, after pumping from the wet well and before commingling with water in the underground culvert.
2. All samples shall be dry weather samples. Dry weather samples are samples taken after 48 consecutive hours without rain.
3. MBTA shall measure the total flow per day. From this data, MBTA shall report the maximum flow rate measured for any one day and calculate the monthly average flow rate.
4. A composite sample is a sample consisting of a minimum of eight aliquot samples collected at equal intervals over a 24-hour period. These samples shall be taken directly from the wet well.
5. The pH of the effluent shall not be less than 6.5 or greater than 8.3 standard units, unless these values are exceeded as a result of natural causes (which may be determined by comparison to the upstream pH). The pH of the effluent shall not be more than 0.5 units outside of the background range of the upstream pH.”
6. Sampling frequency of daily is defined as sampling throughout each 24-hour day. Sampling frequency of monthly is defined as the sampling of one (1) discharge event in each calendar month, when discharge occurs. Sampling frequency of quarterly is defined as the sampling of one (1) discharge event in each quarter, when discharge occurs. Quarters are defined as the interval of time between the months of: January through March, inclusive; April through June, inclusive; July through September, inclusive; and October through December, inclusive.
7. The permittee shall conduct quarterly dry weather chronic (and modified acute) toxicity tests each calendar year following permit issuance. A calendar year is defined as the interval of time between the months of January through December, inclusive. At least one test shall be conducted during the spring, which corresponds with smelt spawning season. The chronic test may be used to calculate the acute LC₅₀ at the 48 hour exposure interval. The permittee shall test the daphnid, Ceriodaphnia dubia, and fathead minnow, Pimephales promelas. The test results shall be submitted by the last day of the full month following completion of the test. Additional testing may be required under discretion by the EPA. The toxicity tests must be performed in accordance with test procedures and protocols specified in **Attachment 1** of this permit. Dry weather samples must be taken after 48 consecutive hours without rain.
8. The toxicity test requirements may be reduced to require testing of only the most sensitive species (the daphnid or the fathead minnow). After one year of WET tests, the permittee may request EPA review the data for this potential reduction in testing requirements. The

permittee must receive written approval from EPA prior to reduction of the type of species used.

9. The LC_{50} is the concentration of effluent which causes mortality to 50% of the test organisms. Therefore, a 100% limit means that a sample of 100% effluent (no dilution) shall cause no more than a 50% mortality rate. C-NOEC (chronic-no observed effect concentration) is defined as the highest concentration of toxicant or effluent to which organisms are exposed in a life cycle or partial life cycle test which causes no adverse effect on growth, survival, or reproduction at a specific time of observation as determined from hypothesis testing where the test results exhibit a linear dose-response relationship. However, where the test results do not exhibit a linear dose-response relationship, the permittee must report the lowest concentration where there is no observable effect.
10. The permittee shall use dilution water from Town Brook, upstream of the discharge. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall use Town Brook water as a test control and the permittee shall follow procedures outlines in **Attachment 1, Section IV, DILUTION WATER** in order to obtain permission to use an alternate dilution water. In lieu of individual approvals for alternate dilution water required in **Attachment 1**, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called “Guidance Document”) which may be used to obtain automatic approval of an alternate dilution water, including the appropriate species for use with that water. If this Guidance document is revoked, the permittee shall revert to obtaining approval as outlined in **Attachment 1**. The “Guidance Document” has been sent to all permittees with their annual set of DMRs and Revised Updated Instructions for Completing EPA’s Pre-Printed NPDES Discharge Monitoring Report (DMR) Form 3320-1 and is not intended as a direct attachment to this permit. Any modification or revocation to this “Guidance Document” will be transmitted to the permittees as part of the annual DMR instruction package. However, at any time, the permittee may choose to contact EPA-New England directly using the approach outlined in **Attachment 1**.
11. Compliance with this effluent limitation is required six months following the effective date of the permit. In place of an effluent limitation during the six months following the effective date of the permit, the permittee shall monitor and report the minimum daily number of pumping events. If MBTA can document that this condition is unattainable due to changes in hydrological conditions resulting in a decrease in ground water flow to the pump station, MBTA may request a reduction of the minimum number of daily pumping events required from the facility. The permittee must receive written approval from EPA prior to reduction of the minimum number of daily pumping events required.

12. For each Whole Effluent Toxicity (WET) test the permittee shall report on the appropriate Discharge Monitoring Report (DMR), the concentrations of the Hardness, Total Ammonia Nitrogen as Nitrogen, Total Recoverable Aluminum, Cadmium, Chromium, Copper, Lead, Nickel, and Zinc found in the 100 percent effluent sample. The permittee should note that all chemical parameter results must still be reported in the appropriate toxicity report.

Part I.A. (Continued)

2. The automatically activated pumps in the wet well shall be set to pump a minimum of 14 times each 24-hour day. Within 18 months of the effective date of the permit, the permittee shall evaluate the feasibility of increasing the discharge pumping frequency from the wet well during dry weather, to the extent practicable, in order to reduce the flow spikes from the dry weather discharge. The investigation shall include draining the wet well, assessing the controllers of all pumps, and assessing the possibility of initializing a cascading pump system. The permittee shall include in the report an evaluation of the effectiveness of any changes made to the pumping frequency to reducing the discharge flow spikes, including an analysis of the results from the USGS real-time water data gage in Town Brook. The permittee shall consult with Massachusetts Division of Marine Fisheries (DMF) during this evaluation. Within 18 months of the effective date of the permit, the permittee shall submit a report on this evaluation to EPA, MassDEP, and DMF reporting the results of the study and any changes made to the pumping system. Based on the results of the report, EPA may modify the permit to further reduce the minimum number of pumping events allowed per 24-hour period.
3. The discharge shall not cause a violation of the water quality standards of the receiving waters.
4. The discharge shall not cause objectionable discoloration of the receiving waters.
5. The effluent shall contain no visible oil sheen, foam, nor floating solids at any time.
6. Use of chlorine as a means of maintaining adequate bacterial control is not permitted.
7. 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).
8. EPA may modify 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.
9. 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.

B. BEST MANAGEMENT PRACTICES PLAN (BMPP)

1. The permittee shall maintain, update and implement a Best Management Practices Plan (BMPP) to reduce the discharge of pollutants to the receiving waters identified in this permit. The permittee shall update and amend the BMPP when necessary to account for any changes affecting the BMPP including, but limited to whenever the following occur: 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 reportable quantities of hazardous substances or oil; or the BMPP appears to be ineffective in achieving the general objectives of controlling pollutants in water discharges associated with industrial activity.
2. An updated and amended BMPP shall be completed and signed by the Permittee within 90 days after the effective date of this Permit. Each amended BMPP shall be certified by the Permittee. The certification shall be signed in accordance with the requirements identified in 40 CFR §122.22, and a copy of the current certification shall be sent each year to EPA and MassDEP within thirty (30) days of the annual anniversary of the effective date of the Final Permit. The certification should document 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 BMPP. The permittee shall keep a copy of the most recent BMPP and certification at the facility and shall make it available for inspection by EPA and MassDEP.
3. The permittee shall assure that the BMPP is consistent with the requirements outlined in Part 4 of EPA's NPDES Storm Water Multi-Sector General Permit for Industrial Activities, issued by EPA on October 30, 2000 (See 65 FR 64812-64815). The BMPP shall refer to all of the outfalls, the priority pollutants, the conventional pollutants and the monitoring requirements at each outfall. Additionally, the BMPP shall include the best management practices (BMPs) appropriate for this specific facility to control discharges from activities that could contribute pollutants to waters of the United States. Specifically, the BMPP shall contain the elements listed below and practices to minimize pollutants in the discharge. The detailed requirements for most elements listed below can be found in Section 4 of the Storm Water Multi-Sector General Permit at 65 FR 64812-64815 (2000). Those elements not found in Section 4 of the Storm Water Multi-Sector General permit are detailed in Section IV.E.2 of the Fact Sheet.
 - a. Pollution Prevention Team
 - b. Site Description
 - c. Receiving Waters
 - d. Summary of Potential Pollutant Sources
 - e. Spills and Leaks

- f. Sampling Data
- g. Pump Controls and Maintenance
- h. Wet-well Cleaning and Maintenance

C. REOPENER CLAUSES

- 1. This Permit shall be modified, or alternately, revoked and reissued, to comply with any applicable standard or limitation promulgated or approved under sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
 - a. Contains different conditions or is otherwise more stringent than any effluent limitation in the Permit; or
 - b. Controls any pollutants not limited in the Permit.

D. MONITORING AND REPORTING

Monitoring results obtained during the previous month shall be summarized for each month and reported on separate Discharge Monitoring Report Form(s) postmarked no later than the 15th day of the month following the effective date of the Permit.

Signed and dated originals of these, and all other reports required herein, shall be submitted to EPA at the following address:

Environmental Protection Agency, Region 1
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114

Signed and dated Discharge Monitoring Report Form(s) and all other reports required by this Permit shall also be submitted to the State at the following addresses:

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

and

Massachusetts Department of Environmental Protection
Division of Watershed Management
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608

E. STATE PERMIT CONDITIONS

1. This discharge Permit is issued jointly by the EPA and the MassDEP under Federal and State law, respectively. As such, all the terms and conditions of this Permit are hereby incorporated into and constitute a discharge Permit issued by the Commissioner of the MassDEP pursuant to M.G.L. Chap.21, §43.
2. 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.