

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 Department of Mental Health
190 Portland Street
Boston, MA 02114**

is authorized to discharge from the facility located at

**Templeton Development Center
Department of Mental Retardation
212 Freight Shed Road
Baldwinville, MA 01436**

to receiving water named : **Beaver Brook to the Millers River
Millers River Watershed (Segment MA35-09)**

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

This permit shall become effective sixty (60) days after signature.

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

This permit supersedes the permit issued on September 30, 1999.

This permit consists of 11 pages in Part I including effluent limitations, monitoring requirements, Attachment A, Sludge Guidance Document, and 35 pages in Part II including General Conditions and Definitions.

Signed this 11th day of August, 2006

/S/ SIGNATURE ON FILE

Linda M. Murphy
Director
Office of Ecosystem Protection
Environmental Protection Agency
Boston, MA

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

PART I

A.1. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge from outfall serial number 001 , treated effluent to the Beaver Brook. Such discharges shall be limited and monitored as specified below.					
<u>EFFLUENT CHARACTERISTIC</u>			<u>MONITORING REQUIREMENTS</u>		
<u>PARAMETER</u>	<u>AVERAGE MONTHLY</u>	<u>AVERAGE WEEKLY</u>	<u>MAXIMUM DAILY</u>	<u>MEASUREMENT FREQUENCY</u>	<u>SAMPLE² TYPE</u>
FLOW	0.05 MGD	*****	REPORT MGD	CONTINUOUS	RECORDER
BOD ₅ ³	30 mg/l 13 lbs/Day	45 mg/l 19 lbs/Day	REPORT mg/l REPORT lbs/Day	1/WEEK	24-HOUR COMPOSITE
TSS ³	30 mg/l 13 lbs/Day	45 mg/l 19 lbs/Day	REPORT mg/l REPORT lbs/Day	1/WEEK	24-HOUR COMPOSITE
pH RANGE ¹	6.5 - 8.3 SU SEE PERMIT PAGE 6 OF 11, PARAGRAPH I.A.2.b.			1/DAY	GRAB
COPPER, TOTAL ⁴	13 ug/l	*****	17 ug/l	1/QUARTER	24-HOUR COMPOSITE
LEAD, TOTAL ⁴	3 ug/l	*****	70 ug/l	1/QUARTER	24-HOUR COMPOSITE
EFFLUENT DISSOLVED OXYGEN See Permit Part I.F for Schedules	*****	*****	6 mg/l	1/WEEK	GRAP
FECAL COLIFORM BACTERIA ^{1,5} April 1 -October 31	200 CFU/100ml	*****	400 CFU/100 ml	1/WEEK	GRAB

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<u>PARAMETER</u>	<u>AVERAGE MONTHLY</u>	<u>AVERAGE WEEKLY</u>	<u>MAXIMUM DAILY</u>	<u>MEASUREMENT FREQUENCY</u>	<u>SAMPLE² TYPE</u>
AMMONIA NITROGEN April 1 - October 31	10 mg/l	***** *****	REPORT mg/l	1/WEEK	24-HOUR COMPOSITE
AMMONIA NITROGEN January	***** *****	***** *****	REPORT mg/l	1/Month	24-HOUR COMPOSITE
TOTAL KJELDAHL NITROGEN	REPORT mg/l	*****	REPORT mg/l	2/YEAR ⁶	24-HOUR COMPOSITE
TOTAL NITRITE NITROGEN	REPORT mg/l	*****	REPORT mg/l	2/YEAR ⁶	24-HOUR COMPOSITE
TOTAL NITRATE NITROGEN	REPORT mg/l	*****	REPORT mg/l	2/YEAR ⁶	24-HOUR COMPOSITE
PHOSPHORUS, TOTAL April 1 - October 31 See Part I.F.2 Schedules	0.2 mg/l 0.08 lbs/Day	*****	REPORT mg/l and lbs/Day	1/WEEK	24-HOUR COMPOSITE
PHOSPHORUS, TOTAL ⁷ November 1- March 31 See Part I.F.2 Schedules	1.0 mg/l 0.42 lbs/Day	***** *****	REPORT mg/l and lbs/Day	1/MONTH	24-HOUR COMPOSITE
ORTHO PHOSPHORUS, DISSOLVED ⁷ November 1 - March 31	REPORT mg/l and lbs/Day	***** ***** *****	REPORT mg/l and lbs/Day	1/MONTH	24-HOUR COMPOSITE
WHOLE EFFLUENT TOXICITY SEE FOOTNOTES 8, 9, 10 and 11	Acute LC ₅₀ ≥ 100% Chronic C-NOEC ≥ 30 %			1/QUARTER	24-HOUR COMPOSITE

Footnotes:

1. Required for State Certification.
2. Required effluent samples shall be collected from the following locations:

Parameter	Sampling Location
Flow	(Effluent) V notch weir
BOD, TSS	(Influent) after comminuter (Effluent) after ultraviolet disinfection
Ammonia, Total Phosphorus, pH, Fecal Coliform, Total Copper, Total Lead, Total Kjeldahl Nitrogen, Total Nitrite, and Total Nitrate	(Effluent) after ultraviolet disinfection
Dissolved Oxygen	At the end of the ultraviolet disinfection tank
Whole Effluent Toxicity (WET)	(Effluent) after ultraviolet disinfection (Diluent) Beaver Brook, approximately 30 feet up-stream of POTW

Any change in sampling location must be reviewed and approved in writing by EPA and MassDEP. All samples shall be tested using the analytical methods found in 40 CFR §136, or alternative methods approved by EPA in accordance with the procedures in 40 CFR §136. All samples shall be 24 hour composites unless specified as a grab sample in 40 CFR §136.

All sampling shall be representative of the effluent that is discharged through outfall 001. A routine sampling program shall be developed in which samples are taken at the same location, same time and same days of every month. Any deviations from the routine sampling program shall be documented in correspondence appended to the applicable discharge monitoring report that is submitted to EPA. 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).

3. Sampling required for influent and effluent.
4. The permittee may submit the results of total copper and total lead conducted as part of the quarterly whole effluent toxicity testing to satisfy this requirement.
5. Fecal coliform discharges shall not exceed a monthly geometric mean of 200 colony forming units per (cfu) 100 ml, nor shall they exceed 400 cfu per 100 ml as a daily maximum.

6. Sample twice each year during the months of January and August.
7. The maximum daily concentration and loading values reported for dissolved ortho phosphorus shall be the values from the same day that the maximum daily total phosphorus concentration and loading values were measured.
8. The permittee shall conduct chronic (and modified acute) toxicity tests four times per year. 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, only. Toxicity test samples shall be collected during the second week of the months of January, April, July and October. The test results shall be submitted by the last day of the month following the completion of the test. The results are due February 28th, May 31st, August 31st, and November 30th, respectively. The tests must be performed in accordance with test procedures and protocols specified in **Attachment A** of this permit.

Test Dates Second Week in	Submit Results By:	Test Species	Acute Limit LC ₅₀	Chronic Limit C-NOEC
January April July October	February 28 th May 31 st August 31 st November 30 th	<u>Ceriodaphnia dubia</u> (daphnid) See Attachment A	≥ 100%	≥ 30%

After submitting **one year** and a **minimum** of **four** consecutive sets of WET test results in one year, all of which demonstrate compliance with the WET permit limits, the permittee may request a reduction in the WET testing requirements. The permittee is required to continue testing at the frequency specified in the permit until notice is received by certified mail from the EPA that the WET testing requirement has been changed.

9. The LC₅₀ 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.
10. 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.

The "30% or greater" limit is defined as a sample which is composed of 30% (or greater) effluent, the remainder being dilution water. This is a maximum daily limit derived as a

percentage of the inverse of the dilution factor as calculated in the previous permit as 3.3.

11. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in **Attachment A 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 A**, 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 A**.

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 A**.

Part I.A.2.

- a. The discharge shall not cause a violation of the water quality standards of the receiving waters.
- b. The pH of the effluent shall not be less than 6.5 nor greater than 8.3 at any time.
- c. The discharge shall not cause objectionable discoloration of the receiving waters.
- d. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.
- e. The permittee's treatment facility shall maintain a minimum of 85 percent removal of both total suspended solids and biochemical oxygen demand. The percent removal shall be based on monthly average values.

Part I.A.3. All POTWs must provide adequate notice to the Director of the following:

- a. Any new introduction of pollutants into that POTW from an indirect discharger in a primary industry category discharging process water; and
- b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

- c. For purposes of this paragraph, adequate notice shall include information on:
 - (1) the quantity and quality of effluent introduced into the POTW; and
 - (2) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

Part I.B.1. Limitations for Industrial Users:

- a. Pollutants introduced into POTW's by a non-domestic source (user) shall not pass through the POTW or interfere with the operation or performance of the works.

Part I.B.2. 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.

Part I.B.3. Numerical Effluent Limitations for Toxicants

EPA or MassDEP may use the results of the toxicity tests and chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to Section 304(a)(1) of the Clean Water Act (CWA), state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including but not limited to those pollutants listed in Appendix D of 40 CFR Part 122.

Part I.C. Unauthorized Discharges

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from outfall 001. Discharges of wastewater from any other point sources, including sanitary sewer overflows (SSOs) are not authorized by this permit and shall be reported in accordance with Section D.1.e. (1) of the General Requirements of this permit (Twenty-four hour reporting). [Note: SSO Reporting Form (which includes MassDEP Regional Office telephone numbers for submittal of written report to MassDEP is available at <http://www.mass.gov/dep/water/approvals/surffms.htm#sso>.)]

Part I.D. Operation and Maintenance of the Sewer System

Operation and maintenance of the sewer system shall be in compliance with the General Requirements of Part II and the following terms and conditions:

a. **Maintenance Staff**

The permittee shall provide an adequate staff to carry out the operation, maintenance, repair, and testing functions required to ensure compliance with the terms and conditions of this permit.

b. **Preventative Maintenance Program**

The permittee shall maintain an ongoing preventative maintenance program to prevent overflows and bypasses caused by malfunctions or failures of the sewer system infrastructure. The program shall include an inspection program designed to identify all potential and actual unauthorized discharges.

c. **Alternate Power Source**

In order to maintain compliance with the terms and conditions of this permit, the permittee shall continue to provide an alternate power source with which to sufficiently operate its treatment works (as defined at 40 CFR §122.2).

d. **Infiltration/inflow**

The permittee shall control infiltration and inflow (I/I) to the separate sewer system to prevent infiltration/inflow-related effluent limit violations, and any unauthorized discharges of wastewater, including overflows and by-passes, due to excessive infiltration/inflow.

The permittee is required to submit an annual report on the anniversary date of the effective date of the permit which includes: 1) funding associated with I/I program; 2) implementation of I/I remediation and preventive measures.

Part I.E. Sludge Conditions

1. The permittee shall comply with all existing federal and state laws and regulations that apply to sewage sludge use and disposal practices and with the CWA Section 405(d) technical standards.
2. The permittee shall comply with the more stringent of either the state or federal (40 CFR part 503), requirements.
3. The requirements and technical standards of 40 CFR part 503 apply to facilities which perform one or more of the following use or disposal practices:
 - a. Land application - the use of sewage sludge to condition or fertilize the soil
 - b. Surface disposal - the placement of sewage sludge in a sludge only landfill
 - c. Sewage sludge incineration in a sludge only incinerator
4. The 40 CFR part 503 conditions do not apply to facilities which place sludge within a municipal solid waste landfill. These conditions also do not apply to facilities which do not dispose of sewage sludge during the life of the permit but rather treat the sludge (e.g. lagoons- reed beds), or are otherwise excluded under 40 CFR 503.6.
5. The permittee shall comply with the 40 CFR Part 503 regulations. A compliance guidance document is attached to help determine appropriate conditions. Appropriate conditions contain the following elements:
 - General requirements
 - Pollutant limitations
 - Operational Standards (pathogen reduction requirements and vector attraction reduction requirements)
 - Management practices
 - Record keeping
 - Monitoring
 - Reporting

Depending upon the quality of material produced by a facility, all conditions may not apply to the facility.

6. The permittee shall monitor the pollutant concentrations, pathogen reduction and vector attraction reduction at the following frequency. This frequency is based upon the volume of sewage sludge generated at the facility in dry metric tons per year:

less than 290	1/ year
290 to less than 1500	1 /quarter
1500 to less than 15000	6 /year
15000 +	1 /month

7. The permittee shall sample the sewage sludge using the procedures detailed in 40 CFR 503.8.
8. The permittee shall **submit an annual report containing the information specified in the regulations by February 19**. Reports shall be submitted to the address contained in the reporting section of the permit.

Sludge monitoring is not required by the permittee when the permittee is not responsible for the ultimate sludge disposal.

In such cases, the permittee is required only to **submit an annual report by February 19** containing the following information:

- Name and address of contractor responsible for sludge disposal
- Quantity of sludge in dry metric tons removed from the facility by the sludge contractor

Part I.F. Schedules

1. The permittee shall within two (2) years of the effective date of this permit, fund, design, and build a mechanism to meet the new effluent dissolved oxygen requirement. The permittee shall submit to both EPA and MassDEP a progress report one (1) year from the effective date of this permit.
2. No later than three (3) years from the effective date of this permit, the permittee shall achieve compliance with the final permit limits for total phosphorus. These limits include:

The final total phosphorus limits of 0.2 mg/l and 0.08 lbs/Day average monthly (April 1- October 31) as well as the final total phosphorus limits of 1.0 mg/l and 0.42 lbs/Day average monthly (November 1- March 31).

No interim limits have been established. During the interim period, monitoring and reporting of total phosphorous shall be performed at the frequency required in Part A.1.

The permittee shall achieve the total phosphorus limits in accordance with the following schedule:

- ☐ Complete facilities planning within one (1) year from the effective date of the permit.
- ☐ Complete design of required changes within eighteen (18) months from the effective date.
- ☐ Begin construction within two (2) years from the effective date.
- ☐ Complete construction and meet the total phosphorus limits within three (3) years from the effective date.

Part I.G. **Monitoring and Reporting**

1. Reporting

Monitoring results obtained during each calendar month shall be summarized and **reported on Discharge Monitoring Report Form(s) postmarked no later than the 15th day of the following month.**

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

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

The State Agency is:

Massachusetts Department of Environmental Protection
Bureau of Resource Protection
Central Regional Office
627 Main Street
Worcester, MA 01608

Signed and dated Discharge Monitoring Report Forms and toxicity test reports required by this permit shall also be submitted to the State at:

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

Part I.H. State Permit Conditions

This discharge permit is issued jointly by the U. S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (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.

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 this permit or 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 an NPDES permit issued by the U.S. Environmental Protection Agency. In the event this permit or any portion of 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.