

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),

Wrentham Developmental Center

is authorized to discharge from the facility located at

**North Street
Wrentham, Massachusetts 02093**

to receiving water named

Stop River (Charles River Watershed)

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

This permit shall become effective sixty days from the date of 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 29, 2000.

This permit consists of 14 pages in Part I including effluent limitations, monitoring requirements, Attachments A and B, and 35 pages in Part II including General Conditions and Definitions.

Signed this 19th day of January, 2005

/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. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge treated effluent from outfall serial number 001. Such discharge shall be limited and monitored by the permittee as specified below.

<u>Effluent Characteristic</u>	<u>Units</u>	<u>Discharge Limitation</u>			<u>Monitoring Requirement</u>	
		<u>Average Monthly</u>	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow	MGD	0.454 ²	----	----	Continuous	Recorder
BOD ₅	mg/l	5.0	Report	7.0	2/Week ³	24-Hour-Composite ⁵
	lbs/day	19	Report	27	2/Week ³	24-Hour Composite ⁵
TSS	mg/l	5.0	Report	7.0	2/Week ³	24-Hour Composite ⁵
	lbs/day	19	Report	27	2/Week ³	24-Hour Composite ⁵
pH ¹		(See Condition I.A.1.b. on Page 6)			1/Day	Grab
Dissolved Oxygen	mg/l	6 mg/l minimum			1/Day	Grab
Fecal Coliform Bacteria ^{1,6} (March 1 - November 30)	cfu's/100 ml	200	----	400	2/Week	Grab
Total Ammonia Nitrogen, as N (November 1- March 31)	mg/l	7	14	----	1/Week	24-Hour Composite ⁵
	lbs/day	26	53	----	1/Week	24-Hour Composite ⁵
Total Ammonia Nitrogen, as N (April 1- October 31)	mg/l	1	1	2	2/Week	24-Hour Composite ⁵
	lbs/day	4	4	8	2/Week	24-Hour Composite ⁵

<u>Effluent Characteristic</u>	<u>Units</u>	<u>Discharge Limitation</u>			<u>Monitoring Requirement</u>	
		<u>Average Monthly</u>	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Total Kjeldahl Nitrogen	mg/l	Report	----	Report	1/Month	24-Hour Composite ⁵
	lbs/day	Report	----	Report	1/Month	24-Hour Composite ⁵
Total Nitrate	mg/l	Report	----	Report	1/Month	24-Hour Composite ⁵
	lbs/day	Report	----	Report	1/Month	24-Hour Composite ⁵
Total Nitrite	mg/l	Report	----	Report	1/Month	24-Hour Composite ⁵
	lbs/day	Report	----	Report	1/Month	24-Hour Composite ⁵
Copper, Total ⁷	ug/l	4	----	5	1/Month	24-Hour Composite ⁵
Phosphorus, Total (April 1 - October 31)	mg/l	0.2	----	----	2/Week	24-Hour Composite ⁵
Phosphorus, Total (November 1 - March 31)	mg/l	1.0	----	----	1/Week	24-Hour Composite ⁵
LC ₅₀ ⁸	%	----	----	100	4/year ⁹	24-Hour Composite ⁵
Chronic NOEC ¹⁰	%	----	----	>100	4/year ⁹	24-Hour Composite ⁵

All sampling shall be representative of the effluent that is discharged through outfall 001 to the Stop River. 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.

Footnotes:

1. Required for State Certification
2. For flow, report maximum and minimum daily rates and total flow for each operating date. This is an annual average limit, which shall be reported as a rolling average. The first value will be calculated using the monthly average flow for the first full month ending after the effective date of the permit and the eleven previous monthly average flows. Each subsequent month's DMR will report the annual average flow that is calculated from that month and the previous 11 months.
3. Sampling required for influent and effluent.
4. All required effluent samples shall be collected at the point of discharge. Any change in sampling location must be reviewed and approved in writing by EPA and MADEP. 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.
5. A 24-hour composite sample will consist of a least twenty four (24) grab samples taken during one working day. A working day is defined as a 24-hour period, 12 am to 12 am the following day.
6. Fecal coliform will be conducted from March 1 through November 30 only, to reflect the seasonal chlorination period. This is also a State Certification requirement. Fecal coliform discharges shall not exceed a monthly geometric mean of 200 colony forming units (cfu) per 100 ml, nor shall they exceed 400 cfu per 100 ml as a daily maximum.
7. The minimum detection level (ML) for copper is defined as 3.0 ug/l. This value is the minimum detection level for copper using the Furnace Atomic Absorption analytical method. For effluent limitations less than 3.0 ug/l, compliance/non-compliance will be determined based on the ML. Sample results of 3.0 ug/l or less shall be reported as zero on the Discharge Monitoring Report.
9. 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, and the fathead minnow, Pimephales promelas. 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 31th, August 30th 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 th August 31 th November 30 th	<u>Ceriodaphnia dubia</u> (daphnid)	≥ 100%	≥ 100%
		<u>Pimephales promelas</u> (fathead minnow)	≥ 100%	≥ 100%
		See Attachment A		

After submitting a **minimum** of four consecutive sets of WET test results, 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.

10. 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.
11. 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 "100% or greater" limit is defined as a sample which is composed of 100% (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 of 1.0.
12. 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, any time, the permittee may choose to contact EPA-New England directly using the approach outlined in **Attachment A**.

Part I.A. (Continued)

- 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, odor or turbidity 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.
 - f. When the effluent discharged for a period of 90 consecutive days exceeds 80 percent of the designed flow, the permittee shall submit to the permitting authorities a projection of loadings up to the time when the design capacity of the treatment facility will be reached, and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans.
 - g. The results of sampling for any parameter above its required frequency must also be reported.
2. 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.

3. Prohibitions Concerning Interference and Pass-Through:

- 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.

4. 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.

5. Numerical Effluent Limitations for Toxicants

EPA or DEP 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.

B. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from the outfall listed in Part I A.1. of this permit. 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).

C. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

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

1. Maintenance Staff

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

2. Infiltration/Inflow

The permittee shall eliminate excessive infiltration/inflow to the sewer system. If there have been any unauthorized discharges from the collection system during the previous calendar year which were caused by inadequate sewer system capacity, the permittee shall notify EPA and DEP of actions necessary to restore adequate capacity.

3. Alternate Power Source

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

D. BEST MANAGEMENT PRACTICES PLAN (BMP)

The permittee shall review, update and implement the Best Management Practices (BMP) plan to achieve the stated objectives and which conforms to the following requirements:

1. General Conditions

a. General Objectives

The objectives of the BMP plan are to minimize the potential for violations of terms of the permit; to protect the designated water uses of the surrounding surface water bodies, and to mitigate pollution from material storage areas, in-plant transfer, process and material handling areas, loading and unloading operations, plant site runoff, accidental spills, and industrial work areas. Both wet-weather and dry-weather conditions are to be considered in the BMP plan.

b. Implementation

An BMP plan shall be updated within 60 days of the effective date of the permit and available to EPA and the State upon request. The permittee shall have on file a statement that certifies that the BMP plan has been updated and it shall be implemented in accordance with its schedule and requirements. This certification shall be signed in accordance with NPDES General Requirements, Part II.D.2. Implementation of all aspects of the plan shall commence after the effective date of the permit. (see part I.E.3 Implementation Schedule below) unless a later date is approved in writing by the Regional Administrator and the Director.

c. General Requirements

The BMP plan shall:

- (1) Be documented in narrative form, and shall include any necessary plot plans, drawings, or maps.
- (2) Establish specific objectives for the control of toxic and hazardous pollutants.

- (a) Each facility component or system will be examined for its potential for causing a release of significant amounts of toxic and hazardous pollutants to surface waters due to equipment failure, improper operation, natural phenomena such as precipitation, etc.

Locations at which bypasses of the treatment systems may occur as well as projected conditions under which a bypass may be necessary will be submitted.

- (b) Where experience indicates a reasonable potential for equipment failure (e.g. a leakage), natural phenomena (e.g., precipitation), or other circumstances to result in significant amounts of toxic or hazardous pollutants reaching surface waters, the plan shall include a prediction of the direction, rate of flow and total quantity of toxic or hazardous pollutants which could be discharged, from the facility as a result of each condition or circumstances.
- (3) Establish specific best management practices to meet the objectives identified under Part I.E.1.c.(2) of this section, addressing each component of system capable of causing a release of significant amounts of toxic or hazardous pollutants to surface waters. Examples are: specific practices to minimize and/or control the use of bypasses shall be identified, equipment used in industrial work areas such as furniture stripping, metal plating etc.
 - (4) Include any special conditions established in accordance with Part I.E.2 Specific Conditions below.
 - (5) Be reviewed by plant engineering staff and the superintendent.
 - (d) Specific Requirements

The plan shall be consistent with the general guidance contained in the publication entitled "NPDES Best Management Practices Guidance Documents" and shall consider the following baseline BMP's as a minimum:

- (1) BMP Committee
- (2) Report BMP Incidents
- (3) Risk Identification and Assessment
- (4) Employee Training
- (5) Inspections and Records
- (6) Preventive Maintenance
- (7) Good Housekeeping
- (8) Material Compatibility
- (9) Security

- e. Hazardous Water Management

The permittee shall assure the proper management of solid and hazardous waste in accordance with regulations promulgated under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1978 (40 U.S.C. 6901 et seq), or amendments thereto. Management practices required under RCRA regulation shall be referenced in the BMP plan.

f. Documentation

The permittee shall maintain the BMP plan at the facility and shall make the plan available to the Regional Administrator and the Director upon request.

g. BMP Plan Modification

The permittee shall notify in writing to the Regional Administrator and the Director of an amended BMP plan within 30 days of a change in the physical facility or a change in the operational procedures of the facility which materially increases the potential for the ancillary activities to result in a discharge of significant amounts of hazardous or toxic pollutants.

h. Modification for Ineffectiveness

If the BMP proves to be ineffective in achieving the general objective of preventing the release of significant amounts of toxic or hazardous pollutants to surface waters and the specific objectives and requirements under Part I.E.2. herein, the permit and/or the BMP plan shall be subject to modification (40 CFR §122.64 and §122.63) to incorporate revised BMP requirements.

2. Specific Conditions

a. All surface runoff from process or work areas at the facility shall be treated or contained and diverted to the final treatment system. Process or work areas are defined for the permit as all those areas subject to spills and leaks of raw materials or products containing toxic or hazardous substances, i.e. yard areas, industrial work areas etc.

(1) The BMP plan shall specifically address the adequacy of containment of leaks and spills in the storage areas, loading areas, and industrial work areas. Adequate containment must exist at these locations so as to prevent untreated discharges from reaching any surface water.

(2) A schedule for routinely monitoring and cleaning industrial work areas shall be specified in the BMP plan. In addition, the BMP plan shall establish procedures for insuring compliance with part I.E.1 General Conditions and part I.E.2. Specific Conditions during such cleaning or maintenance periods.

(3) The disposal procedures for any rinse waters containing detergents, dispersants, emulsifiers, latex gloves etc. will be addressed in the BMP plan.

3. Implementation Schedule

- a. Construction of any facilities shall begin within 9 months of the effective date of the permit.
- b. All construction required by the BMP plan and these Specific Conditions shall be completed and the facilities placed in operation within 24 months of the effective date of the permit or at a later date as may be approved by the Regional Administrator and the Director.
- c. All aspects of the BMP plan which do not require construction shall be implemented on the submittal date of the BMP plan (90 days after the effective date of the permits). All other requirements and conditions shall be implemented upon completion of the respective construction, or within 24 months of the effective date of the permit or at a later date as may be approved by the Regional Administrator and the Director.
- d. The EPA and the State may comment on the BMP plan. If EPA or the State submit comments, the permittee will be given a written explanation of the exact nature of any problems and a reasonable period of time (usually not to exceed 90 days) to modify the BMP plan addressing those concerns.

4. BMP Reporting Requirements

- a. The permittee shall review and update the BMP plan by November 30 of each year, and it shall be available for EPA and MA DEP to review upon request. The permittee shall have on file, and available for EPA and MA DEP upon request, a report that the BMP plan has been reviewed and updated annually and any changes implemented. This report shall address the adequacy of the BMP plan in achieving the general objective of preventing the release of significant amounts of toxic or hazardous pollutants to surface waters and the specific objectives and requirements under Parts I.E.(1)(c), and (d). In addition it shall also include :
 - (1) A list of fuels, additives and chemicals stored in bulk at the facility.
 - (2) A list of any changes in activities at the facility such as but not limited to changes in a, storm water collection system, treatment and discharge system, and significant physical facility changes.

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 use and comply with the attached compliance guidance document to determine appropriate conditions. See Attachment B. 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 guidance 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. The permittee must be assured that any third party contractor is in compliance with appropriate regulatory requirements. In such case, 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

F. MONITORING AND REPORTING

1. 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 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
Southeast Regional Office
20 Riverside Drive
Lakeville, MA 02347

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 Permits Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608

G. STATE PERMIT CONDITIONS

This Discharge Permit is issued jointly by the U. S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (DEP) 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 MA DEP 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 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 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.