

**NPDES Permit No. MA0102598**

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**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),

**Charles River Pollution Control District (CRPCD)**

is authorized to discharge from the facility located at

66 Village Street  
Medway, Massachusetts

to receiving water named

**Charles River**

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

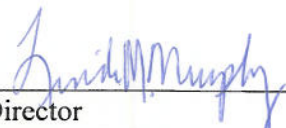
This permit shall become effective sixty days from the date of signature.


This permit and the authorization to discharge expire at midnight, four (4) years from the effective date.

This permit supersedes the permit issued on September 30, 1992 and modified on May 30, 1995.

This permit consists of 12 pages in Part I including effluent limitations, monitoring requirements, Attachments A through D, and 35 pages in Part II including General Conditions and Definitions.

Signed this 24<sup>th</sup> day of September

  
\_\_\_\_\_  
Director  
Office of Ecosystem Protection  
Environmental Protection Agency  
Boston, MA

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

**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	5.70 <sup>2</sup>	----	Report	Continuous <sup>1</sup>	Recorder
Flow (July through September)	MGD	4.50 <sup>2</sup>	----	Report	Continuous <sup>1</sup>	Recorder
CBOD <sub>5</sub> (November 1 to April 30)	mg/l	15	25	Report	3/Week <sup>3</sup>	24-Hour Composite <sup>4</sup>
	lbs/day	570	950	Report	3/Week <sup>3</sup>	24-Hour Composite <sup>4</sup>
CBOD <sub>5</sub> (May 1 to October 31)	mg/l	7	10	Report	5/Week <sup>3,11</sup>	24-Hour Composite <sup>4</sup>
	lbs/day	265	380	Report	5/Week <sup>3, 11</sup>	24-Hour Composite <sup>4</sup>
TSS (November 1 to April 30)	mg/l	15	25	Report	3/Week <sup>3</sup>	24-Hour Composite <sup>4</sup>
	lbs/day	570	950	Report	3/Week <sup>3</sup>	24-Hour Composite <sup>4</sup>
TSS (May 1 to October 31)	mg/l	7	10	Report	5/Week <sup>3, 11</sup>	24-Hour Composite <sup>4</sup>
	lbs/day	265	380	Report	5/Week <sup>3, 11</sup>	24-Hour Composite <sup>4</sup>
pH		(See Condition I.A.1.b. on Page 5)			1/Day	Grab or Meter
Dissolved Oxygen	mg/l	6 mg/l minimum			1/Day	Grab or Meter
Fecal Coliform Bacteria <sup>5</sup> (March 1 - November 30)	cfu's/100 ml	200	----	400	3/Week	Grab
Total Ammonia Nitrogen, as N (November 1 - March 31)	mg/l	Report	----	Report	1/Month	24-Hour Composite <sup>4</sup>
	lbs/day	Report	----	Report	1/Month	

<u>Effluent Characteristic</u>	<u>Units</u>	<u>Discharge Limitation</u>		<u>Monitoring Requirement</u>
Total Ammonia Nitrogen, as N (April 1 - April 30)	mg/l lbs/day	10 380	15 570	20 760
Total Ammonia Nitrogen, as N (May 1 - May 31)	mg/l lbs/day	5 190	7.5 285	10 380
Total Ammonia Nitrogen, as N (June 1 - October 31)	mg/l lbs/day	1.0 38	1.5 57	2.0 76
Copper, Total <sup>7</sup>	ug/l	10		14
Phosphorus, Total (April 1 - October 31)	mg/l	0.2	----	----
Phosphorus (November 1 - March 31)	mg/l	Report	----	----
Aluminum, Total	mg/l	Report	----	----
LC <sub>50</sub> <sup>8</sup>	%	----	----	100
Chronic NOEC <sup>10</sup>	%	----	----	63% or greater

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Footnotes:

1. For flow, report maximum and minimum daily rates and total flow for each operating date.
2. The flow limit is based on an annual average and shall be reported each month. The annual average shall be calculated using the monthly average flow from the reporting month and the monthly average flow from the preceding eleven months.
3. Sampling required for influent and effluent.
4. A 24-hour composite sample will consist of at least twenty four (24) grab samples taken during a twenty-four hour period.
5. Fecal coliform monitoring will be conducted from March 1 through November 30. This is a State certification requirement. The monthly average limit is expressed as a geometric mean.
6. The minimum detection level (ML) for total residual chlorine is defined as 50 ug/l. This value is the minimum detection level for chlorine using EPA approved methods found in Standard Methods for the Examination of Water and Wastes, 20th Edition, Method 4500 CL-E and G, or USEPA Manual of Methods of Analysis of Water and Wastes, Method 330.5. One of these methods must be used to determine total residual chlorine. For effluent limitations less than 50 ug/l, compliance/non-compliance will be determined based on the ML. Sample results of 50 ug/l or less shall be reported as zero on the discharge monitoring report.
7. The minimum detection level (ML) for copper is defined as 5.0 ug/l. This value is the minimum detection level for copper using the Furnace Atomic Absorption analytical method. For effluent limitations less than 5 ug/l, compliance/non-compliance will be determined based on the ML. Sample results of 5 ug/l or less shall be reported as zero on the discharge monitoring report.
8. 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.
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  $LC_{50}$  at the 48 hour exposure interval. The permittee shall test the daphnid, Ceriodaphnia dubia, and fathead minnows, Pimephales promelas. Toxicity test samples shall be collected during the second week of January, April, July, and October. Results are to be submitted by the 30th day of the month after the sample i.e. February, May, August, and November. See Permit Attachment C, Toxicity Test Procedure and Protocol.

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10. The " 65% or greater" limit is defined as a sample which is composed of 65% (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 1.53.
11. Sampling frequency for BOD<sub>5</sub>, TSS, and Ammonia Nitrogen will be 5 times per week between the months of May through October, the warm weather season. If there are no monthly exceedances during the first warm weather season that the facility upgrades are in full operation, the permittee may submit to EPA and MA DEP a written request to reduce the sampling frequency for BOD<sub>5</sub>, TSS and Ammonia Nitrogen during the warm weather season.

**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, unless these values are exceeded due to natural causes or as a result of the approved treatment processes.
  - 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.
  - 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 permittee shall minimize the use of chlorine while maintaining adequate bacterial control.
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

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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.
- b. If, within 30 days after notice of an interference or pass-through violation has been sent by EPA to the POTW, and to persons or groups who have requested such notice, the POTW fails to commence appropriate enforcement action to correct the violation, EPA may take appropriate enforcement action.

**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 outfalls 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).

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A sanitary sewer overflow is an overflow, spill, release or diversion of wastewater from a sanitary sewer that occurs prior to the headworks of the CRPCD treatment plant.

**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. A summary report of all actions taken to minimize infiltration/inflow during the previous calendar year shall be submitted to EPA and the DEP by February 28<sup>th</sup> of each year. This report shall also include a graph of I/I being reduced). 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 also include in this report an evaluation 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).

**4. Chlorination System Report**

Within 3 months of the effective date of the permit, the permittee will submit a report documenting the effectiveness of the chlorination and dechlorination systems. The report will specifically address how flow variability and chlorine demand variability affect compliance with the TRC and fecal coliform limits at all times. Sampling data shall be provided to support conclusions on how hourly and daily flow and chlorine demand variability affects permit compliance. The report will include a description of the chlorination and dechlorination systems and the methods for dosage control. The report will identify all changes necessary to ensure compliance with the TRC and fecal coliform limits at all times, including equipment modifications and upgrades, operational procedures (including calibration procedures and alarm/response procedures), and sampling protocols. The report will include a schedule for implementing all of the necessary changes.

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An annual report shall be submitted on November 30 of each year summarizing all exceedances of the TRC and fecal coliform effluent limits during the previous year, the estimated or measured fecal coliform and chlorine discharge levels during the exceedance, and measures taken to fix the problem and to prevent future occurrences.

**D. PRETREATMENT**

**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.
- b. The permittee shall develop and enforce specific effluent limits (local limits) for Industrial User(s), and all other users, as appropriate, which together with appropriate changes in the POTW Treatment Plant's Facilities or operation, are necessary to ensure continued compliance with the POTW's NPDES permit or sludge use or disposal practices. Specific local limits shall not be developed and enforced without individual notice to persons or groups who have requested such notice and an opportunity to respond. Within (180 days of the effective date of this permit), the permittee shall prepare and submit a written technical evaluation to the EPA analyzing the need to revise local limits. As part of this evaluation, the permittee shall assess how the POTW performs with respect to influent and effluent of pollutants, water quality concerns, sludge quality, sludge processing concerns/inhibition, biomonitoring results, activated sludge inhibition, worker health and safety and collection system concerns. In preparing this evaluation, the permittee shall complete and submit the attached form (Attachment B) with the technical evaluation to assist in determining whether existing local limits need to be revised. Justifications and conclusions should be based on actual plant data if available and should be included in the report. Should the evaluation reveal the need to revise local limits, the permittee shall complete the revisions within 120 days of notification by EPA and submit the revisions to EPA for approval. The Permittee shall carry out the local limits revisions in accordance with EPA Guidance Manual for the Development and Implementation of Local Discharge Limitations Under the Pretreatment Program (December, 1987).

**2. Industrial Pretreatment Program**

- a. The permittee shall implement the Industrial Pretreatment Program in accordance with the legal authorities, policies, procedures, and financial provisions described in the permittee's approved Pretreatment Program, and the General Pretreatment Regulations, 40 CFR 403. At a minimum, the permittee must perform the following duties to properly implement the Industrial Pretreatment Program (IPP):

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1. Carry out inspection, surveillance, and monitoring procedures which will determine, independent of information supplied by the industrial user, whether the industrial user is in compliance with the Pretreatment Standards. At a minimum, all significant industrial users shall be sampled and inspected at the frequency established in the approved IPP but in no case less than once per year and maintain adequate records.
  2. Issue or renew all necessary industrial user control mechanisms within 90 days of their expiration date or within 180 days after the industry has been determined to be a significant industrial user.
  3. Obtain appropriate remedies for noncompliance by any industrial user with any pretreatment standard and/or requirement.
  4. Maintain an adequate revenue structure for continued implementation of the Pretreatment Program.
- b. The permittee shall provide the EPA (and States) with an annual report describing the permittee's pretreatment program activities for the twelve month period ending 60 days prior to the due date in accordance with 403.12(i). The annual report shall be consistent with the format described in Attachment A of this permit and shall be submitted no later than September 1 of each year.
- c. The permittee must obtain approval from EPA prior to making any significant changes to the industrial pretreatment program in accordance with 40 CFR 403.18(c).
- d. The permittee must assure that applicable National Categorical Pretreatment Standards are met by all categorical industrial users of the POTW. These standards are published in the Federal Regulations at 40 CFR 405 et. seq.

**E. SLUDGE CONDITIONS**

1. The permittee shall comply with all existing federal & 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

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- 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 (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 (see Attachment D) to 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 guidance. Reports are due annually by February 19. Reports shall be submitted to the address contained in the reporting section of the permit.

**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

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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  
Central Regional Office  
Bureau of Resource Protection  
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

**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 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.

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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.