

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 Water Resources Authority

is authorized to discharge from the facility located at:

**Clinton Wastewater Treatment Plant
677 High Street
Clinton, MA 01510**

to receiving water named:

South Branch Nashua River (Class B Warm Water Fishery)

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

The Town Clinton and the Lancaster Sewer District are co-permittees for Part D., Operation and Maintenance, which include conditions regarding the operation and maintenance of the collection systems owned and operated by the Towns; and Part E., Unauthorized Discharges. The responsible Town Departments are:

**Town of Clinton
Department of Public Works
242 Church Street
Clinton, MA 01510**

**Lancaster Sewer District
P.O. Box 773
226 Main Street
South Lancaster, MA 01561**

This permit shall become effective on the date of signature if no comments are received during public notice. If comments are received during public notice, this permit will become effective on the first day of the calendar month following sixty (60) days after the date of 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 permit issued on September 27, 2000.

This permit consists of Part I including effluent limitations and monitoring requirements, Part II including General Conditions and Definitions, Attachment A. Revised Freshwater Acute Toxicity Test Procedures and Protocol, Attachment B. Alternate Dilution Water Guidance, Attachment C. Reassessment of Technically Based Industrial Discharge Limits, Attachment D. Industrial Pretreatment Program Annual Report, Attachment E. Sludge Compliance Guidance, and Attachment F. Summary of Required Report Submittals.

Signed this day of

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. Outfall 001

a. 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 South Branch of the Nashua River. Such discharge shall be limited and monitored by the permittee as specified below.

EFFLUENT CHARACTERISTIC	EFFLUENT LIMITS						MONITORING REQUIREMENTS	
	Mass Limits			Concentration Limits				
PARAMETER	AVERAGE MONTHLY	AVERAGE WEEKLY	MAXIMUM DAILY	AVERAGE MONTHLY	AVERAGE WEEKLY	MAXIMUM DAILY	MEASUREMENT FREQUENCY	SAMPLE TYPE ³
FLOW ¹	***	***	***	Report MGD	***	Report MGD	CONTINUOUS	RECORDER
FLOW – Rolling Average ²	***	***	***	3.01 MGD	***	***	CONTINUOUS	RECORDER
BOD ₅ ^{4,5}	500 lbs/Day	500 lbs/Day	Report	20 mg/l	20 mg/l	Report mg/l	3/WEEK	24-HOUR COMPOSITE ⁵
TSS ^{4,5}	500 lbs/Day	500 lbs/Day	Report	20 mg/l	20 mg/l	Report mg/l	3/WEEK	24-HOUR COMPOSITE ⁵
pH RANGE ⁶	6.5 – 8.3 SU SEE PERMIT PAGE 6 OF 13, PARAGRAPH I.A.1.b.						1/DAY	GRAB
DISSOLVED OXYGEN	***	***	***	6.0 mg/l minimum			2/DAY	GRAB
E. COLI ⁷	***	***	***	126 cfu/100 ml	***	409 cfu/100 ml	1/DAY	GRAB
TOTAL RESIDUAL CHLORINE ^{7,8,9}	***	***	***	17.6 µg/l	***	30.4 µg/l	2/DAY	GRAB
TOTAL PHOSPHORUS ^{5,10,11,12,13,14}								
(April 1- October 31)	3.8 lbs/Day	***	***	150 µg/l	***	Report µg/l	3/WEEK	24-HOUR COMPOSITE ⁵
(November 1 – March 31)	25.1 lbs/Day	***	***	1000 µg/l		Report µg/l	1/WEEK	24-HOUR COMPOSITE ⁵

EFFLUENT CHARACTERISTIC	EFFLUENT LIMITS		MONITORING REQUIREMENT	
	AVERAGE MONTHLY	MAXIMUM DAILY	MEASUREMENT FREQUENCY	SAMPLE TYPE ³
ORTHOPHOSPHORUS, DISSOLVED ^{5, 13, 14} (November 1 – March 31)	Report	Report	2/WEEK	24-HOUR COMPOSITE
TOTAL AMMONIA, as N ⁵ (April 1 – April 30) (May 1 – May 31) (June 1 – October 31) (November 1 – March 31)	10 mg/l 5 mg/l 2 mg/l 10 mg/l	Report mg/l Report mg/l 3.0 mg/l 35.2 mg/l	1/WEEK 1/WEEK 3/WEEK 1/WEEK	24-HOUR COMPOSITE
TOTAL ALUMINUM ^{5, 14}	Report ug/l	Report µg/l	2/WEEK	24-HOUR COMPOSITE
TOTAL COPPER ⁵	9.5 µg/l	14.0 µg/l	1/WEEK	24-HOUR COMPOSITE
WHOLE EFFLUENT TOXICITY ^{15, 16, 17, 18, 19, 20} LC50 CHRONIC NOEC Hardness Alkalinity pH Specific Conductance Total Solids Ammonia Total Organic Carbon Total Residual Chlorine Dissolved Oxygen Total Cadmium Total Chromium Total Lead Total Copper Total Zinc Total Nickel Total Aluminum Total Magnesium Total Calcium	*** *** Report mg/l Report mg/l Report S.U. Report µmhos/cm Report mg/l Report mg/l Report mg/l Report µg/l Report µg/l	>100% 62.5 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***	4/YEAR	GRAB

Footnotes:

- 1) The monthly average and maximum daily flows for each month shall be reported. An attachment reporting total flow and precipitation for each date shall be included with the DMRs.
- 2) 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) Effluent samples shall be taken after appropriate treatment and prior to discharge to Outfall 001. All sampling shall be representative of the effluent that is discharged through Outfall 001 to the South Branch of the Nashua River. A routine sampling program shall be developed in which samples are taken at the same location, same time and same day(s) 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. In addition, all samples shall be analyzed using the analytical methods found in 40 CFR §136, or alternative methods approved by EPA in accordance with the procedures in 40 CFR §136.
- 4) Sampling required for influent and effluent.
- 5) A 24-hour composite sample will consist of at least twenty four (24) grab samples, flow proportional, taken for a consecutive 24 hour period (e.g. 0700 Monday - 0700 Tuesday).
- 6) Required for State Certification.
- 7) Fecal coliform bacteria and total residual chlorine limits and monitoring requirements are in effect year round. The average monthly limit for *E. coli* is expressed as the geometric mean. The samples for *E. coli* shall be taken at the same time as a sample for chlorine.
- 8) Chlorination and dechlorination systems shall include an alarm system for indicating system interruptions or malfunctions. Any interruption or malfunction of the chlorine or dechlorination dosing system that may have resulted in levels of chlorine that were inadequate for achieving effective disinfection or interruptions or malfunctions of the dechlorination system that may have resulted in excessive levels of chlorine in the final effluent shall be reported with the monthly DMRs. The report shall include the date and time of the interruption or malfunction, the nature of the problem, and the estimated amount of time that the reduced levels of chlorine or dechlorination chemicals occurred.
- 9) For every day that more than one chlorine grab sample is analyzed, the monthly DMR shall include an attachment documenting the individual grab sample results for that day, the date and time of each sample, the analytical method, and a summary of any operational modifications implemented in response to the sample results. This requirement applies to all samples taken, including screening level and process

control samples. All test results utilizing an EPA approved analytical method shall be used in the calculation and reporting of the monthly average and maximum daily discharge values submitted on the DMR.

- 10) For the first four years that this permit is in effect, the permittee shall achieve the following total phosphorus limitations from April 1st - October 31st while working towards achieving compliance with the new 0.15 mg/l seasonal total phosphorus limitation (see Part I.B. of this permit, Schedule of Compliance): 1,000 ug/l average monthly and report maximum daily.
- 11) The 150 µg/l total phosphorus limit is a monthly average limit and applies for the period of April 1st - October 31st. In addition, the maximum daily value must be reported for each month.
- 12) The 1,000 µg/l limit is a monthly average limit and applies for the period of November 1st-March 31st. The monthly average and maximum daily values shall be reported on each month's discharge monitoring report. These permit limits may be modified, subject to public notice and comment, based upon revisions to the water quality standards, compliance with the requirements of a Total Maximum Daily Load (TMDL), or upon a demonstration that an alternative permit limit will achieve water quality standards and the goals of the Clean Water Act.
- 13) The maximum daily concentration and loading values reports for dissolved orthophosphorus shall be values from the same day that the maximum daily total phosphorus concentration were measured.
- 14) The aluminum samples shall be collected concurrently with the phosphorus and ortho-phosphorus samples.
- 15) The permittee shall conduct chronic (and modified acute) toxicity tests four (4) times per year using a single species, the daphnid, Ceriodaphnia dubia. The chronic test may be used to calculate the acute LC₅₀ at the 48 hour exposure interval. Toxicity test samples shall be collected during the months of March, June, September and December. The test results shall be submitted by the last day of the month following the completion of the test. The results are due by April 30, July 31, October 31 and January 31, respectively. The tests must be performed in accordance with test procedures and protocols specified in **Attachment A** of this permit.
- 16) Each toxicity test report shall include a map or GPS coordinates of discharge location and receiving water sample location.
- 17) 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.
- 18) 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 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 "62.5 or greater"

limit is defined as a sample which is composed of 62.5% (or greater) effluent, the remainder being dilution water. This is a maximum daily limit.

- 19) 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 B, Section IV., DILUTION WATER** to obtain permission to use an alternate dilution water. In lieu of individual approvals for alternate dilution water required in **Attachment B**, 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 B**. However, at any time, the permittee may choose to contact EPA-New England directly using the approach outlined in **Attachment B**.

- 20) The permittee must continue to run the required sets of controls including chemistry on site water controls and lab water controls when utilizing alternative dilution water as detailed in **Attachment B**.

Part I. A. Standard Conditions (continued)

2. The discharge shall not cause a violation of the water quality standards of the receiving waters.
3. The pH of the effluent shall neither be less than 6.5 nor greater than 8.3 and not more than 0.5 units outside of the natural background range. There shall be no change from natural background conditions that would impair any use assigned to this water as a Class B Water.
4. The discharge shall not cause objectionable discoloration of the receiving waters.
5. The effluent shall not contain a visible oil sheen, foam, or floating solids at any time.
6. 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.
7. The results of sampling for any parameter above its required frequency must also be reported.
8. All Publicly Owned Treatment Works (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:
 - d. The quantity and quality of effluent introduced into the POTW; and

- e. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

9. Prohibitions Concerning Interference and Pass Through:

- a. Pollutants introduced into POTWs 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.

10. 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.

11. 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.

B. COMPLIANCE SCHEDULE

1. 150 ug/l Total Phosphorus Limitation (April 1st - October 31st)

This limit shall be achieved in accordance with the following schedule:

- a. Complete conceptual design of necessary upgrades no later than twelve months from the effective date of the permit.
- b. Complete plans and specifications for necessary upgrades no later than twenty-four months from the effective date of the permit.
- c. Start construction of necessary upgrades and submit a status report to EPA no later than thirty-six months from the effective date of the permit.
- d. Complete construction of necessary upgrades and attain compliance with the April 1st - October 31st final effluent limits for total phosphorus no later than forty-eight months from the effective date of the permit.
- e. During this four-year period, the following total phosphorus limitations shall be met from April 1st – October 31st: 1.0 mg/l average monthly. The permittee shall monitor the total

phosphorus concentration in the discharge at the frequency specified in A.1.a. of this permit.

2. 1,000 ug/l Total Phosphorus Limitation (November 1st - March 31st)

The 1,000 ug/l total phosphorus limit for the winter period (November 1st - March 31st) shall become effective one year from the effective date of the permit. Specifically, the permittee shall report the average monthly and maximum daily total phosphorus concentrations in the discharge for the first winter period following the effective date of the permit while working towards meeting this new limitation.

C. INDUSTRIAL PRETREATMENT PROGRAM

1. Pollutants introduced into POTWs by a non-domestic source (user) shall not pass through the POTW or interfere with the operation or performance of the works.
2. 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.
3. **Within 120 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 C**) 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's Local Limit Development Guidance (July 2004).

4. 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):
 - a. 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.

- b. 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.
 - c. Obtain appropriate remedies for noncompliance by any industrial user with any pretreatment standard and/or requirement.
 - d. Maintain an adequate revenue structure for continued implementation of the Pretreatment Program.
5. The permittee shall provide the EPA (and State) with an annual report describing the permittee's pretreatment program activities for the previous pretreatment program reporting year in accordance with 403.12(i). The annual report shall be consistent with the format described in **Attachment D** of this permit and shall be submitted **no later than October 31 of each year**.
 6. 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.
 7. 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.
 8. The permittee must modify its pretreatment program, if necessary, to conform to all changes in the Federal Regulations that pertain to the implementation and enforcement of the industrial pretreatment program. The permittee must provide EPA, in writing, within 180 days of this permit's effective date proposed changes, if applicable, to the permittee's pretreatment program deemed necessary to assure conformity with current Federal Regulations. At a minimum, the permittee must address in its written submission the following areas: (1) enforcement response plan; (2) revised sewer use ordinances; and (3) slug control evaluations. The permittee will implement these proposed changes pending EPA Region 1's approval under 40 CFR 403.18. This submission is separate and distinct from any local limits analysis submission described in Part I.B.3.

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:

1. Maintenance Staff

The permittee and co-permittees 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. Preventative Maintenance Program

The permittee and co-permittees 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.

3. Infiltration/Inflow Control:

Each permittee (MWRA, the Town of Clinton, and the Lancaster Sewer District) shall develop and implement a plan to control infiltration and inflow (I/I) to the separate sewer system. This plan shall be submitted to EPA and MassDEP within 6 months of the effective date of this permit and shall describe the permittee's program for reducing infiltration/inflow and all unauthorized discharges of wastewater, including overflows and by-passes due to excessive infiltration/inflow.

4. Alternate Power Source

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

5. Reporting Requirements:

The permittee and co-permittees shall each submit a summary report of all actions taken to minimize I/I during the previous calendar year to EPA and the MassDEP annually, **by March 31**. The summary report shall, at a minimum, include:

- a. A map and a description of inspection and maintenance activities conducted and corrective actions taken during the previous year.
- b. Expenditures for any infiltration/inflow related maintenance activities and corrective actions taken during the previous year.
- c. A map with areas identified for I/I-related investigation/action in the coming year.
- d. A calculation of the annual average I/I and the maximum month I/I for the reporting year.
- e. A report of any infiltration/inflow related corrective actions taken as a result of unauthorized discharges reported pursuant to 314 CMR 3.19(20) and reported pursuant to the Unauthorized Discharges section of this permit.

E. UNAUTHORIZED DISCHARGES

The permittee and co-permittees are 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).

F. 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 (**Attachment E**) to determine appropriate conditions. Appropriate conditions contain the following elements.
 - a. General requirements
 - b. Pollutant limitations
 - c. Operational Standards (pathogen reduction requirements and vector attraction reduction requirements)
 - d. Management practices
 - e. Record keeping
 - f. Monitoring
 - g. 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
 - a. less than 290 1/year
 - b. 290 to less than 1500 1/quarter
 - c. 1500 to less than 15000 6/year
 - d. 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 of each year**. 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:

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

G. MONITORING AND REPORTING

1. For a period of one year from the effective date of the permit, the permittee may either submit monitoring data and other reports to EPA in hard copy form or report electronically using NetDMR, a web-based tool that allows permittees to electronically submit discharge monitoring reports (DMRs) and other required reports via a secure internet connection. Beginning no later than one year after the effective date of the permit, the permittee shall begin reporting using NetDMR, unless the facility is able to demonstrate a reasonable basis that precludes the use of NetDMR for submitting DMRs and reports. Specific requirements regarding submittal of data and reports in hard copy form and for submittal using NetDMR are described below.

2. Submittal of Reports Using NetDMR

NetDMR is accessed from: <http://www.epa.gov/netdmr>. **Within one year of the effective date of this permit**, the permittee shall begin submitting DMRs and reports required under this permit electronically to EPA using NetDMR, unless the facility is able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes the use of NetDMR for submitting DMRs and reports (“opt-out request”).

DMRs shall be submitted electronically to EPA no later than the 15th day of the month following the completed reporting period. All reports required under the permit shall be submitted to EPA, including the MassDEP Monthly Operations and Maintenance Report, as an electronic attachment to the DMR. Once a permittee begins submitting reports using NetDMR, it will no longer be required to submit hard copies of DMRs or other reports to EPA and will no longer be required to submit hard copies of DMRs to MassDEP. However, permittees shall continue to send hard copies of reports other than DMRs (including Monthly Operation and Maintenance Reports) to MassDEP until further notice from MassDEP.

3. Submittal of NetDMR Opt-Out Requests

Opt-out requests must be submitted in writing to EPA for written approval at least sixty (60) days prior to the date a facility would be required under this permit to begin using NetDMR. This demonstration shall be valid for twelve (12) months from the date of EPA approval and shall thereupon expire. At such time, DMRs and reports shall be submitted electronically to EPA unless the permittee submits a renewed opt-out request and such request is approved by EPA. All opt-out requests should be sent to the following addresses:

Attn: NetDMR Coordinator
U.S. Environmental Protection Agency, Water Technical Unit
5 Post Office Square, Suite 100 (OES04-4)
Boston, MA 02109-3912

And

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

4. Submittal of Reports in Hard Copy Form

Monitoring results shall be summarized for each calendar month and reported on separate hard copy Discharge Monitoring Report Form(s) (DMRs) postmarked no later than the 15th day of the month following the completed reporting period. All reports required under this permit, including MassDEP Monthly Operation and Maintenance Reports, shall be submitted as an attachment to the DMRs. Signed and dated originals of the DMRs, and all other reports or notifications required herein or in Part II shall be submitted to the Director at the following address:

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

Duplicate signed copies of all reports or notifications required above shall be submitted to the State at the following addresses:

**MassDEP – Central Region
Bureau of Resource Protection
627 Main Street
Worcester, MA 01608**

And

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

Any verbal reports, if required in Parts I and/or II of this permit, shall be made to both EPA-New England and to MassDEP.

H. 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.
2. This authorization also incorporates the state water quality certification issued by MassDEP under § 401(a) of the Federal Clean Water Act, 40 C.F.R. 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.

Attachment B.

Alternate Dilution Water Guidance

ATTACHMENT G

NPDES Whole Effluent Toxicity Testing, Monitoring and Reporting

This guidance is intended to promote compliance and enhance program efficiency and effectiveness. This is not intended to, nor does it, constitute rulemaking by EPA and may not be relied upon to create a right or a benefit, substantive or procedural, enforceable at law or in equity, by any person. This document was prepared for NPDES Permittees to: (1) clarify Whole Effluent Toxicity (WET) testing, monitoring and reporting requirements; (2) provide guidance; and (3) provide a list of EPA contacts available to answer questions.

TIPS:

1. NPDES Permit Requirements

The sampling location, sample type, test frequency, test species, monitoring period, and reporting requirements are specified in Part I (and ATTACHMENTS) of the NPDES Permit. Read the NPDES Permit carefully. Permittees and analytical laboratories must adhere to Permit requirements and test protocols. The Permittee is responsible for data quality, data integrity and NPDES reporting. EPA recommends that the Permittee provide its testing laboratory with a copy of the entire NPDES Permit (i.e., Part I and ATTACHMENTS, and Part II "General Conditions") and any subsequent modifications together with any alternate dilution water authorization letters. Mistakes have been made in the past that could have been avoided if the bioassay laboratory had a copy of these documents.

2. WET Tests Data Quality and Reporting

Carefully review bioassay test results and be sure that the data are valid (i.e., the minimum test requirements, test review requirements and test acceptability criteria (TAC) are met for EPA's standard and EPA-New England protocol) and are correctly reported on the DMR.

3. WET Test Scheduling

Laboratories have scheduled WET tests using test organisms that are at or near the oldest acceptable age at test start. If this is done and there is a delay in sample delivery, the test organisms may be too old for use in the bioassay test when the sample arrives. This could create some scheduling difficulties or could require a contingency plan that includes a secondary emergency source of test organisms. It is suggested that Permittees ask whether laboratories have contingency plans for such situations.

GUIDANCE:

4. WET Guidelines and Methods Manuals

Guidelines Establishing Test Procedures for the Analysis of Pollutants; Whole Effluent Toxicity Test Methods; Final Rule (Federal Register: November 19, 2002, Volume 67, Number 223, Rules and Regulations pp. 69951-69972)

The most current methods manuals, posted at Web address www.epa.gov/waterscience/WET/, are as follows:

- a. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, October 2002, EPA-821-R-02-012;
- b. Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, Fourth Edition, October 2002, EPA-821-R-02-013;
- c. Short-Term Methods for Estimating Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition, October 2002, EPA-821-R-02-014; and
- d. Standard Methods for the Examination of Water and Wastewater, 21st Edition, 2005.

5. WET Monitoring and Reporting

EPA rejects WET test reports that do not follow Permit requirements, applicable protocols, and meet all minimum criteria for acceptability and variability of test results, and requires tests to be repeated until valid results are obtained. Results, valid or otherwise, must be submitted by the date specified in Part I of the NPDES Permit even if the test has to be repeated. Therefore, EPA recommends that sampling and testing be initiated early in the monitoring period prescribed by the Permit.

If a valid WET test is not completed by the reporting deadline, the Permittee must report the invalid test using the proper code on the DMR; the code is "H." The cover letter must explain the monitoring and reporting violation and indicate when the test will be repeated. A corrected DMR must be resubmitted once valid data are available, and the entire report submitted as required by the Permit. The report shall include, among other things, bench sheets to document that there was an invalid test and that the test was repeated.

6. Sample Dechlorination

The total residual chlorine concentration of the discharge sample shall be measured and, if detected, the sample shall be dechlorinated in the laboratory prior to WET testing in accordance with Standard Methods for the Examination of Water and Wastewater, 21st Edition, 2005 (see also Section VI, Region I Protocol). The total residual chlorine concentration of the discharge sample

must be reported and the dechlorination method described. When the sample is dechlorinated in the laboratory, an additional thiosulfate control (with the maximum amount of thiosulfate in the lab control or the receiving water control) must also be run. This information must also be included in the report.

7. Sample Hold Time

Sample hold time must be consistent with that specified by test protocol. The holding times for the initial use of original or renewal sample is less than **24 hours** for on-site tests and less than **36 hours** for off-site tests as specified in the protocols unless a waiver is obtained in writing from EPA. In isolated cases where the test cannot be started within 36 hours of sample collection, data must be submitted to EPA and the State to demonstrate that the effluent toxicity of a sample is not reduced by extending the holding time beyond 36 hours. Subsequent to initial use of the original or renewal sample, samples may be used for test renewal at 24, 48 and 72 hours.

8. Salinity Adjustment of the Effluent Sample

The Region's test protocols require the use of sea salts for salinity adjustment in every case.

9. Age of the Test Organisms

The protocols specify what the age of the test organism must be at test initiation. Evidence to verify test organism age must be included in each report.

10. Raw Data and Bench Sheets

Raw data and bench sheets must be included in the full report.

11. Report Integrity and DMR Accuracy

WET test data summary tables must be consistent with the report text, data analyses, bench sheets; and DMRs. Report integrity and DMR accuracy are crucial, and are the responsibility of the Permittee.

12. Data Analyses

Flow charts in the EPA acute and chronic WET test manuals must be followed so that the correct analyses are performed. Statistical program printouts and graphical displays (e.g. NOEC and LC50 calculations, etc.) must be submitted.

13. Chronic Ceriodaphnia dubia Survival and Reproduction Test

The duration of the chronic Ceriodaphnia dubia survival and reproduction test must not exceed **eight** days. The minimum acceptability criteria for each test is measured and documented for all test controls. Offspring from the fourth or higher broods must not be included with test results. (See EPA-821-R-02-013, October 2002, p. 161.)

14. Document Ongoing Laboratory Performance

As part of an in-house Quality Assurance program, each laboratory must perform reference toxicant tests on the test organisms it uses and must analyze the data

for the reported test endpoints. Reference toxicant testing must be performed monthly, or concurrently depending on test frequency, for each test endpoint, in accordance with the EPA Methods Manual. Reference toxicity tests are to be performed and interpreted according to the referenced EPA Method Manuals. (See EPA-821-R-02-013, Section 4.16.1, p. 15.) Reference toxicity test results and applicable control charts must be included in every report.

In the case where a reference toxicity test is performed concurrently with an effluent or receiving water test and the reference toxicity test results fall slightly outside the control limits established by the laboratory for the test endpoint and the primary test meets the test acceptability criteria, the primary test will be considered "conditionally" acceptable. However, if the results of a concurrently run reference toxicity test fall well outside the established upper control limits, the primary test will be considered unacceptable and must be repeated immediately. (See EPA-821-R-02-013, Section 4.16).

15. Sampling Methods, Holding Times, and Preservation Techniques

All sampling methods, holding times and preservation techniques must be consistent with 40 C.F.R. Parts 122 and 136. Note that EPA-approved test methods require that samples collected for metals analyses be preserved immediately after collection.

16. Dilution Water

The objective of the WET test is to estimate the toxicity of the effluent in uncontaminated receiving water. Ideally, a grab sample of receiving water must be collected immediately upstream and outside of the influence of the outfall for use as dilution water in the tests.

17. Alternate Dilution Water

EPA-New England has adopted a **species-specific, self-implementing policy** for switching to alternate dilution water use in WET tests where the receiving water is documented to be toxic or unreliable. The policy authorizes alternate dilution water use in the following two cases:

- (1) when a WET test is repeated due to site water toxicity; and
- (2) in future WET tests where there are two recent documented incidents of site water toxicity associated with a particular test species. The details of EPA-New England's species-specific, self-implementing policy is provided below.

Case (1): EPA-New England authorizes the use of an alternate dilution water for any WET test repeated due to site water toxicity. Additionally:

- The test must be repeated during the monitoring period specified by the Permit.
- The selected alternate dilution water must have characteristics such as hardness similar to those of the receiving water, and not produce a toxic response.
- A receiving water control must be run in alternate dilution water tests.
- A complete WET test report must be submitted as required by the Permit.

- If the retest documents that the receiving water controls met the TAC, receiving water must be used as diluent in future WET tests.
- If the receiving water controls of the retest failed to meet the TAC, an alternate dilution water may be used in future WET tests using that test organism only after the Permittee submits a written request to EPA and receives written authorization from EPA. (See Case (2) below.)

Case (2): Before an alternate dilution water is used in future WET tests, the Permittee must submit a notification letter to EPA of species-specific, site water toxicity. The notification letter shall be sent to the following EPA addresses:

Director
Office of Ecosystem Protection (CAA)
U.S. Environmental Protection Agency
One Congress Street, Suite 1100
Boston, MA 02114-2023

and

Manager
Water Technical Unit (SEW)
U.S. Environmental Protection Agency
One Congress Street, Suite 1100
Boston, MA 02114-2023

The letter must include:

1. WET data documenting the two recent incidents of site water toxicity to a test species;
2. Information on the alternate dilution water selected for future WET tests including hardness data and a comparison to the receiving water chemistry; and
3. A list of the controls (e.g., site water control, alternate dilution water control, laboratory culture water control, thiosulfate control) that will be run in future WET tests.

Then, EPA-New England will respond in writing to authorize or to deny the use of alternate dilution water in future WET tests. When EPA-New England authorizes the use of an alternate dilution water in future WET tests, it is for the duration of the life of the Permit. At a minimum, EPA will review alternate dilution water authorizations during Permit reissuance.

EPA reserves the right to revoke this guidance at any time and may immediately require the Permittee to use site water as diluent as EPA deems necessary. Such a determination will be provided in writing to the Permittee.

18. Site Water Controls in Alternate Dilution Water Tests

Alternate dilution water WET tests shall be run with a minimum of two controls; a site water control and a toxic free alternate dilution water control. Additional controls such as a laboratory culture control or a thiosulfate control must also be run, if necessary. Chemical data of the receiving water and dilution water samples must be included in the report.

19. Use of Control Data

When performing statistical analyses, the dilution water control, whether synthetic alternate dilution water or receiving water, must be used for data comparison.

In alternate dilution water tests, the receiving water control results are "report only" data.

If an alternate dilution water control, the thiosulfate control or the lab culture water control fail to meet the minimum TAC, the toxicity test must be repeated using a fresh sample.

20. Test Results Review

Toxicity test controls must meet the minimum test acceptability criteria. Additionally, WET test results are reviewed as follows:

a. Concentration-Response Relationship

The WET data concentration-response relationship is reviewed, and Hypothesis Testing and Point Estimate techniques are used to determine test endpoints. A dose-response review must be performed according to Section 10.2.6 of EPA-821-R-02-013 (for freshwater tests) or Section 10.2.6. of EPA-821-R-02-014 (for marine tests) to support the reported test endpoint values and to evaluate the reliability of the WET test results. In most cases, the review will draw 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 a fresh sample is required.

b. Test Variability

The within-test variability must be evaluated to determine test sensitivity which is a required part of the chronic WET test review. This review is only applicable to the sub-lethal test endpoints such as growth and reproduction that were determined using hypothesis testing. The test sensitivity evaluation is done by examining the calculated Percent Minimum Significant Difference (PMSD).

The PMSD is calculated for test endpoints which was determined using parametric statistical analysis techniques. For cases where a NOEC was determined using non-parametric technique, the PMSD is only calculated to determine test variability and is calculated using a comparable,

parametric statistical analysis technique. As a final step in the evaluation, the calculated PMSD is compared to the upper and lower PMSD bounds shown for freshwater tests in Table 6 of EPA-821-R-02-013, Section 10.2.8.3, p. 52, and for marine tests in Table 6 of EPA-821-R-02-014, Section 10.2.8.3., p. 54.

- 1.) If the PMSD exceeds the upper bound test variability criterion of Table 6, the test results are considered too highly variable to determine the WET of the discharge at the permitted receiving water concentration (RWC). If the test results indicate that the discharge is not toxic at the RWC, then the test is considered insufficiently sensitive and must be repeated using fresh samples. If the test results indicate that the discharge is toxic at the RWC, the results are considered acceptable and the test does not have to be repeated.
- 2.) If the PMSD falls below the lower bound test variability criterion of Table 6, the test is highly sensitive, and the percent relative difference (PRD) between the control and each concentration must be calculated and compared to the lower PMSD boundary. If the PRD for the concentration falls below the lower bound, the difference is considered statistically insignificant. If the PRD for the concentration is above the lower bound, then the concentration is considered statistically significant. (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.)
- 3.) When PMSDs fall within the upper and lower bounds of Table 6, the sub-lethal test endpoint determinations shall be reported.

21. Sign and Certify Each WET Report

Under 40 C.F.R. §122.41(k), each WET test report submitted to the EPA shall be signed and certified by a person described below or by a duly authorized representative of that person in accordance with 40 C.F.R. §122.22(b)-(d):

- (1) for a corporation, by a responsible corporate officer;
- (2) for a partnership or sole proprietorship, by a general partner or the proprietor, respectively; and
- (3) for a municipality, State, Federal or other public agency, the principal executive officer or ranking elected official.

The Permittee is responsible for the data quality that it reports to EPA. When a report is signed and certified, it documents that the NPDES Permittee is certain that the WET test data submitted meet the Permit requirements for testing and reporting. Please include the following certification statement of 40 C.F.R. §122.22(d) in every report:

Attachment D.

Industrial Pretreatment Program Annual Report

NPDES PERMIT REQUIREMENT
FOR
INDUSTRIAL PRETREATMENT ANNUAL REPORT

The information described below shall be included in the pretreatment program annual reports:

1. An updated list of all industrial users by category, as set forth in 40 C.F.R. 403.8(f)(2)(i), indicating compliance or noncompliance with the following:
 - baseline monitoring reporting requirements for newly promulgated industries
 - compliance status reporting requirements for newly promulgated industries
 - periodic (semi-annual) monitoring reporting requirements,
 - categorical standards, and
 - local limits;
2. A summary of compliance and enforcement activities during the preceding year, including the number of:
 - significant industrial users inspected by POTW (include inspection dates for each industrial user),
 - significant industrial users sampled by POTW (include sampling dates for each industrial user),
 - compliance schedules issued (include list of subject users),
 - written notices of violations issued (include list of subject users),
 - administrative orders issued (include list of subject users),
 - criminal or civil suits filed (include list of subject users) and,
 - penalties obtained (include list of subject users and penalty amounts);
3. A list of significantly violating industries required to be published in a local newspaper in accordance with 40 C.F.R. 403.8(f)(2)(vii);
4. A narrative description of program effectiveness including present and proposed changes to the program, such as funding, staffing, ordinances, regulations, rules and/or statutory authority;
5. A summary of all pollutant analytical results for influent, effluent, sludge and any toxicity or bioassay data from the wastewater treatment facility. The summary shall include a comparison of influent sampling results versus threshold inhibitory concentrations for the Wastewater Treatment System and effluent sampling results versus water quality standards. Such a comparison shall be based on the sampling program described in the paragraph below or any similar sampling program described in this Permit.

At a minimum, annual sampling and analysis of the influent and effluent of the Wastewater Treatment Plant shall be conducted for the following pollutants:

- | | |
|--------------------|-------------------|
| a.) Total Cadmium | f.) Total Nickel |
| b.) Total Chromium | g.) Total Silver |
| c.) Total Copper | h.) Total Zinc |
| d.) Total Lead | i.) Total Cyanide |
| e.) Total Mercury | j.) Total Arsenic |

The sampling program shall consist of one 24-hour flow-proportioned composite and at least one grab sample that is representative of the flows received by the POTW. The composite shall consist of hourly flow-proportioned grab samples taken over a 24-hour period if the sample is collected manually or shall consist of a minimum of 48 samples collected at 30 minute intervals if an automated sampler is used. Cyanide shall be taken as a grab sample during the same period as the composite sample. Sampling and preservation shall be consistent with 40 CFR Part 136.

6. A detailed description of all interference and pass-through that occurred during the past year;
7. A thorough description of all investigations into interference and pass-through during the past year;
8. A description of monitoring, sewer inspections and evaluations which were done during the past year to detect interference and pass-through, specifying parameters and frequencies;
9. A description of actions being taken to reduce the incidence of significant violations by significant industrial users; and,
10. The date of the latest adoption of local limits and an indication as to whether or not the permittee is under a State or Federal compliance schedule that includes steps to be taken to revise local limits.

Attachment F.

Summary of Required Report Submittals

Summary of Required Report Submittals*

Required Report	Date Due	Submitted by:	Submitted to:
Whole Effluent Toxicity Test Report (Part I.A.1)	January 31, April 30, July 31, and October 31 of each year	Massachusetts Water Resources Authority	Via NetDMR Or Environmental Protection Agency Water Technical Unit (SEW) 5 Post Office Square, Suite 100 (OES04-4) Boston, MA 02109-3912
			MassDEP Division of Watershed Management Surface Water Discharge Permit Program 627 Main Street, 2 nd Floor Worcester, MA 01608
Infiltration/Inflow Control Plan (Part I.C.3)	Within 6 months of the effective date	Massachusetts Water Resources Authority Town of Clinton Lancaster Sewer District	Via NetDMR Or U.S. Environmental Protection Agency Water Technical Unit 5 Post Office Square, Suite 100 (OES04-4) Boston, MA 02109-3912
			MassDEP Bureau of Resource Protection Central Regional Office 627 Main Street Worcester, MA 01608
Notification of Sanitary Sewer Overflows (Part I.D)	Oral Report - Within 24 hours of discovery of event Written Report – Within 5 calendar days of discovery of event	Massachusetts Water Resources Authority Town of Clinton Lancaster Sewer District	Written report via NetDMR Or U.S. Environmental Protection Agency Water Technical Unit 5 Post Office Square, Suite 100 (OES04-4) Boston, MA 02109-3912

Required Report	Date Due	Submitted by:	Submitted to:
			MassDEP Bureau of Resource Protection Central Regional Office 627 Main Street Worcester, MA 01608
Annual I/I Report (Part I. C.5)	Annually by March 31	Massachusetts Water Resources Authority Town of Clinton Lancaster Sewer District	Via NetDMR Or U.S. Environmental Protection Agency Water Technical Unit 5 Post Office Square, Suite 100 (OES04-4) Boston, MA 02109-3912 MassDEP Bureau of Resource Protection Central Regional Office 627 Main Street Worcester, MA 01608
Local Limits Technical Evaluation (Part I.B.3)	Within 120 days of the effective date	Massachusetts Water Resources Authority	Via NetDMR Or EPA New England Attn: Justin Pimpare 5 Post Office Square, Suite 100 (OES06-3) Boston, MA 02109-3912 MassDEP Bureau of Resource Protection Central Regional Office 627 Main Street Worcester, MA 01608 and MassDEP Bureau of Waste Prevention Industrial Wastewater Program One Winter Street Boston, MA 02108
Pretreatment Annual	Annually by October	Massachusetts Water Resources	Via NetDMR

Required Report	Date Due	Submitted by:	Submitted to:
Report (Part I.B.5)	31	Authority	<p>Or</p> <p>U.S. Environmental Protection Agency Water Technical Unit 5 Post Office Square, Suite 100 (OES04-4) Boston, MA 02109-3912</p> <hr/> <p>MassDEP Bureau of Waste Prevention Industrial Wastewater Program One Winter Street Boston, MA 02108</p> <p>and</p> <p>MassDEP Bureau of Resource Protection Central Regional Office 627 Main Street Worcester, MA 01608</p>
Annual Sludge Report (Part I.E.8)	Annually by February 19	Massachusetts Water Resources Authority	<p>Via NetDMR or</p> <p>U.S. Environmental Protection Agency Water Technical Unit 5 Post Office Square, Suite 100 (OES04-4) Boston, MA 02109-3912</p> <hr/> <p>MassDEP Bureau of Resource Protection Central Regional Office 627 Main Street Worcester, MA 01608</p>

* This table is a summary of the reports required to be submitted under this NPDES permit as an aid to the permittee(s). If there are any discrepancies between the permit and this summary, the permittee(s) shall follow the permit requirements.