

**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),

**Town of Hudson
Department of Public Works**

is authorized to discharge from the facility located at

**Hudson Wastewater Treatment Facility
One Municipal Drive
Hudson, MA 01749**

to receiving water named

Assabet 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, five (5) years from the effective date.

This permit supersedes the permit issued on December 14, 2000.

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

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

<u>EFFLUENT CHARACTERISTIC</u>			<u>EFFLUENT LIMITS</u>				<u>MONITORING REQUIREMENTS</u>		
<u>PARAMETER</u>	<u>AVERAGE MONTHLY</u>	<u>AVERAGE WEEKLY</u>	<u>AVERAGE MONTHLY</u>	<u>AVERAGE WEEKLY</u>	<u>MAXIMUM DAILY</u>	<u>MEASUREMENT FREQUENCY</u>	<u>SAMPLE TYPE</u>		
FLOW	*****	*****	3.0 MGD ¹	*****	*****	CONTINUOUS	RECORDER		
FLOW ¹	*****	*****	Report MGD	*****	Report MGD	CONTINUOUS	RECORDER		
BOD ₅ ² (April 1 - October 31)	332 lbs/Day	442 lbs/Day	15 mg/l	20 mg/l	25 mg/l	2/WEEK	24-HOUR COMPOSITE ³		
BOD ₅ ² (November 1 - March 31)	663 lbs/Day	995 lbs/Day	30 mg/l	45 mg/l	Report mg/l	2/WEEK	24-HOUR COMPOSITE ³		
TSS ² (April 1 - October 31)	332 lbs/Day	442 lbs/Day	15 mg/l	20 mg/l	25 mg/l	2/WEEK	24-HOUR COMPOSITE ³		
TSS ² (November 1 - March 31)	663 lbs/Day	995 lbs/Day	30 mg/l	45 mg/l	Report mg/l	2/WEEK	24-HOUR COMPOSITE ³		
pH RANGE ⁴	6.5 - 8.3 SU SEE PERMIT PAGE 6 OF 12, PARAGRAPH I.A.1.b.						3/DAY	GRAB	
TOTAL CHLORINE RESIDUAL ^{5,6}	*****	*****	35 ug/l	*****	61 ug/l	2/DAY	GRAB		
FECAL COLIFORM ^{4,7}	*****	*****	200/100 ml	*****	400/100 ml	3/WEEK	GRAB		
DISSOLVED OXYGEN (April 1 - October 31)	NOT LESS THAN 6.0 mg/l						1/DAY	GRAB	
WHOLE EFFLUENT TOXICITY (SEE FOOTNOTES 8, 9, 10 and 11)	Acute LC ₅₀ ≥ 100% Chronic C-NOEC ≥ 31%						4/YEAR	24-HOUR COMPOSITE ³	

A.1. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge from outfall serial number 001 , treated effluent to Assabet River. Such discharges shall be limited and monitored as specified below.										
<u>EFFLUENT CHARACTERISTIC</u>					<u>EFFLUENT LIMITS</u>					<u>MONITORING REQUIREMENTS</u>
<u>PARAMETER</u>	<u>AVERAGE MONTHLY</u>	<u>MAXIMUM DAILY</u>	<u>AVERAGE MONTHLY</u>	<u>AVERAGE WEEKLY</u>	<u>MAXIMUM DAILY</u>	<u>MEASUREMENT FREQUENCY</u>	<u>SAMPLE³ TYPE</u>			
AMMONIA-NITROGEN (June 1 - October 31)	*****	*****	3 mg/l	3 mg/l	5 mg/l	2/WEEK	24-HOUR COMPOSITE ³			
AMMONIA-NITROGEN (November 1 - May 31)	*****	*****	10.0 mg/l ¹²	Report mg/l	*****	1/WEEK	24-HOUR COMPOSITE ³			
PHOSPHORUS, TOTAL ^{13,14} (April)	Report lbs/day	Report lbs/day	0.1 mg/l	*****	0.2 mg/l	3/WEEK	24-HOUR COMPOSITE ³			
PHOSPHORUS, TOTAL ^{13,14} (May - October 31)	Report lbs/day	Report lbs/day	0.1 mg/l	*****	Report mg/l	3/WEEK	24-HOUR COMPOSITE ³			
PHOSPHORUS, TOTAL ¹⁵ (November 1 - March 31)	Report lbs/day	Report lbs/day	1.0 mg/l	*****	Report mg/l	1/WEEK	24-HOUR COMPOSITE ³			
ORTHO PHOSPHORUS, DISSOLVED (November 1 - March 31)	Report lbs/day	Report lbs/day	Report mg/l	*****	Report mg/l	1/WEEK	24-HOUR COMPOSITE ³			
TOTAL ALUMINUM	*****	*****	278 ug/l	*****	Report mg/l	1/MONTH	24-HOUR COMPOSITE ³			
TOTAL COPPER	*****	*****	17.0 ug/l	*****	23.0 ug/l	1/MONTH	24-HOUR COMPOSITE ³			

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

Footnotes:

1. 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. The monthly average and maximum daily flows for each month shall also be reported.
2. Sampling required for influent and effluent.
3. A 24-hour composite sample will consist of at least twenty four (24) grab samples taken during a consecutive 24-hour period (e.g. 0700 Monday- 0700 Tuesday).
4. Required for state certification.
5. The minimum level (ML) for total residual chlorine is defined as 20 ug/l. This value is the minimum level for chlorine using EPA approved methods found in the most currently approved version of Standard Methods for the Examination of Water and Wastewater, 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 20 ug/l, compliance/non-compliance will be determined based on the ML. Sample results of 20 ug/l or less shall be reported as zero on the discharge monitoring report.
6. Chlorination and dechlorination systems shall include an alarm system for indicating system interruptions or malfunctions. Any interruption or malfunction of the chlorine 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. The Permittee shall comply with this requirement, consistent with the schedule for the Facility upgrade contained in Section F below.
7. 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. This monitoring shall be conducted concurrently with the TRC sampling.
8. The permittee shall conduct chronic (and modified acute) toxicity tests four times per year. The chronic test may be used to calculate the acute LC₅₀ at the 48 hour exposure interval. The permittee shall test the daphnid, Ceriodaphnia dubia, only. Toxicity test samples shall be collected during the second week of the months of 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 April 30th, July 31st, October 31st

and January

31st, 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
March June September December	April 30 th July 31 st October 31 st January 31 st	<u>Ceriodaphnia dubia</u> (daphnid) See Attachment A	≥ 100%	≥ 31%

9. The LC₅₀ is the concentration of effluent which causes mortality to 50% of the test organisms. Therefore, a 100% limit means that a sample of 100% effluent (no dilution) shall cause no more than a 50% mortality rate.
10. C-NOEC (chronic-no observed effect concentration) is defined as the highest concentration of toxicant or effluent to which organisms are exposed in a life cycle or partial life cycle test which causes no adverse effect on growth, survival, or reproduction at a specific time of observation as determined from hypothesis testing where the test results exhibit a linear dose-response relationship. However, where the test results do not exhibit a linear dose-response relationship, the permittee must report the lowest concentration where there is no observable effect. The "31% or greater" limit is defined as a sample which is composed of 31% (or greater) effluent, the remainder being dilution water. This is a maximum daily limit.
11. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in **Attachment A Section IV., DILUTION WATER** in order to obtain permission to use an alternate dilution water. In lieu of individual approvals for alternate dilution water required in **Attachment A**, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called "Guidance Document") which may be used to obtain automatic approval of an alternate dilution water, including the appropriate species for use with that water. If this Guidance document is revoked, the permittee shall revert to obtaining approval as outlined in **Attachment A**. The "Guidance Document" has been sent to all permittees with their annual set of DMRs and Revised Updated Instructions for Completing EPA's Pre-Printed NPDES Discharge Monitoring Report (DMR) Form 3320-1 and is not intended as a direct attachment to this permit. Any modification or revocation to this "Guidance Document" will be transmitted to the permittees as part of the annual DMR instruction package. However, at any time, the permittee may choose to contact EPA-New England directly using the approach outlined in **Attachment A**.

12. The Permittee shall comply with the winter period ammonia limit in accordance with the Facility upgrade schedule contained in Section F below. In the interim, the Facility shall be operated in order to maintain nitrification through the winter period whenever feasible.
13. The permittee shall comply with the 0.1 mg/l total phosphorus limit in accordance with the schedule contained in Section F below. Upon the effective date of the permit, and until the date specified in Section F below for compliance with the total phosphorus final limit of 0.1 mg/l, an interim limit of 0.75 mg/l shall be met and monitoring shall be conducted twice per week.
14. The 0.1 mg/l total phosphorus limit for the month of April is a median limit. The 0.1 mg/l total phosphorus limit for May - October is a 60 day rolling average limit. The 60 day average value for each day in a given month, beginning on the 60th day after May 1, must be calculated and the highest 60 day average value for that month must be reported on the monthly discharge monitoring report (DMR). For the month of May, the monthly average value shall be reported with the DMRs. Consistent with Section B.1 of Part II of the Permit, the Permittee shall properly operate and maintain the phosphorus removal facilities in order to obtain the lowest effluent concentration possible.
15. The Permittee shall comply with the 1.0 mg/l monthly average total phosphorus limit within one year of the issuance date of the permit. The maximum daily concentration and loading values reported for dissolved ortho phosphorus shall be the values from the same day that the maximum daily total phosphorus concentration and loading values were measured.
16. The minimum level (ML) for copper is defined as 3 ug/l. This value is the minimum level for copper using the Furnace Atomic Absorption analytical method (EPA Method 220.2). For effluent limitations of less than 3 ug/l, compliance/non-compliance will be determined based on the ML from this method, or another approved method that has an equivalent or lower ML, one of which must be used. Sample results of 3 ug/l or less shall be reported as zero on the Discharge Monitoring Report.

Part I.A.1. (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 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. 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 permit only authorizes discharges in accordance with its terms and conditions 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. Preventative Maintenance Program

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

3. Infiltration/Inflow Control Plan:

The permittee shall develop and implement a plan to control infiltration and inflow (I/I) to the separate sewer system. The plan shall be submitted to EPA and MA DEP **within six months of the effective date of this permit** (see page 1 of this permit for the effective date) and shall describe the permittee's program for preventing I/I related effluent limit violations, and all unauthorized discharges of wastewater, including overflows and by-passes due to excessive I/I.

The plan shall include:

- An ongoing program to identify and remove sources of I/I. The program shall include the necessary funding level and the source(s) of funding.
- An inflow identification and control program that focuses on the disconnection and redirection of illegal sump pumps and roof down spouts. Priority should be given to removal of public and private inflow sources that are upstream from, and potentially contribute to, known areas of sewer system backups and/or overflows.

- Identification and prioritization of areas that will provide increased aquifer recharge as the result of reduction/elimination of I/I to the system.
- An educational public outreach program for all aspects of I/I control, particularly private inflow.

Reporting Requirements:

A summary report of all actions taken to minimize I/I during the previous calendar year shall be submitted to EPA and the MA DEP annually, **by the anniversary date of the effective date of this permit.** The summary report shall, at a minimum, include:

- A map and a description of inspection and maintenance activities conducted and corrective actions taken during the previous year.
- Expenditures for any I/I related maintenance activities and corrective actions taken during the previous year.
- A map with areas identified for I/I-related investigation/action in the coming year.
- A calculation of the annual average I/I, the maximum month I/I for the reporting year.
- A report of any I/I 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.

D. 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 the Publicly Owned Treatment Works as defined at 40 CFR §403.3.

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. 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. COMPLIANCE SCHEDULE

In order to comply with the permit limits, the Permittee shall take the following actions with

regard to total phosphorus:

1. Within twelve (12) months of the issuance date of the permit, the Permittee shall submit to EPA and DEP a status report relative to the planning and design of the facilities necessary to achieve the permit limits.
2. Within twenty-four (24) months of the issuance date of the permit, the Permittee shall complete design of the Facility improvements required to achieve the total phosphorus limits.
3. Within thirty (30) months of the issuance date of the permit, the Permittee shall initiate construction of the Facility improvements required to achieve the total phosphorus limits.
4. Within forty-two (42) months of the issuance date of the permit, the Permittee shall submit to EPA and DEP a status report relative to construction of the Facility improvements required to achieve the total phosphorus limits.
5. Within fifty-four (54) months of the issuance date of the permit, the Permittee shall complete construction of the Facility improvements required to achieve the total phosphorus limits.

G. MONITORING AND REPORTING

1. Reporting

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

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

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

The State Agency is:

Massachusetts Department of Environmental Protection
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

H. STATE PERMIT CONDITIONS

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