

**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 Lee
32 Main Street
P.O. Box 630
Lee, Massachusetts 01238**

is authorized to discharge from the facility located at

**Lee Wastewater Treatment Facility
379 Pleasant Street
Lee, Massachusetts 01238**

to receiving water named **Housatonic River (Housatonic River Watershed Segment
MA21-19)**

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

This permit shall become effective on December 1, 2008.

This permit and the authorization to discharge expire at midnight, five years from the last day of the month preceding the effective date.

This permit supersedes the permit issued on September 29, 2000.

This permit consists of 13 pages in Part I including effluent limitations, monitoring requirements, **Attachments A (Freshwater Chronic (and Modified Acute) Toxicity Test Procedure and Protocol), B (Sludge Compliance Guidance), and C (Summary of Required Reports)** and Part II including General Conditions and Definitions.

Signed this 23rd day of September, 2008

/S/ SIGNATURE ON FILE

Stephen S. Perkins, Director
Office of Ecosystem Protection
Environmental Protection Agency
Boston, MA

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

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

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

Effluent Characteristic	Unit	Discharge Limitation			Monitoring Requirement ^{*3}	
		Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Flow ^{*2} Flow ^{*2}	MGD MGD	1.5 Report	***** *****	Report Report	Continuous Continuous	Recorder Recorder
BOD ₅ ^{*4} BOD ₅ ^{*4}	mg/l lbs/day	20 250	30 375	Report Report	2/Week 2/Week	24-Hour Composite ^{*5} 24-Hour Composite ^{*5}
TSS ^{*4} TSS ^{*4}	mg/l lbs/day	20 250	30 375	Report Report	2/Week 2/Week	24-Hour Composite ^{*5} 24-Hour Composite ^{*5}
pH Range ^{*1}	6.5-8.3 SU (See Permit Part I.A.1.b)				1/Day	Grab

Part I.A.1. (Continued)

Effluent Characteristic	Unit	Discharge Limitation			Monitoring Requirement ^{*3}	
		Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
<i>E. coli</i> ^{*1, *6} (April 1 st - October 31 st)	cfu/100ml	126	*****	409	1/Week	Grab
Dissolved Oxygen	mg/l	Report Daily Minimum			1/Day	Grab
Total Phosphorus (April 1 st - October 31 st)	mg/l lbs/day	0.2 2.5	***** *****	Report Report	1/Week 1/Week	24-Hour Composite ^{*5} 24-Hour Composite ^{*5}
Total Phosphorus ^{*7} (November 1 st - March 31 st)	mg/l lbs/day	1.0 12.5	***** *****	Report Report	1/Week 1/Week	24-Hour Composite ^{*5} 24-Hour Composite ^{*5}
Ortho-phosphorus, dissolved ^{*7, *8} (November 1 st - March 31 st)	mg/l	Report	*****	Report	1/Week	24-Hour Composite ^{*5}
Total Nitrogen ^{*9} Total Nitrogen ^{*9}	mg/l mg/l	Report Report	***** *****	Report Report	1/Week 1/Month	24-Hour Composite ^{*5} 24-Hour Composite ^{*5}

Part I.A.1. (Continued)

Effluent Characteristic	Unit	Discharge Limitation			Monitoring Requirement ^{*3}	
Parameter		Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Total Ammonia Nitrogen ^{*10} Total Ammonia Nitrogen ^{*10}	mg/l mg/l	Report Report	***** *****	Report Report	1/Week 1/Month	24-Hour Composite ^{*5} 24-Hour Composite ^{*5}
Total Kjeldahl Nitrogen ^{*10} Total Kjeldahl Nitrogen ^{*10}	mg/l mg/l	Report Report	***** *****	Report Report	1/Week 1/Month	24-Hour Composite ^{*5} 24-Hour Composite ^{*5}
Total Nitrite Nitrogen ^{*10} Total Nitrite Nitrogen ^{*10}	mg/l mg/l	Report Report	***** *****	Report Report	1/Week 1/Month	24-Hour Composite ^{*5} 24-Hour Composite ^{*5}
Total Nitrate Nitrogen ^{*10} Total Nitrate Nitrogen ^{*10}	mg/l mg/l	Report Report	***** *****	Report Report	1/Week 1/Month	24-Hour Composite ^{*5} 24-Hour Composite ^{*5}
Aluminum	µg/l	Report	*****	Report	1/Month	24-Hour Composite ^{*5}
Whole Effluent Toxicity ^{*11,*12,*13,*14}	%	Acute (LC₅₀) ≥ 100% Chronic (C-NOEC) - Report			4/Year	24-Hour Composite ^{*5}

Footnotes:

- *1. Required for State certification.
- *2. The monthly average flow limitation is an annual average limit which shall be reported as a rolling average. This value shall be calculated as the arithmetic mean of the monthly average flow for the reporting month and the monthly average flows of the eleven previous months. The average monthly flow and maximum daily flow shall also be reported.
- *3. All required effluent samples shall be collected at the point specified in Part I.A.1.f. of this permit. Any change in the sampling location must be reviewed and approved in writing by EPA and MassDEP.

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 attached to the applicable discharge monitoring report (DMR) that is submitted to EPA.

All samples shall be tested using the methods found in 40 CFR § 136, or alternative methods approved by EPA in accordance with the procedures in 40 CFR § 136. All samples shall be 24-hour composites unless specified as a grab sample in 40 CFR § 136.
- *4. Sampling is required for the influent and effluent.
- *5. A 24-hour composite sample shall consist of at least twenty-four (24) grab samples taken during one consecutive 24-hour period, either collected at equal intervals and combined proportional to flow or continuously collected proportional to flow.
- *6. *E. coli* limitations and monitoring requirements are in effect from April 1st through October 31st. The monthly average limits are expressed as geometric means.
- *7. See Part I.C. Effective Dates for Phosphorus Limitations.
- *8. The maximum daily concentration values reported for dissolved ortho-phosphorus shall be the values from the same day that the maximum daily total phosphorus concentrations were measured.
- *9. See Part I.B., Special Conditions, for requirements to evaluate and implement optimization of nitrogen removal. In addition to the weekly reporting of the concentration of total nitrogen in the effluent, the concentration of total nitrogen in the influent shall be reported once per month.

- *10 Total Kjeldahl nitrogen, ammonia nitrogen, nitrite nitrogen, and nitrate nitrogen samples shall be collected concurrently. In addition to the weekly effluent samples, samples shall be collected concurrently for both the influent and effluent once per month.
- *11. The LC₅₀ is the concentration of effluent which causes mortality to 50% of the test organisms. Therefore, a 100% limitation means that a sample of 100% effluent (no dilution) shall cause no more than a 50% mortality rate.
- *12. Chronic-no observed effect concentration (C-NOEC) is defined as the highest concentration of toxicant or effluent which organisms are exposed to 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 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.
- *13. 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 conduct the test using the daphnid, *Ceriodaphnia dubia* (*C. dubia*) as the test species. Toxicity test samples shall be collected during the second week of the months of March, June, September, and December. The test results are to be submitted by the last day of the month following completion of the test. The test results are due April 30th, July 31st, October 31st, and January 31st, respectively.

The tests must be performed in accordance with the test procedures and protocols specified in **Attachment A** of this permit and the schedule provided in the table below.

Test Date: 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	<i>Ceriodaphnia dubia</i> (daphnid) See Attachment A	≥ 100%	Report

- *14 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 discharge monitoring reports (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 of this “Guidance Document” will be transmitted to the permittee as part of their 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**. If the permittee uses an alternative dilution water, the ambient water will still need to be tested.

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 Standard Units (SU) at any time, and not more than 0.5 SU outside of the natural background range. There shall be no change from natural background conditions that would impair any use assigned to this class.
- c. The discharge shall not cause objectionable discoloration of the receiving water.
- 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. Samples taken in compliance with the monitoring requirements stated above shall be taken at a point prior to mixing with other streams and shall be representative of the discharge. Samples shall be collected prior to disinfection with the exception of *E. coli* samples, which shall be collected post-disinfection.
- g. If the annual average flow in any calendar year exceeds 80 percent of the facility’s design flow, the permittee shall submit a report to MassDEP by March 31st of the following calendar year describing their plans for future flow increases and how they will maintain compliance with the flow limitations and all of the other effluent limitations and conditions in the permit.

2. All POTWs must provide adequate notice to the Director of the following:
 - a. Any new introduction of pollutants into the 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 the POTW by a non-domestic source (user) shall not pass through the POTW or interfere with the operation of the works.
4. Toxics Control
 - a. The permittee shall not discharge any pollutants or combinations 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 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. SPECIAL CONDITIONS

Within **one year of the effective date of the permit**, the permittee shall complete an evaluation of alternative methods of operating the existing wastewater treatment facility to optimize the removal of nitrogen, and submit a report to EPA and the MassDEP

documenting this evaluation and presenting a description of recommended operational changes. The methods to be evaluated include, but are not limited to, operational changes designed to enhance nitrification (seasonal and year-round), incorporation of anoxic zones, septage receiving policies and procedures, and side stream management. The permittee shall implement the recommended operational changes in order to maintain the existing mass loadings of total nitrogen. The annual average total nitrogen load from this facility (2004-2005) is estimated to be 105 lbs/day.

The permittee shall also submit an annual report to EPA and the MassDEP by **February 1st** of each year, that summarizes the activities related to optimizing nitrogen removal efficiencies, documents the annual nitrogen discharge load from the facility, and tracks trends relative to the previous year.

C. EFFECTIVE DATES FOR PHOSPHORUS LIMITATIONS

The 1.0 mg/l and 12.5 lbs/day seasonal (November 1st – March 31st) total phosphorus limits in this permit shall become effective November 1, 2009. The permittee shall report the average monthly and maximum daily values of total phosphorus in the discharge for the months of the first winter period in which this permit is in effect (December 1, 2008 – March 31, 2009). The seasonal reporting requirement for the average monthly and maximum daily values of ortho-phosphorus shall become effective November 1, 2009.

D. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from outfall 001, as described 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 to EPA and MassDEP in accordance with Section D.1.e.(1) of the General Requirements of this permit (Twenty-four hour reporting).

Notification of SSOs to MassDEP shall be made on its SSO Reporting Form (which includes MassDEP Regional Office telephone numbers). The reporting form and instructions for its completion may be found on-line at:

<http://www.mass.gov/dep/water/approvals/surffms.htm#sso>.

E. 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 of this permit 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 the 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 MassDEP **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 infiltration/inflow-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 the 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 MassDEP annually, by **February 28th**. The summary report shall, at a minimum, include:

- A map and description of inspection and maintenance activities 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 and the maximum monthly 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.

4. Alternative 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).

F. SLUDGE CONDITIONS

1. The permittee is required to 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 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 (**Attachment B**) 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 materials 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 document (**Attachment B**). Reports are due annually by **February 19th**. Reports shall be submitted to the address contained in the reporting section of this 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 cases, the permittee is required only to submit an annual report by **February 19th** 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

G. 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) 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
Western Regional Office-Bureau of Resource Protection
436 Dwight Street
Springfield, Massachusetts 01103

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 (MassDEP) under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Commissioner of the MassDEP pursuant to M.G.L. Chap. 21, § 43.

Each agency shall have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of this permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this permit as issued by the other agency, unless and until each agency has concurred in writing with such modification, suspension or revocation. In the event 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 in violation of Federal law, this permit shall remain in full force and effect as a permit issued by the Commonwealth of Massachusetts.