

**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"),

The City of Lebanon, New Hampshire

is authorized to discharge from the facility located at

**130 South Main Street
West Lebanon, New Hampshire 03784
and
Six Combined Sewer Overflows**

to receiving water named

Connecticut River, Mascoma River and Great Brook (Hydrologic Basin Code: 01080104)

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

This permit shall become effective 60 days from the effective date of the permit.

This permit and the authorization to discharge expires at midnight, five (5) years from the effective date.

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

This permit consists of 12 pages in Part I including effluent limitations, monitoring requirements, etc., Attachment A (8 pages), Attachment B, Sludge Compliance Guidance (72 pages) and 35 pages in Part II, which includes General Conditions and Definitions.

Signed this 23rd day of November, 2005

Linda M. Murphy, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency (EPA)
Region I
Boston, Massachusetts

PART I.

Permit No. NH0100366

Page 2 of 12

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge treated wastewater effluent from Outfall Serial Number 001 into the receiving water (Connecticut River). Such discharges shall be limited and monitored by the permittee as specified below. Samples taken in compliance with the monitoring requirements specified below shall be taken at a location that provides a representative analysis of the effluent.

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>		
	<u>Average Monthly</u>	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Average Monthly</u>	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u> <u>Sample Type</u>
Flow (MGD)	----	----	----	Report	----	Report	Continuous
BOD ₅ ²	796 lbs/day	1194 ² lbs/day	1327 lbs/day	30 mg/l	45 mg/l	50 mg/l	2/Week ³ 24-Hour
TSS ²	796 lbs/day	1194 ² lbs/day	1327 lbs/day	30 mg/l	45 mg/l	50 mg/l	2/Week ³ 24-Hour Comp.
pH Range (Std. Units) ²							1/Day Grab
<u>Escherichia coli</u> Bacteria ^{2,4}							406 2/Week
(Colonies/100 ml)							Grab
Total Residual Chlorine ⁵							
Whole Effluent Toxicity							
LC50 ^{6,7,8,9}							
24-Hour Comp.							
Ammonia Nitrogen, as N ⁸							
Hardness; mg/l ⁸							
Comp.							
Total Recoverable Aluminum; mg/l ⁸							
Total Recoverable Cadmium; mg/l ⁸							
Total Recoverable Chromium; mg/l ⁸							
Total Recoverable Copper; mg/l ⁸							

Total Recoverable Nickel; mg/l ⁸	Hour Comp.	Report	1/Year ¹⁰ 24+
Total Recoverable Lead; mg/l ⁸			
24-Hour Comp.		Report	1/Year ¹⁰
Total Recoverable Zinc; mg/l ⁸			
24-Hour Comp.		Report	1/Year ¹⁰

See pages 4 and 5 for explanation of superscripts

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

1.b. During the period beginning on the effective date of the permit and lasting through the expiration date, the permittee is authorized to discharge storm water/waste waters from combined sewer outfalls Serial Number 022, 023, and 026 into the Mascoma River; Serial Number 024 into the Connecticut River; and Serial Number 010 and 027 into Great Brook (Refer to Attachment B). These discharges are authorized only during wet weather periods. Such discharges shall be limited from only the outfalls listed, and be monitored by the permittee as specified below. Samples taken in compliance with the monitoring requirements specified below shall be taken at a location that provides a representative analysis of the effluent.

Effluent Characteristic	Discharge Limitations	Monitoring Requirement	
		Measurement Frequency	Sample Type
<u>Escherichia coli</u> (Colonies per 100 ml)	1000	1/Year ^{4,11}	Grab

Note: See pages 4 and 5 for explanation of subscripts

EXPLANATION OF SUPERSSCRIPTS TO PART I.A.1.a on page 2:

1. The effluent flow shall be continuously measured and recorded using a flow meter and totalizer.
2. State Certification Requirement.
3. The influent concentrations of both Five-Day Biochemical Oxygen Demand (BOD₅) and Total Suspended Solids (TSS) shall be monitored twice per month (2/Month) using a 24-Hour Composite sample and the results reported as average monthly values.
4. Escherichia coli shall be tested using test method 1103.1 found in Test Methods for Escherichia coli and Enterococci in Water by the Membrane Filter Procedure, EPA-600/4-85/076 as amended by test method 9213 D.3, found in Standard Methods for the Examination of Water and Wastewater, 18th or subsequent Edition(s) as approved in 40 CFR Part 136. This monitoring shall be conducted concurrently with the TRC sampling described below.
5. Total Residual Chlorine (TRC) shall be tested using Amperometric Titration or the DPD Spectrophotometric methods. The EPA approved methods are found in Standard Methods for the Examination of Water and Wastewater, 18th or subsequent Edition(s) as approved in 40 CFR Part 136, Method 4500-Cl E and Method 4500-Cl G or U.S. E.P.A Manual of Methods of Analysis of Water and Wastes, Method 330.5. The minimum level (ML) for total residual chlorine is defined as 20 ug/l. Sample results of 20 ug/l or less shall be reported as zero on the discharge monitoring reports.
6. The permittee shall conduct 48 hour acute toxicity tests on effluent samples using two species, Daphnid (Ceriodaphnia dubia) and Fathead Minnow (Pimephales promelas) following the protocol in **Attachment A** (Freshwater Acute Toxicity Test Procedure and Protocol dated December 1995). Dilution water is to be performed according to conditions set forth in Attachment A, Section IV, Dilution Water on page A-2.
7. Toxicity test samples shall be collected and tests completed during the third quarter of each year. Toxicity test results are to be submitted with the Discharge Monitoring Results (DMR) for September due October 15th.
8. This permit shall be modified, or alternatively, revoked and reissued to incorporate additional requirements, including chemical specific limits, if results of these toxicity tests indicate the discharge causes an exceedance of any water-quality criterion, particularly a metal. Results from these toxicity tests are considered "New Information" and the permit may be modified as provided in 40 CFR §122.62(a)(2).

9. LC50 (Lethal Concentration 50 Percent) is the concentration of wastewater causing mortality to 50 percent of the test organisms at a specified time of observations. The “50 %” is defined as a sample which is composed of 50 percent effluent (See A.1.a. on Page 2 of **PART I** and Attachment A of **PART I**). Therefore, a 50 % limit means that a sample of 50 % effluent shall cause no greater than a 50 % mortality rate in that effluent sample. The _____ limit is considered to be a maximum daily limit.
10. For each Whole Effluent Toxicity (WET) test the permittee shall report on the appropriate Discharge Monitoring Report (DMR), the concentrations of the Ammonia Nitrogen as nitrogen, Hardness, and Total Recoverable Aluminum, Cadmium, Chromium, Copper, Lead, Nickel and Zinc found in the 100 percent effluent sample. All these aforementioned chemical parameters shall be determined to at least the Minimum Quantification Level (MLs) shown in **Attachment A** on page A-8, or as amended. Also, the permittee should note that all chemical parameter results must still be reported in the appropriate toxicity report.
11. The Permittee shall sample each discharge from the combined sewer outfalls listed in Attachment B once per year. The sampling shall occur during a wet weather discharge event. One grab sample shall be obtained one half hour after the outfall starts discharging. The sampling shall be conducted during the Wastewater Treatment Plant's normal business hours. The maximum value for Escherichia coli for each wet weather discharge event shall be reported on the DMR for the month which the sampling occurred.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

2. The discharge shall not cause a violation of the Water Quality Standards of the receiving water.
3. The discharge shall be adequately treated to insure that the surface water remains free from pollutants in concentrations or combinations that settle to form harmful deposits, float as foam, debris, scum or other visible pollutants. It shall be adequately treated to insure that the surface waters remain free from pollutants which produce odor, color, taste or turbidity in the receiving waters which is not naturally occurring and would render it unsuitable for its designated uses.
4. The permittee's treatment facility shall maintain a minimum of 85 percent removal of both BOD₅ and TSS. The percent removal shall be based on a comparison of average monthly influent versus effluent concentrations.

5. When the effluent discharged for a period of 3 consecutive months exceeds 80 percent of the 3.18 MGD design flow or 2.54 MGD, the permittee shall submit to the permitting authorities a projection of loadings up to the time when the design capacity of the treatment facility will be reached, and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans. Before the design flow will be reached, or whenever treatment necessary to achieve permit limits cannot be assured, the permittee may be required to submit plans for facility improvements.
6. A User may not introduce into any Publicly Owned Treatment Works (POTWs) any pollutant(s) which cause Pass Through or Interference. The terms User, Pass Through and Interference are defined in 40 CFR §403.3
7. All Publicly Owned Treatment Works (POTWs) must provide adequate notice to both EPA and the New Hampshire Department of Environmental Services, Water Division (NHDES-WD) of the following:
 - a. Any new introduction of pollutants into the POTW from an indirect discharger in a primary industry category (See 40 CFR Part 122, Appendix A as amended) 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.
8. The Permittee shall submit to EPA and NHDES-WD the name of any Industrial User (IU) who commences discharge to the POTW after the effective date of this permit:
 - a. That discharges an average of 25,000 gallons per day or more of process wastewater into the POTW (excluding sanitary, non-contact cooling and boiler blow-down wastewater).
 - b. That contribute a process wastewater which makes up five (5) percent or more of the average dry weather hydraulic or organic capacity of the POTW.
 - c. That is designated as an IU by the Control Authority as defined in 40 CFR §403.12(a) on the basis that the industrial user has a reasonable potential to adversely affect the waste water treatment facility's operation, or violate any pretreatment standard or

requirement in accordance with 40 CFR §403.8(f)(6).

9. In the event that the Permittee receives reports (baseline monitoring reports, 90-day compliance reports periodic reports on continued compliance, etc.) from Categorical Industrial Facilities regulated in 40 CFR Chapter I, Subchapter N (Parts 405-415, 417-436, 439-440, 443,446-447, 454-455, 457-461, 463-469, and 471 as amended), the Permittee shall forward all copies of these reports within ninety (90) days of their receipt to EPA and NHDES-WD.
10. The Permittee shall not discharge into the receiving water any pollutant or combination of pollutants in toxic amounts.

B. SLUDGE CONDITIONS

1. The permittee shall comply with all existing federal & state laws and regulations that apply to sewage sludge use and disposal practices and with the CWA Section 405(d) technical standards.
2. The permittee shall comply with the more stringent of either the state or federal requirements.
3. The technical standards (Part 503 regulations) 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. Placement of sludge in a municipal solid waste landfill.
 - d. Fired in a sewage sludge incinerator.
4. The 40 CFR Part 503 Conditions applying to facilities which place sludge within a municipal solid waste landfill stipulate that the sewage sludge meets the requirements of 40 CFR Part 258 concerning the quality of materials disposed in a municipal landfill. Also, these conditions do not apply to facilities which do not dispose of sewage sludge during the life of the permit, but rather treat the sludge (lagoons-reed beds), or are otherwise excluded under 40 CFR Part 503.6.
5. The permittee shall submit an annual report containing the information specified in the attached Sludge Compliance Guidance document. Reports are due annually by February 19th. Reports shall be submitted to both addresses (EPA-New England and NHDES-WD) contained in the reporting section of the permit.

C. COMBINED SEWER OVERFLOWS

1. Effluent Limitations

- a. During wet weather, the Permittee is authorized to discharge stormwater/wastewater from combined sewer outfalls listed in Attachment B, subject to the following effluent limitations.
 - (1) The discharges shall receive treatment at a level providing Best Practicable Control Technology Currently Available (BPT), Best Conventional Pollutant Control Technology (BCT) to control and abate conventional pollutants and Best Available Technology Economically Achievable (BAT) to control and abate non-conventional and toxic pollutants. The EPA has made a Best Professional Judgement (BPJ) determination that BPT, BCT, and BAT for combined sewer overflow (CSO) control include the implementation of Nine Minimum Controls (NMC) specified below:
 1. Proper operation and regular maintenance programs for the sewer system and the combined sewer overflows.
 2. Maximum use of the collection system for storage.
 3. Review and modification of the pretreatment program to assure CSO impacts are minimized.
 4. Maximization of flow to the POTW for treatment.
 5. Prohibition of dry weather overflows from CSOs.
 6. Control of solid and floatable materials in CSO.
 7. Pollution prevention programs that focus on contaminant reduction activities.
 8. Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts.
 9. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.
 - (2) The Permittee shall continue implementation of the NMCs listed in Section I.C.1.a.(1) of this permit. These NMCs provided the basis for the Permittee's NMC document originally submitted to the EPA on May 29, 1997, and subsequently updated on October 28, 1998.

- b. The Permittee shall submit to the EPA by August 31st of each year a report that demonstrates the continual implementation of the NMCs for the previous twelve months. This report must include a detailed description and evaluation of specific activities the Permittee has undertaken in the past year to continue implementation and maintenance of the NMCs. The report must include the minimum requirements set forth in Part I.C. This report shall detail, if the case arises, why the Permittee was unable to monitor any of the CSOs listed in Attachment B as required by Section A.1.b. of this permit. The report shall also document planned activities and any additional controls the Permittee can feasibly implement.

2. Unauthorized Discharges

- a. The Permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from those outfalls listed in Attachment B of this permit. Discharges of wastewater from any other point source are not authorized under this permit
- b. Dry weather overflows are prohibited. All dry weather domestic, commercial or industrial discharges from a CSO must be reported to the EPA and NHDES within 24 hours in accordance with the reporting requirements for a plant bypass (Part II.B.4 Bypass of this permit).
- c. The State of New Hampshire and EPA have the right to inspect any CSO related structure or outfall at any time without prior notification to the Permittee.
- d. The CSO discharges shall not cause violations of Federal or State Water Quality Standards.

3. Monitoring Requirements

- a. The Permittee shall continue to quantify and record all discharges from combined sewer outfalls. Quantification may be through direct measurement or estimation. When estimating, the Permittee shall make reasonable efforts, i.e. gaging, measurements, to verify the validity of the estimation technique. The following information must be recorded for each combined sewer outfall for each discharge event:
- (1) Date of discharge
 - (2) Estimated duration (hours) of discharge;
 - (3) Estimated volume (gallons) of discharge; and
 - (4) National Weather Service precipitation data from the nearest gage where precipitation is available at daily (24-

hour) intervals and the nearest gage where precipitation is available at one-hour intervals. Cumulative precipitation per discharge event shall be calculated.

- b. The Permittee shall submit to the EPA on August 31st of each year a certification to the State and EPA which states that the previous twelve monthly inspections were conducted, results recorded, and records maintained.

The Permittee shall maintain all records of discharges for at least six years after the effective date of this permit.

D. MONITORING AND REPORTING

Monitoring results shall be summarized for each calendar month and reported on separate Discharge Monitoring Report Form(s) (DMRs) postmarked no later than the 15th day of the month following the completed reporting period.

Signed and Dated original DMRs and all other reports required herein, shall be submitted to the Director at the following address:

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

Duplicate signed copies of all reports required herein shall be submitted to the NH DES-WD at:

New Hampshire Department of Environmental Services
Water Division
Wastewater Engineering Bureau
29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03302-0095

All verbal reports required in Parts I and II of this permit shall be made to both EPA-New England and to NHDES_WD.

E. STATE PERMIT CONDITIONS

1. The permittee shall comply with the following conditions which are included as

State Certification requirements.

- a. The pH range of 6.5-8.0 Standard Units (S.U.) must be achieved in the final effluent unless the permittee can demonstrate to NHDES-WD: (1) that the range should be widened due to naturally occurring conditions in the receiving water or (2) that the naturally occurring receiving water pH is not significantly altered by the permittee's discharge. The scope of any demonstration project must receive prior approval from NHDES-WD. In no case, shall the above procedure result in pH limits outside of the range of 6.0 to 9.0 S.U., which is the federal effluent limitation guideline regulation for pH for secondary treatment and is found in 40 CFR §133.102(c).
- b. Pursuant to State Law NH RSA 485-A:13 and the New Hampshire Code of Administrative Rules, Env-Ws 706.08(b) and Env-Ws 904.08 the following submissions shall be made to the NHDES-WD by a municipality proposing to accept into its POTW (including sewers and interceptors):
 - (1) A "Sewer Connection Permit" request form for:
 - (a) Any proposed sewerage, whether public or private;
 - (b) Any proposed wastewater connection or other discharge in excess of 5,000 gallons per day;
 - (c) Any proposed wastewater connection or other discharge to a wastewater treatment facility operating in excess of 80% design flow capacity; and
 - (d) Any proposed connection or other discharge of industrial wastewater, regardless of quality or quantity.
 - (2) An "Industrial Wastewater Discharge Request Application" for new or increased loadings of industrial waste, in accordance with Env-Ws 904.10.
- c. The permittee shall not at any time, either alone or in conjunction with any person or persons, cause directly or indirectly the discharge of waste into the said receiving water unless it has been treated in such a manner as will not lower the legislated water quality classification or interfere with the uses assigned to said water by the New Hampshire Legislature (RSA 485-A:12).
- d. Any modifications of the Permittee's Sewer Use Ordinance, including local

limitations on pollutant concentrations, shall be submitted to the NHDES-WD for approval prior to adoption by the permittee.

- e. Within 90 days of the effective date of this permit, the permittee shall submit to NHDES-WD a copy of its current sewer use ordinance if it has been revised since any previously approved submittal.
 - f. Within 120 days of the effective date of this permit, the permittee shall submit to NHDES-WD a current list of all industries discharging industrial waste to the municipal wastewater treatment plant. As a minimum, the list shall indicate the name and address of each industry, along with the following information: telephone number, contact person, products manufactured, industrial processes used, existing level of pretreatment, and list of existing industrial discharge permits with effective dates.
2. This NPDES Discharge Permit is issued by the EPA under Federal and State law. Upon final issuance by the EPA, the NHDES-WD may adopt this permit, including all terms and conditions, as a State permit pursuant to RSA 485-A:13.

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 the Permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation.

F. SPECIAL CONDITIONS

pH Limit Adjustment

The permittee may submit a written request to the EPA requesting a change in the permitted pH limit range to be not less restrictive than 6.0 to 9.0 Standard Units found in the applicable National Effluent Limitation Guideline (Secondary Treatment Regulations in 40 CFR Part 133) for this facility. The permittee's written request must include the State's approval letter containing an original signature (no copies). The State's letter shall state that the permittee has demonstrated to the State's satisfaction that as long as discharges to the receiving water from a specific outfall are within a specific numeric pH range the naturally occurring receiving water pH will be unaltered. That letter must specify for each outfall the associated numeric pH limit range. Until written notice is received by certified mail from the EPA indicating the pH limit range has been changed, the permittee is required to meet the permitted pH limit range in the respective permit.