

**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"),

City of Concord

is authorized to discharge from the Penacook Wastewater Treatment Plant located at

**7 Penacook Street
Penacook, New Hampshire 03242**

to receiving water named

Merrimack River (Hydrologic Basin Code 01070002)

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein including, but not limited to, conditions requiring the proper operation and maintenance of the Penacook Wastewater Treatment Plant collection system.

The Town of Boscawen is a co-permittee for activities required in Part I.B. (Unauthorized Discharges), Part I.C. (Operation and Maintenance of the Sewer System), and Part I. D. (Alternate Power Source). The responsible municipal department is:

Boscawen Board of Selectmen
116 North Main Street
Boscawen, New Hampshire 03303

The permit will become effective on the date of signature.

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

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

This permit consists of **Part I** (11 pages) including effluent limitations and monitoring requirements; **Attachment A** (Freshwater Acute Toxicity Test Procedure and Protocol), Sludge Compliance Guidance, and Part II including General Conditions and Definitions.

Signed this 28th day of June, 2007

/S/ SIGNATURE ON FILE

Stephen S. Perkins, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency (EPA)
Region I
Boston, Massachusetts

PART I.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge treated sanitary wastewater from outfall serial number 001 into the Merrimack River. Such discharge 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 sample 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>Frequency</u>	<u>Type</u>
Flow; MGD	Report	----	Report	Continuous	Recorder ¹
BOD ₅ ; mg/L (lbs/day)	30 (593)	45 (890)	50 (989)	2/Week ²	24-Hour Composite
TSS; mg/L (lbs/day)	30 (593)	45 (890)	50 (989)	2/Week ²	24-Hour Composite
pH Range ³ (s.u.)	6.5 to 8.0 s.u. (See PART I.H.5.)			1/Day	Grab
Total Residual Chlorine (mg/L)	1.0	----	1.0	1/Day	Grab
<i>Escherichia coli</i> ⁴ ; Colonies/100 ml	126	----	406	3/Week	Grab
Whole Effluent Toxicity					
LC50 ^{5,6,7} ; Percent Effluent	Equal to or greater than 50			2/Year ⁹	24-Hour Composite
Hardness, mg/L ⁸	Report			2/Year ⁹	24-Hour Composite
Ammonia Nitrogen as Nitrogen ⁸ ; mg/l	Report			2/Year ⁹	24-Hour Composite
Total Recoverable Aluminum ⁸ ; mg/l	Report			2/Year ⁹	24-Hour Composite
Total Recoverable Cadmium ⁸ ; mg/l	Report			2/Year ⁹	24-Hour Composite
Total Recoverable Chromium ⁸ ; mg/l	Report			2/Year ⁹	24-Hour Composite
Total Recoverable Copper ⁸ ; mg/l	Report			2/Year ⁹	24-Hour Composite
Total Recoverable Lead ⁸ ; mg/l	Report			2/Year ⁹	24-Hour Composite
Total Recoverable Nickel ⁸ ; mg/l	Report			2/Year ⁹	24-Hour Composite
Total Recoverable Zinc ⁸ ; mg/l	Report			2/Year ⁹	24-Hour Composite

NOTE: See page 3 for footnotes.

FOOTNOTES TO PART I.A.1 on page 2:

- (1) The effluent flow shall be continuously measured and recorded using a flow meter and totalizer.
- (2) The influent concentrations of both BOD₅ and TSS shall be monitored twice per month using a 24-hour composite sample. The average monthly and maximum daily values shall be reported.
- (3) State certification requirement.
- (4) The average monthly value for Escherichia coli shall be determined by calculating the geometric mean. Escherichia coli shall be tested using an approved method as specified in 40 C.F.R. Part 136, List of Approved Biological Methods for Wastewater and Sewage Sludge. Escherichia coli must be collected concurrently with the total residual chlorine samples.
- (5) "LC50" is defined as the concentration of wastewater that causes mortality to 50 percent of the test organisms. The "≥50 percent" limit is defined as a sample which is composed of at least 50 percent effluent. Therefore, a 50 percent limit means that a sample of 50 percent effluent shall cause no greater than a 50 percent mortality rate in that effluent sample.
- (6) The permittee shall conduct 48-hour static acute toxicity tests on effluent samples following the December 1995 Freshwater Acute Toxicity Test Procedure and Protocol (Attachment A). The two species for these tests are the Daphnid (Ceriodaphnia dubia) and the Fathead Minnow (Pimephales promelas).
- (7) This permit shall be modified, or alternatively revoked and reissued, to incorporate additional toxicity testing requirements, including chemical specific limits, if the results of these toxicity tests indicate the discharge causes an exceedance of any water-quality criterion. Results from these toxicity tests are considered "New Information" and the permit may be modified as provided in 40 Code of Federal Regulations (CFR) §122.62(a)(2).
- (8) For each Whole Effluent Toxicity 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 shown in **Attachment A** on page A-7, or as amended. Also the permittee should note that all chemical parameter results must still be reported in the appropriate toxicity report.
- (9) Toxicity test samples shall be collected and tests completed two times per year during the calendar quarters ending June 30th, and September 30th. Toxicity test results are to be postmarked by the 15th day of the month following the end of the quarter sampled.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

1. The discharge shall not cause a violation of the water quality standards of the receiving water.
2. 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.
3. The permittee's treatment facility shall maintain a minimum of 85 percent removal of both BOD₅ and TSS. The percent removal shall be calculated using average monthly influent and average monthly effluent concentrations.
4. When the effluent discharged for a period of 3 consecutive months exceeds 80 percent of the 2.37 MGD design flow, or 1.9 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.
5. All POTWs must provide adequate notice to both EPA and the New Hampshire Department of Environmental Services, Water Division (NHDES-WD) of any of the following:
 - a. Any new introduction of pollutants into the POTW from an indirect discharger in a primary industry category (see 40 CFR §122 Appendix A as amended) discharging process water.
 - 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.
6. The permittee shall not discharge into the receiving water any pollutant or combination of pollutants in toxic amounts.

B. UNAUTHORIZED DISCHARGES

The permit only authorizes discharges 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 Part II, Section D.1.e. 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. The permittee **and co-permittee** are required to complete the following activities for the collection system which it owns:

1. Maintenance Staff

The permittee **and co-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 and **co-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

The permittee and **co-permittee** shall control infiltration and inflow (I/I) into the sewer system as necessary to prevent high flow related unauthorized discharges from their collection systems and high flow related violations of the wastewater treatment plant's effluent limitations.

4. Collection System Mapping

Within 30 months of the effective date of the permit, the permittee **and co-permittee** shall each prepare a map of the sewer collection system it owns. The map shall be on a street map of the community, with sufficient detail and at a scale to allow easy interpretation. The collection system information shown on the map shall be based on current conditions. Such map(s) shall include, but not be limited to the following:

- a. All sanitary sewer lines and related manholes;
- b. All combined sewer lines and related manholes;

- c. All combined sewer regulators and any known or suspected connections between the sanitary sewer and storm drain system (e.g. combined manholes);
- d. All outfalls, including the treatment plant outfall(s), CSOs, combined manholes, and any known or suspected SSOs;
- e. All pump stations and force mains;
- f. The wastewater treatment facility(ies);
- g. All surface waters (labeled);
- h. Other major appurtenances such as inverted siphons and air release valves;
- i. A numbering system which uniquely identifies overflow points, regulators and outfalls;
- j. The scale and a north arrow; and
- k. The pipe diameter, age and type of pipe, the length of pipe between manholes, the direction of flow, and the pipe invert elevations.

5. Collection System O&M Plan

The permittee and co-permittee shall each develop and implement a collection system operation and maintenance plan. The plan shall be submitted to EPA and NHDES **within six months of the effective date of this permit** (see page 1 of this permit for the effective date). The plan shall describe the permittee and co-permittee's programs for preventing I/I related effluent limit violations and all unauthorized discharges of wastewater, including overflows and by-passes.

The plan shall include:

- a. A description of the overall condition of the collection system including a list of recent studies and construction activities;
- b. A preventative maintenance and monitoring program for the collection system;
- c. Recommended staffing to properly operate and maintain the sanitary sewer collection system;
- d. The necessary funding level and the source(s) of funding for implementing the plan;
- e. Identification of known and suspected overflows, including combined manholes. A description of the cause of the identified overflows, and a plan for addressing the overflows consistent with the requirements of this permit;
- f. An ongoing program to identify and remove sources of I/I. The program shall include an inflow identification and control program that focuses on the disconnection and redirection of illegal sump pumps and roof down spouts; and
- g. An educational public outreach program for all aspects of I/I control, particularly private inflow.

For each of the above activities that are not completed and implemented as of the submittal date, the plan shall provide a schedule for its completion.

D. ALTERNATE POWER SOURCE

In order to maintain compliance with the terms and conditions of this permit, the permittee shall provide an alternate power source with which to sufficiently operate the publicly owned treatment works, as defined at 40 C.F.R. § 122.2, which references the definition at 40 C.F.R. § 403.3(o).

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 Clean Water Act (CWA) Section 405(d) technical standards.
2. The permittee shall comply with the more stringent of either State (Env-Ws 800) or Federal (40 C.F.R. Part 503) 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. Fired in a sewage sludge incinerator.
4. The 40 C.F.R. Part 503 conditions do not apply to facilities that place sludge within a municipal solid waste landfill (MSWLF). Part 503 relies on 40 C.F.R. Part 258 criteria, which regulates landfill disposal, for sewage sludge disposed in a MSWLF. 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 (lagoon reed beds), or are otherwise excluded under 40 C.F.R. Part 503.6.
5. The permittee shall use and comply with the attached Sludge Compliance Guidance document to determine appropriate conditions. Appropriate conditions contain the following items:
 - 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. If the sludge disposal method requires monitoring, 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 1,500.....1/Quarter
- c. 1,500 to less than 15,000.....6/Year
- d. 15,000 plus.....1/Month

7. The permittee shall perform all required sewage sludge sampling using the procedures detailed in 40 C.F.R. Part 503(h).

8. When the permittee is responsible for an annual report containing the information specified in the regulations, the report shall be submitted by February 19th of each year. Reports shall be submitted to the address contained in the reporting section of the permit.

9. Sludge monitoring is not required by the permittee when the permittee is not responsible for the ultimate sludge use or disposal or when the sludge is disposed of in a MSWLF. 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 of each year containing the following information:

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

Reports shall be submitted to the address contained in the reporting section of the permit.

F. SPECIAL CONDITIONS

pH Limit Adjustment

The permittee may submit a written request to the EPA-New England 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 Guidelines (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 approval letter shall certify 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-New England indicating the pH limit range has been changed, the permittee is required to meet the permitted pH limit range in the respective permit.

G. 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.

1. Signed and dated original DMRs and all other reports and notifications required herein and in Part II, 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

2. Duplicate signed copies of all reports and notifications required herein shall be submitted to the State at:

New Hampshire Department of Environmental Services
Water Division
Wastewater Engineering Bureau
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.

H. STATE PERMIT CONDITIONS

1. 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).
2. This NPDES Discharge Permit is issued by EPA under Federal and State law. Upon final issuance by EPA, the New Hampshire Department of Environmental Services-Water Division (NHDES-WD) may adopt this permit, including all terms and conditions, as a State permit pursuant to RSA 485-A:13.
3. EPA shall have the right to enforce the terms and conditions of this Permit pursuant to federal law and NHDES-WD shall have the right to enforce the Permit pursuant to state law, if the Permit is adopted. 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.

4. Pursuant to New Hampshire Statute RSA 485-A:13,I(c), any person responsible for a bypass or upset at a wastewater treatment facility shall give immediate notice of a bypass or upset to all public or privately owned water systems drawing water from the same receiving water and located within 20 miles downstream of the point of discharge regardless of whether or not it is on the same receiving water or on another surface water to which the receiving water is a tributary. The permittee shall maintain a list of persons, and their telephone numbers, who are to be notified immediately by telephone. In addition, written notification, which shall be postmarked within 3 days of the bypass or upset, shall be sent to such persons.
5. The pH range of 6.5 to 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 the range of 6.0 – 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).
6. Pursuant to New Hampshire Code of Administrative Rules, Env-Wq 703.07(a):
 - (a) Any person proposing to construct or modify any of the following shall submit an application for a sewer connection permit to the department:
 - (1) Any extension of a collector or interceptor, whether public or private, regardless of flow;
 - (2) Any wastewater connection or other discharge in excess of 5,000 gpd;
 - (3) Any wastewater connection or other discharge to a WWTP operating in excess of 80 percent design flow capacity based on actual average flow for 3 consecutive months;
 - (4) Any industrial wastewater connection or change in existing discharge of industrial wastewater, regardless of quality or quantity; and
 - (5) Any sewage pumping station greater than 50 gpm or serving more than one building.
7. For each new or increased discharge of industrial waste to the POTW, the permittee shall submit, in accordance with Env-Ws 904.14(e) an "Industrial Wastewater Discharge Request Application" approved by the permittee in accordance with 904.13(a). The "Industrial Wastewater Discharge Request Application" shall be prepared in accordance with Env-Ws 904.10.
8. Pursuant to Env-Ws 904.17, at a frequency no less than every five years, permittees are required to submit:

- a. A copy of its current sewer use ordinance. The sewer use ordinance shall include local limits pursuant to Env-Ws 904.04 (a).
 - b. A current list of all significant indirect discharger to the POTW. As a minimum, the list shall include for each industry, its name and address, the name and daytime telephone number of a contact person, products manufactured, industrial processes used, existing pretreatment processes, and discharge permit status.
 - c. A list of all permitted indirect dischargers; and
 - d. A certification that the municipality is strictly enforcing its sewer use ordinance and all discharge permits it has issued.
9. In addition to submitting DMRs, monitoring results shall also be summarized for each calendar month and reported on separate Monthly Operating Report Form(s) (MORs) postmarked no later than the 15th day of the month following the completed reporting period.

Signed and dated MORs shall be submitted to:

New Hampshire Department of Environmental Services (NHDES)
Water Division
Wastewater Engineering Bureau
29 Hazen Drive
Concord, New Hampshire 03302-0095