

**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”),

Meriden Village Water District

is authorized to discharge from the Wastewater Treatment Plant located at

**90 Bonner Road
Meriden, New Hampshire 03770**

to receiving water named

Bloods Brook (Hydrologic Basin Code: 01080104)

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

This permit shall become effective on the date of issuance.

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

This permit supersedes the permit issued on April 15, 1983.

This permit consists of **11** pages in Part I including effluent limitations, monitoring requirements, etc., **Attachment A**, Freshwater Chronic Toxicity Test Procedures & Protocol; **Sludge Compliance Guidance** dated November 4, 1999, and **35** pages in Part II including General Conditions and Definitions.

Signed this 7th day of June, 2002.

/Signature on file/

Linda M. Murphy, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency
EPA-New England
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 from outfall serial number 001 treated domestic (household/sanitary/septage) and commercial wastewater effluent to Bloods Brook. 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> (lbs/day)	<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	Recorder ¹
BOD ₅	20	30	33.4 ²	30 mg/l	45 mg/l	50 mg/l ²	1/Week ³	Grab	
TSS	20	30	33.4 ²	30 mg/l	45 mg/l	50 mg/l ²	1/Week ³	Grab	
pH Range ²			6.5 to 8.0 Standard Units (See PART I.F.1.a.)				1/Day	Grab	
<i>Escherichia coli</i> ^{2,4,5} ; Colonies/100 ml	----	----	----	126	----	406	2/Week	Grab	Grab
Total Residual Chlorine ^{4,6} ; mg/l	----	----	----		0.050	----	0.086	1/Day	Grab
Whole Effluent Toxicity									
LC50 ^{7,8,9} Percent Effluent				----	----	100	1/Quarter	Grab	
C-NOEC ^{8,9,10} ; Percent Effluent				----	----	≥22.2	1/Quarter	Grab	
Hardness ¹¹ ; mg/l				----	----	Report	1/Quarter	Grab	
Ammonia Nitrogen as Nitrogen ¹¹ ; mg/l				----	----	Report	1/Quarter	Grab	
Total Recoverable Aluminum ¹¹ ; mg/l				----	----	Report	1/Quarter	Grab	
Total Recoverable Cadmium ¹¹ ; mg/l				----	----	Report	1/Quarter	Grab	
Total Recoverable Chromium ¹¹ ; mg/l				----	----	Report	1/Quarter	Grab	
Total Recoverable Copper ¹¹ ; mg/l				----	----	Report	1/Quarter	Grab	
Total Recoverable Lead ¹¹ ; mg/l				----	----	Report	1/Quarter	Grab	
Total Recoverable Nickel ¹¹ ; mg/l				----	----	Report	1/Quarter	Grab	
Total Recoverable Zinc ¹¹ ; mg/l				----	----	Report	1/Quarter	Grab	

NOTE: See pages 3 through 4 for explanation of footnotes.

EXPLANATION OF FOOTNOTES APPLICABLE 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) Limit is a State Certification Requirement.
- (3) The influent concentrations of both BOD₅ and TSS shall be monitored twice per month (2/Month) using a 24-Hour Composite sample and the results reported as average monthly values.
- (4) Monitoring for *Escherichia coli* bacteria as described in footnote (5) below shall be conducted concurrently with the daily monitoring for Total Residual Chlorine (TRC) as described in footnote (6) below.
- (5) The average monthly value for *Escherichia coli* shall be determined by calculating the geometric mean and the result reported. *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, 19th or subsequent Edition(s) as approved in 40 Code of Federal Regulations (CFR) Part 136.
- (6) 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 limit at which compliance/non-compliance determinations will be based is the Minimum Level (ML) which is defined as 0.050 mg/l for TRC and this ML value may be reduced by permit modification as more sensitive test methods are approved by EPA. Any value below 0.050 mg/l shall be reported as zero until written notice is received by certified mail from EPA-New England indicating some value other than zero is to be reported for TRC's ML of 0.050 mg/l (i.e., between zero and 0.049 mg/l).

- (7) LC50 (lethal concentration 50 percent) is the concentration of wastewater (effluent) causing mortality to 50 percent (%) of the test organisms. The "100 % limit" is defined as a sample which is composed of 100 percent effluent (See A.1 on Page 2 of Part I and **Attachment A** of Part I). Therefore, a 100 % limit means that a sample of 100 % effluent (no dilution) shall cause no greater than a 50 % mortality rate in that effluent sample. The limit is considered to be a maximum daily limit.

- (8) The permittee shall conduct chronic (and modified acute) survival and reproduction toxicity tests using the Daphnid (*Ceriodaphnia dubia*) and chronic (and modified acute) survival and growth toxicity tests using the Fathead Minnow (*Pimephales promelas*) on effluent samples following the protocol in **Attachment A** (Freshwater Chronic Toxicity Test Procedure and Protocol dated December 1995). Toxicity test samples shall be collected and tests completed during the calendar quarters ending March 31st, June 30th, September 30th and December 31st each year. Toxicity test results are to be submitted by the 15th day of the month following the end of the quarter sampled. For example, test results for the calendar quarter January through March are due April 15th.
- (9) This permit shall be modified, or alternatively, revoked and reissued to incorporate additional toxicity testing requirements, including chemical specific limits such as for metals, if the results of the toxicity tests indicate the discharge causes an exceedance of any State water quality criterion. Results from these toxicity tests are considered "New Information" and the permit may be modified as provided in 40 CFR Section 122.62(a)(2).
- (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 (growth, survival, and/or reproduction) exhibit a linear dose-response relationship. However, where the test results do not exhibit a linear dose-response relationship, report the **lowest** concentration where there is no observable effect. See **Attachment A (VII. Toxicity Test Data Analysis)** on page A-9 for additional clarification. The C-NOEC limit of "**equal to or greater than 22.2 %**" is defined as a sample which is composed of **22.2 % (or greater)** effluent, the remainder being dilution water. This is the minimum percentage of effluent at which no chronic effects will be observed. The limit is considered to be a maximum daily limit.
- (11) 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 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.

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 90 consecutive days exceeds 80 percent of the 0.08 MGD design flow or 0.064 MGD (64,000 gallons per day), 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. All Publicly Owned Treatment Works (POTWs) must provide adequate notice to both EPA-New England and the 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 §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.
7. The permittee shall not discharge into the receiving water any pollutant or combination of

pollutants in toxic amounts.

8. Limitations for Industrial Users

- a. A user may not introduce into a POTW any pollutant(s) which cause Pass Through or Interference with the operation or performance of the treatment works. The terms “user”, “pass through” and “interference” are defined in 40 CFR Section 403.3.
- b. The permittee shall submit to EPA-New England and NHDES-WD the name of any Industrial User (IU) subject to Categorical Pretreatment Standards under 40 CFR §403.6 and 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) **who commences discharge to the POTW after the effective date of this permit.** This reporting requirement also applies to any other IU that discharges an average of 25,000 gallons per day or more of process wastewater into the POTW (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contributes a process wastewater which makes up five (5) percent or more of the average dry-weather hydraulic or organic capacity of the POTW; or is designated as such by the Control Authority as defined in 40 CFR §403.12(a) on the basis that the industrial user has a reasonable potential for adversely affecting the POTW’s operation or for violating any pretreatment standard or requirement [in accordance with 40 CFR §403.8(f)(6)].
- c. In the event that the permittee receives reports (baseline monitoring reports, 90-day compliance reports, periodic reports on continued compliance, etc.) from industrial users subject to Categorical Pretreatment Standards under 40 CFR §403.6 and 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-New England and NHDES-WD.

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 (Env-Ws 800) 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. Placement of sludge in a municipal solid waste landfill (See 40 CFR Section 503.4).
 - d. 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 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 Section 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 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 for the permittee's chosen sewage sludge use or disposal practices 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 1,500	1/Quarter
1,500 to less than 15,000	6/Year
15,000 plus	1/Month

7. The permittee shall sample the sewage sludge using the procedures detailed in 40 CFR Section 503.8.
8. 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. SPECIAL CONDITIONS

WET Test Frequency Adjustment

The permittee may submit a written request to the EPA-New England requesting a reduction in the frequency (to not less than once per year) of required toxicity testing, after completion of a minimum of the most recent four (4) successive toxicity tests of effluent, all of which must be valid tests and demonstrate compliance with the permit limits for whole effluent toxicity. Until written notice is received by certified mail from the EPA-New England indicating that the WET testing requirement has been changed, the permittee is required to continue testing at the frequency specified in the respective permit.

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 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-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.

D. MONITORING AND REPORTING CONDITIONS

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 State at:

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

E. REOPENER CLAUSE

This permit may be modified, or alternatively, revoked and reissued if, in the future, an analysis of a Total Maximum Daily Load (TMDL) or any other water-quality study of Bloods Brook performed by NHDES-WD and/or EPA-New England demonstrates the need for more stringent pollutant limits. Results from these study(s) will serve as the basis for additional permit limit(s) such as phosphorus, ammonia and/or dissolved oxygen, and possibly could include more stringent limit(s) for those pollutants currently limited such as CBOD₅/BOD₅ and TSS. Any of these additional limits could be expressed in terms of concentration and/or mass where appropriate. Furthermore, should any of these studies result in a revision of the available dilution, current limits based on that dilution may be revised, such as TRC and WET. Results from a TMDL or any other water-quality study, not available at permit reissuance, are considered "New Information" and the permit may be modified as provided in 40 CFR Section 122.62 (a)(2).

F. 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 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 Discharge Permit Request Application" form for any new or increased loadings of industrial waste, as defined in RSA 485-A:2, VI.
 - 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 and current local limits. Submittal shall include adoption dates for the documents and a narrative indicating any anticipated changes.
 - 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. At a minimum, the list shall indicate the name and address of each industry, along with the following information: telephone number, contact person, facility description, production quantity, products manufactured, industrial processes used, chemicals used in processes, existing level of pretreatment, and list of existing discharge permits.
 - g. Within 270 days of the effective date of this permit, the permittee shall submit to NHDES-WD a copy of discharge permit(s) issued to each industry discharging industrial waste to the municipal wastewater treatment plant. At a minimum, each permit shall contain the following: effective dates; flow and applicable pollutant limits; self-monitoring, reporting, compliance monitoring and inspection provisions; and enforcement criteria. If industrial permitting authority does not exist as of the effective date of this permit, the permittee is requested to submit to the NHDES-WD a proposed plan and implementation schedule for adopting such authority and implementing an industrial permitting system.
2. This NPDES Discharge Permit is issued by the EPA-New England under Federal and State law. Upon final issuance by the EPA-New England, 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.