



**Vermont Department of Environmental Conservation**  
Watershed Management Division  
1 National Life Drive, Main-2  
Montpelier VT 05620-3522

*Agency of Natural Resources*

[phone] 802-828-1535  
[fax] 802-828-1544

May 18, 2015

Town of Canaan  
Attn: Vernon Crawford  
PO Box 159  
318 Christian Hill  
Canaan, VT 05903

**RE: Discharge Permit No. 3-0330: Canaan Wastewater Treatment Facility.**

Dear Mr. Crawford,

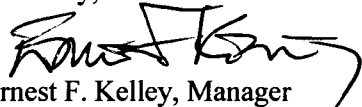
Enclosed is your copy of Discharge Permits No. 3-0330 which has been signed on behalf of the Commissioner of the Department of Environmental Conservation. This permit authorizes the discharge of treated and disinfected wastewater from the Canaan Wastewater Treatment Facility to the Connecticut River.

Please review the permit carefully and make note of the effluent limitations, monitoring requirements, and other special conditions. As proposed in the draft permit which was provided for comment, this permit contains several changes from the permit that currently authorizes your discharge. Specifically, the requirements of EPA's Long Island Sound Nitrogen TMDL are included in this permit (See Condition I.A.D). The TMDL requires the Town to monitor for Total Nitrogen, develop and implement a Nitrogen Optimization Plan, assess the adequacy of the Plan, and annually report the Total Nitrogen discharged from your facility. Also since the wastewater treatment facility is now accepting septage, the permit includes a septage limitation, a requirement to report the daily volume of septage received, and to conduct influent BOD and TSS monitoring a minimum of twice per month to provide adequate data on the impact of septage. In addition Condition I.I. requires that the Emergency Response Plan for the wastewater treatment facility, pump stations, and stream crossing approved by the Agency on June 28, 2012 be implemented and the Emergency Response Plan for the sewage collection system submitted on July 1, 2010 be implemented upon approval by the Agency.

Since we did not receive any comments on the draft permit during the notice period, the final permit is unchanged from the draft that was placed on notice for comment.

If there are any questions regarding this permit please contact Randy Bean at our office.

Sincerely,

  
Ernest F. Kelley, Manager  
Wastewater Management Program

attachments

cc.

Liz Dickson, VT DEC WSMD  
April Hyde, Town of Canaan WWTF

AGENCY OF NATURAL RESOURCES  
DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
WATERSHED MANAGEMENT DIVISION  
ONE NATIONAL LIFE DRIVE, MAIN BUILDING, 2<sup>nd</sup> FLOOR  
MONTPELIER, VT 05620-3522

Permit No.: 3-0330  
PIN: SJ98-0177  
NPDES No.: VT0100625

Name of Applicant: Town of Canaan  
PO Box 159  
Canaan, VT 05903

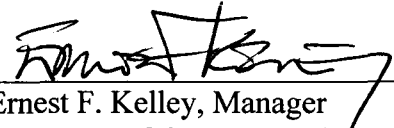
Expiration Date: March 31, 2020

DISCHARGE PERMIT

In compliance with the provisions of the Vermont Water Pollution Control Act as amended (10 V.S.A. chapter 47), the Vermont Water Pollution Control Permit Regulations as amended, and the federal Clean Water Act as amended (33 U.S.C. §1251 *et seq*), the Town of Canaan, Vermont (hereinafter referred to as the "Permittee") is authorized by the Secretary of Natural Resources (Secretary) to discharge from the Canaan Wastewater Treatment Facility to the Connecticut River in accordance with the following conditions.

This permit shall become effective on the date of signing.

David K. Mears, Commissioner  
Department of Environmental Conservation

By:  5/15/15  
Ernest F. Kelley, Manager  
Wastewater Management Program  
Watershed Management Division

**I. SPECIAL CONDITIONS**

**A. EFFLUENT LIMITS**

- From the date of signing through March 31, 2020 the permittee is authorized to discharge from S/N 001 - outfall, the Canaan Wastewater Treatment Facility, to the Connecticut River, an effluent for which the characteristics shall not exceed the values listed below:

<b>DISCHARGE LIMITATIONS</b>							
<b>Effluent Characteristic</b>	<b>Monthly Average</b>	<b>Weekly Average</b>	<b>Maximum Day</b>	<b>Monthly Average</b>	<b>Weekly Average</b>	<b>Maximum Day</b>	<b>Instantaneous Maximum</b>
	..... (lbs / day) .....			..... (Concentration) .....			
Flow(Annual Avg)				0.185 MGD			
Biochemical Oxygen Demand, 5-day, 20° C	46	69		30 mg/l	45 mg/l	50 mg/l	
Total Suspended Solids	69	69		45 mg/l	45 mg/l	50 mg/l	
Total Phosphorus						monitor only, mg/l	
Total Nitrogen (Annual Avg) <sup>(1,2)</sup>	See Condition I.D.1 below					monitor only, mg/l	
Total Kjeldahl Nitrogen TKN)						monitor only, mg/l	
Nitrate/Nitrite Nitrogen (NOx)						monitor only, mg/l	
Settleable Solids							1.0 ml/l
Total Residual Chlorine					1.0 mg/l		2.0 mg/l
Escherichia coli Bacteria							77/100 ml
pH				Between 6.5 and 8.5 Standard Units			

- Total Nitrogen = Total Kjeldahl Nitrogen (TKN) + Nitrate/Nitrite Nitrogen (NOx).
- See Total Nitrogen monitoring report form WR43-TN.

2. The effluent shall not have concentrations or combinations of contaminants including oil, grease, scum, foam, or floating solids which would cause a violation of the Vermont Water Quality Standards.
3. The effluent shall not cause visible discoloration of the receiving waters.
4. The monthly average concentrations of Biochemical Oxygen Demand (BOD<sub>5</sub>) and Total Suspended Solids (TSS) in the effluent shall not exceed 15 percent of the monthly average concentrations of BOD<sub>5</sub> and TSS in the influent into the Permittee's wastewater treatment facilities. For the purposes of determining whether the Permittee is in compliance with this condition, samples from the effluent and the influent shall be taken with appropriate allowance for detention times.
5. If the effluent discharged for a period of 90 consecutive days exceeds 80 percent of the permitted flow limitation, the Permittee shall submit to the Department projected loadings and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans.
6. Any action on the part of the Agency of Natural Resources in reviewing, commenting upon or approving plans and specifications for the construction of wastewater treatment facilities shall not relieve the permittee from the responsibility to achieve effluent limitations set forth in this permit and shall not constitute a waiver of, or act of estoppel against any remedy available to the Agency, the State of Vermont or the federal government for failure to meet any requirement set forth in this permit or imposed by state or federal law.

#### **B. SEPTAGE RECEIVED**

The permittee shall limit the volume of septage received to a daily maximum of 6,000 gpd. If the Agency determines that septage is interfering with the proper operation of the facility or resulting in the failure to meet effluent limits, then the Agency may amend this permit to reduce this limitation.

#### **C. WASTE MANAGEMENT ZONE**

In accordance with 10 V.S.A. Section 1252, this permit hereby establishes a waste management zone that extends from the outfall of the Canaan Wastewater Treatment Facility in the Connecticut River downstream 1.0 miles.

#### **D. TOTAL NITROGEN**

##### **1. Optimization Plan**

**By September 30, 2015**, the permittee shall develop and submit to the Department for review and approval a Nitrogen Removal Optimization Evaluation Plan (the Plan) for the evaluation of alternative methods of operating the existing wastewater treatment facility to optimize the removal of nitrogen. The methods to be evaluated include, but are not limited to: operational, process, or equipment changes designed to enhance nitrification and denitrification (seasonal and year-round); incorporation of anoxic zones; septage receiving

policies and procedures; and side stream management. The permittee shall implement these recommended operational changes in order to maintain the existing mass discharge loading of Total Nitrogen. The baseline annual average daily Total Nitrogen load discharge from this facility is estimated to be **approximately 30 lbs/day**.

This Plan shall be developed by a qualified professional with experience in the operation and/or design of municipal wastewater treatment facilities in conjunction with the Chief Operator of the facility.

This Plan shall be provided to the Agency for review and approval prior to implementation and shall be revised upon the Agency's request or by the Permittee to address equipment or operational changes.

Implementation of the Plan shall commence within 30 days of its approval by the Agency.

## 2. **Plan Evaluation**

Within one year following the implementation of the Plan, the permittee shall evaluate the effectiveness of the Plan. The evaluation shall be conducted by a qualified professional with experience in the operation and/or design of municipal wastewater treatment facilities in conjunction with the Chief Operator of the facility. The results of the evaluation shall be submitted to the Agency for review and approval within 60 days of its completion and shall be revised at the Agency's request. Actions to implement the approved nitrogen removal optimization practices, if any, shall be initiated within 90 days of the Agency's approval.

## 3. **Reporting**

**Annually, beginning in January 2017**, the permittee shall submit a report to the Agency, as an attachment to the December Discharge Monitoring Report form (WR-43), that documents the annual average daily Total Nitrogen discharged (in pounds per day) from the facility, summarizes nitrogen removal optimization and efficiencies, and tracks trends relative to the previous year.

Total Nitrogen (TN) = Total Kjeldahl Nitrogen (TKN) + Nitrite/Nitrate (NO<sub>x</sub>).

The Total Nitrogen pounds per day, annual average, shall be based on the sum of the Total Monthly Pounds of TN discharged for the calendar year and shall be calculated as follows:

1. Determine the Total Monthly TN in pounds:  
Total Monthly TN pounds = (Monthly Average TN concentration (mg/l) x Total Monthly Flow (mgd)) x 8.34
2. Calculate the TN, pounds per day, annual average:  
(Sum of the Total Monthly TN pounds for the calendar year)/365 days

**4. Wasteload Allocation**

This permit does not establish a formal Waste Load Allocation for the facility nor does it convey any right to ownership of the facility's estimated baseline annual average total nitrogen load.

The Agency reserves the right to reopen and amend this permit to include an alternate Total Nitrogen limitation and/or additional monitoring requirements based on the monitoring data, the results of nitrogen optimization activities, or a formal Waste Load Allocation promulgated under Vermont's Waste Load Allocation Rule for Total Nitrogen in the Connecticut River Watershed based on the Long Island Sound Total Nitrogen TMDL.

**E. REAPPLICATION**

If the permittee desires to continue to discharge after the expiration of this permit, the permittee shall reapply on the application forms then in use at least 180 days before this permit expires.

Reapply for a Discharge Permit by: September 30, 2019

**F. OPERATING FEES**

This discharge is subject to operating fees. The permittee shall submit the operating fees in accordance with the procedures provided by the Secretary.

**G. MONITORING AND REPORTING****1. Sampling and Analysis**

The sampling, preservation, handling, and analytical methods used shall conform to regulations published pursuant to Section 304(g) of the Clean Water Act, under which such procedures may be required. Guidelines establishing these test procedures have been published in the Code of Federal Regulations, Title 40, Part 136 (Federal Register, Vol. 56, No. 195, July 1, 1999 or as amended).

Samples shall be representative of the volume and quality of effluent discharged over the sampling and reporting period. All samples are to be taken during normal operating hours. The permittee shall identify the effluent sampling location used for each discharge.

## 2. Effluent Monitoring

The permittee shall monitor and record the quality and quantity of discharge(s) S/N 001 - outfall, the Canaan Wastewater Treatment Facility, according to the following schedule and other provisions:

Until March 31, 2020

PARAMETER	MINIMUM FREQUENCY OF ANALYSIS	SAMPLE TYPE
Flow	Continuous	Daily Total, Max., Min.
BOD <sub>5</sub>	1 x monthly	8 hour composite <sup>(1)</sup>
TSS	1 x monthly	8 hour composite <sup>(1)</sup>
Total Phosphorus (TP)	1 x monthly	8 hour composite <sup>(1)</sup>
Total Nitrogen	1 x monthly	Calculated <sup>(2)</sup>
Total Kjeldahl Nitrogen (TKN)	1 x monthly	8 hour composite <sup>(1)</sup>
Nitrate/Nitrite Nitrogen (NO <sub>x</sub> )	1 x monthly	8 hour composite <sup>(1)</sup>
Settleable Solids	1 x daily	grab <sup>(3)</sup>
Escherichia coli Bacteria	1 x monthly	grab <sup>(4)</sup>
Total Residual Chlorine	1 x daily	grab <sup>(4)</sup>
pH	1 x daily	grab

- (1) Composite samples for BOD<sub>5</sub>, TSS, TP, TKN and NO<sub>x</sub> shall be taken during the hours 6:00 a.m. to 6:00 p.m., unless otherwise specified. Eight hours is the minimum period for the composite.
- (2)  $TN = TKN + NO_x$
- (3) Settleable Solids samples shall be collected between 10:00 a.m. and 2:00 p.m. or during the period of peak flow.
- (4) On the day that the Escherichia coli grab sample is collected, the daily Total Residual Chlorine grab sample for that day shall be collected at the same time and location as the E. coli sample and reported on Discharge Monitoring Report. Samples shall be collected between the hours of 6:00 a.m. to 6:00 p.m.

3. **Annually, by December 31**, the permittee shall monitor S/N 001 and submit the results, including units of measurement, as an attachment to the Discharge Monitoring Report form (WR-43) for the month in which the samples were taken for the following parameters:

Temperature	Ammonia (as N)	Dissolved Oxygen
Oil & Grease	Total Dissolved Solids	

Grab samples shall be used for temperature, ammonia, dissolved oxygen, and oil & grease. Total Dissolved Solids (TDS) shall be a composite sample. Samples shall be representative of the seasonal variation in the discharge.

4. **Influent Monitoring**

The permittee shall monitor the quality of the influent according to the following schedule and other provisions.

PARAMETER	MINIMUM FREQUENCY OF ANALYSIS	SAMPLE TYPE
Influent BOD <sub>5</sub>	2 x monthly	8 - hour composite, minimum <sup>(1)</sup>
Influent TSS	2 x monthly	8 - hour composite, minimum <sup>(1)</sup>
Total Nitrogen (TN)	1 x quarterly	Calculated <sup>(2,3)</sup>
Total Kjeldahl Nitrogen (TKN)	1 x quarterly	8 - hour composite, minimum <sup>(2,3)</sup>
Nitrate/Nitrite Nitrogen (NO <sub>x</sub> )	1 x quarterly	8 - hour composite, minimum <sup>(2,3)</sup>
Septage Received	Daily	Total volume received

(1) Composite samples for BOD<sub>5</sub>, TSS, TKN and NO<sub>x</sub> shall be taken during the hours of 6:00 a.m. to 6:00 p.m., unless otherwise specified. Eight hours is the minimum period for the composite.

(2)  $TN = TKN + NO_x$

(3) The influent TN monitoring shall be done on the same day as an effluent TN monitoring.

5. **Reporting**

The permittee is required to submit monthly reports of monitoring results on form WR-43. Reports are due on the 15th day of each month, beginning with the month following the effective date of this permit.

If, in any reporting period, there has been no discharge, the permittee must submit that information by the report due date.



Signed copies of these, and all other reports required herein, shall be submitted to the Secretary at the following address:

Agency of Natural Resources  
Department of Environmental Conservation  
Watershed Management Division  
One National Life Drive, Main Building, 2<sup>nd</sup> Floor  
Montpelier VT 05620-3522

All reports shall be signed:

- a. In the case of corporations, by a principal executive officer of at least the level of vice president, or his/her duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge described in the permit form originates;
- b. In the case of a partnership, by a general partner;
- c. In the case of a sole proprietorship, by the proprietor;
- d. In the case of a municipal, State, or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.

In addition to the monitoring and reporting requirements given above, daily monitoring of certain parameters for operational control are required by the Agency. Operations reports (reporting form WR-43) shall be submitted monthly.

## **6. Recording of Results**

The permittee shall maintain records of all information resulting from any monitoring activities required, including:

- a. The exact place, date, and time of sampling;
- b. The dates and times the analyses were performed;
- c. The person(s) who performed the analyses;
- d. The analytical techniques and methods used including sample collection handling and preservation techniques;
- e. The results of all required analyses.
- f. The records of monitoring activities and results, including all instrumentation and calibration and maintenance records;
- g. The original calculation and data bench sheets of the operator who performed analysis of the influent or effluent pursuant to requirements of Section I.(A) of this permit.

The results of monitoring requirements shall be reported (in the units specified) on the Vermont reporting form WR-43 or other forms approved by the Secretary.

## 7. **Additional Monitoring**

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report Form WR-43. Such increased frequency shall also be indicated.

## H. **DRY WEATHER FLOWS**

Dry weather flows of untreated municipal wastewater from any sanitary or combined sewers are not authorized by this permit and are specifically prohibited by State and Federal laws and regulations.

## I. **OPERATION, MANAGEMENT, AND EMERGENCY RESPONSE PLANS**

1. The permittee shall implement the Operation, Management, and Emergency Response Plan for the wastewater treatment facility, pump stations, and stream crossings as approved by the Agency on September 27, 2008 and amended on June 28, 2012.
2. Upon approval by the Agency, the permittee shall implement the Operation, Management, and Emergency Response Plan for collection submitted to the Agency for review and approval on July 1, 2010.

## J. **EMERGENCY ACTION - ELECTRIC POWER FAILURE**

The permittee shall indicate in writing to the Secretary **within 30 days after the effective date of this permit** that the discharge shall be handled in such a manner that, in the event the primary source of electric power to the waste treatment facilities (including pump stations) fails, any discharge into the receiving waters will attempt to comply with the conditions of this permit, but in no case shall the wastes receive less than primary treatment (or in the case of ultraviolet light disinfection systems, not less than secondary treatment) plus disinfection.

The permittee shall either provide an alternative source of power for the operation of its treatment facilities, or demonstrate that the treatment facility has the capacity to store the wastewater volume that would be generated over the duration of the longest power failure that would have affected the facility in the last five years, excluding catastrophic events.

The alternative power supply, whether from a generating unit located at the plant site or purchased from an independent source of electricity, must be separate from the existing power source used to operate the waste treatment facilities. If a separate unit located at the plant site is to be used, the permittee shall certify in writing to the Secretary when the unit is completed and prepared to generate power.

The determination of treatment system storage capacity shall be submitted to the Watershed Management Division upon completion.

**K. SEWER ORDINANCE**

The permittee shall have in effect a sewer use ordinance acceptable to the Secretary which, at a minimum, shall

1. Prohibit the introduction by any discharger into the permittee's sewerage system or treatment facilities of any pollutant which:
  - a. is a toxic pollutant in toxic amounts as defined in standards issued from time to time under Section 307(a) of the Clean Water Act;
  - b. creates a fire or explosion hazard in the permittee's treatment works;
  - c. causes corrosive structural damage to the permittee's treatment works, including all wastes with a pH lower than 5.0;
  - d. contains solid or viscous substances in amounts which would cause obstruction to the flow in sewers or other interference with proper operation of the permittee's treatment works; or
  - e. in the case of a major contributing industry, as defined herein, contains an incompatible pollutant, as further defined herein, in an amount or concentration in excess of that allowed under standards or guidelines issued from time to time pursuant to Sections 304, 306, and/or 307 of the Clean Water Act.
2. Require 45 days prior notification to the permittee by any person or persons of a:
  - a. proposed substantial change in volume or character of pollutants over that being discharged into the permittee's treatment works at the time of issuance of this permit;
  - b. proposed new discharge into the permittee's treatment works of pollutants from any source which would be a new source as defined in Section 306 of the Clean Water Act if such source were discharging pollutants; or
  - c. proposed new discharge into the permittee's treatment works of pollutants from any source which would be subject to Section 301 of the Clean Water Act if it were discharging such pollutants.
3. Require any industry discharging into the permittee's treatment works to perform such monitoring of its discharge as the permittee may reasonably require, including the installation, use, and maintenance of monitoring equipment methods, to keep records of the results of such monitoring, and to report the results of such monitoring to the permittee. Such records shall be made available by the permittee to the Secretary upon request.
4. Authorize the permittee's authorized representatives to enter into, upon, or through the premises of any industry discharging into the permittee's treatment works to have access to

and copy any records, to inspect any monitoring equipment or method required under subsection 3 above, and to sample any discharge into the permittee's treatment works.

The permittee shall notify the Secretary of any discharge specified in subsection 2 above within 30 days of the date on which the permittee is notified of such discharge. This permit may be modified accordingly.

## II. GENERAL CONDITIONS

### A. MANAGEMENT REQUIREMENTS

#### 1. Facility Modification / Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant more frequently than, or at a level in excess of, that identified and authorized by this permit shall constitute a violation of the terms and conditions of this permit. Such a violation may result in the imposition of civil and/or criminal penalties pursuant to 10 V.S.A. Chapters 47, 201, and/or 211. Any anticipated facility expansions or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new permit application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the permit issuing authority of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

In addition, the permittee shall provide notice to the Secretary of the following:

- a. any new introduction of pollutants into the treatment works from a source which would be a new source as defined in Section 306 of the Clean Water Act if such source were discharging pollutants;
- b. except for such categories and classes of point sources or discharges specified by the Secretary, any new introduction of pollutants into the treatment works from a source which would be subject to Section 301 of the Clean Water Act if such source were discharging pollutants; and
- c. any substantial change in volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into such works at the time of issuance of the permit.

The notice shall include:

- i. the quality and quantity of the discharge to be introduced into the system, and
- ii. the anticipated impact of such change in the quality or quantity of the effluent to be discharged from the permitted facility.

## 2. Noncompliance Notification

In the event the permittee is unable to comply with any of the conditions of this permit due, among other reasons, to:

- a. breakdown or maintenance of waste treatment equipment (biological and physical-chemical systems including, but not limited to, all pipes, transfer pumps, compressors, collection ponds or tanks for the segregation of treated or untreated wastes, ion exchange columns, or carbon absorption units),
- b. accidents caused by human error or negligence, or
- c. other causes such as acts of nature,

the permittee shall notify the Secretary within 24 hours of becoming aware of such condition or by the next business day and shall provide the Secretary with the following information, in writing, within five (5) days:

- i. cause of non-compliance
- ii. a description of the non-complying discharge including its impact upon the receiving water;
- iii. anticipated time the condition of non-compliance is expected to continue or, if such condition has been corrected, the duration of the period of non-compliance;
- iv. steps taken by the permittee to reduce and eliminate the non-complying discharge; and
- v. steps to be taken by the permittee to prevent recurrence of the condition of non-compliance.

## 3. Operation and Maintenance

All waste collection, control, treatment, and disposal facilities shall be operated in a manner consistent with the following:

- a. The permittee shall, at all times, maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.
- b. The permittee shall provide an adequate operating staff which is duly qualified to carry out the operation, maintenance, and testing functions required to insure compliance with the conditions of this permit; and

- c. The operation and maintenance of this facility shall be performed only by qualified personnel. The personnel shall be certified as required under the Vermont Water Pollution Abatement Facility Operator Certification Regulations.

#### **4. Quality Control**

The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at regular intervals to ensure accuracy of measurements, or shall ensure that both activities will be conducted.

The permittee shall keep records of these activities and shall provide such records upon request of the Secretary.

The permittee shall demonstrate the accuracy of the flow measurement device weekly and report the results on the monthly report forms. The acceptable limit of error is  $\pm 10\%$ .

The permittee shall analyze any additional samples as may be required by the Agency of Natural Resources to ensure analytical quality control.

#### **5. Bypass**

The diversion or bypass of facilities (including pump stations) necessary to maintain compliance with the terms and conditions of this permit is prohibited, except where authorized under the terms and conditions of an Emergency Pollution Permit issued pursuant to 10 V.S.A. Section 1268.

#### **6. Duty to Mitigate**

The permittee shall take all reasonable steps to minimize or prevent any adverse impact to waters of the State resulting from non-compliance with any condition specified in this permit, including accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.

#### **7. Records Retention**

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed, calibration and maintenance of instrumentation, and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, and shall be submitted to Department representatives upon request. This period shall be extended during the course of unresolved litigation regarding the discharge of pollutants or when requested by the Secretary.

#### **8. Solids Management**

Collected screenings, sludges, and other solids removed in the course of treatment and control of wastewaters shall be stored, treated and disposed of in accord with 10 V.S.A., Chapter 159 and with the terms and conditions of any certification, interim or final,

transitional operation authorization or order issued pursuant to 10 V.S.A., Chapter 159 that is in effect on the effective date of this permit or is issued during the term of this permit.

## 9. Emergency Pollution Permits

Maintenance activities, or emergencies resulting from equipment failure or malfunction, including power outages, which result in an effluent which exceeds the effluent limitations specified herein, shall be considered a violation of the conditions of this permit, unless the permittee immediately applies for, and obtains, an emergency pollution permit under the provisions of 10 V.S.A., Chapter 47, Section 1268. The permittee shall notify the Department of the emergency situation by the next working day.

10 V.S.A., Chapter 47, Section 1268 reads as follows:

"When a discharge permit holder finds that pollution abatement facilities require repairs, replacement or other corrective action in order for them to continue to meet standards specified in the permit, he may apply in the manner specified by the secretary for an emergency pollution permit for a term sufficient to effect repairs, replacements or other corrective action. The permit may be issued without prior public notice if the nature of the emergency will not provide sufficient time to give notice; provided that the secretary shall give public notice as soon as possible but in any event no later than five days after the effective date of the emergency pollution permit. No emergency pollution permit shall be issued unless the applicant certifies and the secretary finds that:

- (1) there is no present, reasonable alternative means of disposing of the waste other than by discharging it into the waters of the state during the limited period of time of the emergency;
- (2) the denial of an emergency pollution permit would work an extreme hardship upon the applicant;
- (3) the granting of an emergency pollution permit will result in some public benefit;
- (4) the discharge will not be unreasonably harmful to the quality of the receiving waters;
- (5) the cause or reason for the emergency is not due to wilful or intended acts or omissions of the applicant."

Application shall be made to the Secretary of the Agency of Natural Resources, Department of Environmental Conservation, One National Life Drive, Main Building, 2<sup>nd</sup> Floor, Montpelier VT 05620-3522.

**B. RESPONSIBILITIES****1. Right of Entry**

The permittee shall allow the Secretary or authorized representative, upon the presentation of proper credentials:

- a. to enter upon the permittee's premises in which an effluent source or any records required to be kept under terms and conditions of the permit are located;
- b. to have access to and copy any records required to be kept under the terms and conditions of the permit;
- c. to inspect any monitoring equipment or method required in the permit; or
- d. to sample any discharge of pollutants.

**2. Transfer of Ownership or Control**

This permit is not transferable without prior written approval of the Secretary. All application and operating fees must be paid in full prior to transfer of this permit. In the event of any change in control or ownership of facilities from which the authorized discharges emanate, the permittee shall provide a copy of this permit to the succeeding owner or controller and shall send written notification of the change in ownership or control to the Secretary. The permittee shall also inform the prospective owner or operator of their responsibility to make an application for transfer of this permit.

This request for transfer application must include as a minimum:

- a. A properly completed application form provided by the Secretary and the applicable processing fee.
- b. A written statement from the prospective owner or operator certifying:
  - i. The conditions of the operation that contribute to, or affect, the discharge will not be materially different under the new ownership.
  - ii. The prospective owner or operator has read and is familiar with the terms of the permit and agrees to comply with all terms and conditions of the permit.
  - iii. The prospective owner or operator has adequate funding to operate and maintain the treatment system and remain in compliance with the terms and conditions of the permit.
- c. The date of the sale or transfer.

The Secretary may require additional information dependent upon the current status of the facility operation, maintenance, and permit compliance.



**3. Confidentiality**

Pursuant to 10 V.S.A. 1259(b):

“Any records, reports or information obtained under this permit program shall be available to the public for inspection and copying. However, upon a showing satisfactory to the secretary that any records, reports or information or part thereof, other than effluent data, would, if made public, divulge methods or processes entitled to protection as trade secrets, the secretary shall treat and protect those records, reports or information as confidential. Any records, reports or information accorded confidential treatment will be disclosed to authorized representatives of the state and the United States when relevant to any proceedings under this chapter.”

**4. Permit Modification**

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

- a. violation of any terms or conditions of this permit;
- b. obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
- c. a change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

**5. Toxic Effluent Standards**

If a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under section 307(a) of the Federal Act for a toxic pollutant which is present in the permittee's discharge and such standard or prohibition is more stringent than any limitation upon such pollutant in this permit, then this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified.

**6. Oil and Hazardous Substance Liability**

Nothing in this permit shall be construed to preclude the institution of legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under 10 V.S.A. §1281.

**7. Other Materials**

Other materials ordinarily produced or used in the operation of this facility, which have been specifically identified in the application, may be discharged at the maximum frequency and maximum level identified in the application, provided:

- a. They are not:
  - i. designated as toxic or hazardous under provisions of Sections 307 and 311, respectively, of the Clean Water Act, or
  - ii. known to be hazardous or toxic by the permittee, except that such materials indicated in (a) and (b) above may be discharged in certain limited amounts with the written approval of, and under special conditions established by, the Secretary or his designated representative, if the substances will not pose any imminent hazard to the public health or safety;
- b. The discharge of such materials will not violate applicable water quality standards; and
- c. The permittee is not notified by the Secretary to eliminate or reduce the quantity of such materials entering the watercourse.

## **8. Navigable Waters**

This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities or the undertaking of any work in any navigable waters.

## **9. Civil and Criminal Liability**

Except as provided in, "Bypass" (Part II.A., paragraph 5.), "Emergency Action - Electric Power Failures" (Part I, paragraph J.), and "Emergency Pollution Permits" (Part II.A., paragraph 9.), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Civil and criminal penalties for non-compliance are provided for in 10 V.S.A. Chapters 47, 201, and 211.

## **10. State Laws**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Clean Water Act.

## **11. Property Rights**

Issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

**12. Severability**

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

**13. Authority**

This permit is issued under authority of 10 V.S.A. §§1258 and 1259 of the Vermont Water Pollution Control Act, the Vermont Water Pollution Control Permit Regulation, and Section 402 of the Clean Water Act, as amended. 10 V.S.A. §1259 states: "No person shall discharge any waste, substance, or material into waters of the State, nor shall any person discharge any waste, substance, or material into an injection well or discharge into a publicly owned treatment works any waste which interferes with, passes through without treatment, or is otherwise incompatible with those works or would have a substantial adverse effect on those works or on water quality, without first obtaining a permit for that discharge from the Secretary".

**14. Definitions**

For purposes of this permit, the following definitions shall apply.

**The Act** - The Vermont Water Pollution Control Act, 10 V.S.A. Chapter 47

**Annual Average** - The highest allowable average of daily discharges calculated as the sum of all daily discharges (mg/l, lbs or gallons) measured during a calendar year divided by the number of daily discharges measured during that year.

**Average** - The arithmetic means of values taken at the frequency required for each parameter over the specified period.

**The Clean Water Act** - The federal Clean Water Act, as amended.

**Composite Sample** - A sample consisting of a minimum of one grab sample per hour collected during a 24-hour period (or lesser period as specified in the section on Monitoring and Reporting) and combined proportionally to flow over that same time period.

**Daily Discharge** - The discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling.

For pollutants with limitations expressed in pounds the daily discharge is calculated as the total pounds of pollutants discharged over the day.

For pollutants with limitations expressed in mg/l the daily discharge is calculated as the average measurement of the pollutant over the day.

**Grab Sample** - An individual sample collected in a period of less than 15 minutes.

**Incompatible Substance (Pollutant)** - Any waste being discharged into the treatment works which interferes with, passes through without treatment, or is otherwise incompatible with said works or would have a substantial adverse effect on these works or on water quality. This includes all pollutants required to be regulated under the Federal Clean Water Act.

**Instantaneous Maximum** - A value not to be exceeded in any grab sample.

**Major Contributing Industry** - One that: (1) has a flow of 50,000 gallons or more per average work day; (2) has a flow greater than five percent of the flow carried by the municipal system receiving the waste; (3) has in its wastes a toxic pollutant in toxic amounts as defined in standards issued under Section 307(a) of the Clean Water Act; or (4) has a significant impact, either singly or in combination with other contributing industries, on a publicly owned treatment works or on the quality of effluent from that treatment works.

**Maximum Day** (maximum daily discharge limitation) - The highest allowable "daily discharge" (mg/l, lbs or gallons).

**Mean** - The mean value is the arithmetic mean.

**Monthly Average** - (Average monthly discharge limitation) - The highest allowable average of daily discharges (mg/l, lbs or gallons) over a calendar month, calculated as the sum of all daily discharges (mg/l, lbs or gallons) measured during a calendar month divided by the number of daily discharges measured during that month.

**NPDES** - The National Pollutant Discharge Elimination System.

**Secretary** - The Secretary of the Agency of Natural Resources

**State Certifying Agency**      Agency of Natural Resources  
Department of Environmental Conservation  
Watershed Management Division  
One National Life Drive, Main Building, 2<sup>nd</sup> Floor  
Montpelier VT 05620-3522

**Weekly Average** - (Average weekly discharge limitation) - The highest allowable average of daily discharges (mg/l, lbs or gallons) over a calendar week, calculated as the sum of all daily discharges (mg/l, lbs or gallons) measured during a calendar week divided by the number of daily discharges measured during that week.

AGENCY OF NATURAL RESOURCES  
DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
WATERSHED MANAGEMENT DIVISION  
1 NATIONAL LIFE DRIVE  
MONTPELIER, VERMONT 05620-3522

FACT SHEET  
(April 2015)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO  
DISCHARGE TO WATERS OF THE UNITED STATES

NPDES NO: VT0100625  
PERMIT NO: 3-0330  
PROJECT ID NO: SJ98-0177

NAME AND ADDRESS OF APPLICANT:

Town of Canaan  
PO Box 159  
Canaan, VT 05903

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Canaan Wastewater Treatment Facility  
37 Power Plant Road  
Canaan, VT 05903

RECEIVING WATER: Connecticut River

CLASSIFICATION: Class B with a waste management zone. Class B waters are suitable for bathing and recreation, irrigation and agricultural uses; good fish habitat; good aesthetic value; acceptable for public water supply with filtration and disinfection. A waste management zone is a specific reach of Class B waters designated by a permit to accept the discharge of properly treated wastes that prior to treatment contained organisms pathogenic to human beings.

I. Proposed Action, Type of Facility, and Discharge Location

The above named applicant applied on August 21, 2013, to the Vermont Department of Environmental Conservation for renewal of the permit to discharge into the designated receiving water. At this time the Department has made a tentative decision to reissue the discharge permit. The facility is engaged in the treatment of municipal wastewater. The discharge is from the outfall of the Town of Canaan Wastewater Treatment Facility to the Connecticut River.

## II. Description of Discharge

A quantitative description of the discharge in terms of significant effluent parameters is based on state and federal laws and regulations, the discharge permit application, and the recent self-monitoring data.

## III. Limitations and Conditions

The effluent limitations of the permit, the monitoring requirements, and any implementation schedule (if required), may be found on the following pages of the permit:

Effluent Limitations: Page 2  
Monitoring Requirements: Pages 3, 4, 6 and 7

## IV. Receiving Water

The receiving water for this discharge is the Connecticut River. It is designated as a Cold Water Fishery. At the point of discharge, the river has a contributing drainage area of approximately 350 square miles. The summer 7Q10 flow at the point of discharge is 62 cfs and the Low Median Monthly summer flow is 391 cfs. The summer Instream Waste Concentration (IWC) at 7Q10 flows is 0.005 and IWC at the Low Median Monthly flows is 0.001. There are no permitted discharges upstream of this discharge.

## V. Permit Basis and Explanation of Effluent Limitation Derivation

The Canaan Wastewater Treatment Facility (WWTF) is a secondary wastewater treatment facility. The treatment system consists of a headworks, followed by three aerated lagoons in series for treatment, and a chlorination disinfection system. The treated effluent is discharged through an outfall pipe to a series of diffusers submerged in the Connecticut River.

The wastewater treatment facility was built in 1973. The facility was upgraded in 1979 to accept flow from West Stewartstown, NH. A major upgrade of the Canaan Wastewater Treatment Facility was completed in 2014. The upgrade included an influent pump station, septage receiving, headworks with a mechanical fine screen and aerated grit chamber, the aeration system, two SolarBee mixers for the lagoons, a new chlorine contact chamber, a sludge sled for removing sludge from the lagoons, a Geobag for dewatering the sludge, and new buildings. Four pump stations were also upgraded.

The facility receives wastewater from about 500 users and a few commercial properties. There are no Categorical Industrial Users (CIUs) or Significant Industrial Users (SIUs) connected to this WWTF. A review of sludge quality indicates that the sludge from this facility has low concentrations of metals and is well within the applicable standards.

**Flow** - The flow limitation remains at 0.185 MGD, annual average, representing the facility's design flow. The facility maintains a continuous discharge.

**Biochemical Oxygen Demand (BOD<sub>5</sub>)** - The effluent limitations for biochemical oxygen demand are unchanged from the current permit. The monthly average (30 mg/l) and weekly average (45 mg/l) are based on the effluent quality specified for secondary treatment in 40 CFR Part 133.102. The permit also includes a 50 mg/l, maximum day, BOD limitation. This limitation is applied to all such discharges pursuant to 13.4 c. of the Vermont Water Pollution Control Permit Regulations. Specifically, the Agency implements this limitation to supplement the federal technology based limitations to prevent a gross one-day permit effluent violation to be offset by multiple weekly and monthly sampling events which would enable a discharger to comply with the weekly average and monthly average permit limitations. Mass limits (46 lbs/day, monthly average and 69 lbs/day, weekly average) are derived by multiplying the concentration limits by the permitted flow. Given the dilution and mixing within the reservoir, the discharge does not have a potential to cause or contribute to a violations of the water quality standards. The BOD monthly monitoring requirement is unchanged from the previous permit.

**Total Suspended Solids (TSS)** - The effluent limitations for total suspended solids are unchanged from the current permit. The monthly average (45 mg/l) and weekly average (45 mg/l) are based on the effluent quality specified for secondary treatment in 40 CFR Part 133.105. The permit also contains a 50 mg/l, maximum day, TSS limitation. This limitation is applied to all such discharges pursuant to 13.4 c. of the Vermont Water Pollution Control Permit Regulations. Specifically, the Agency implements the limit to supplement the federal technology based limitations to prevent a gross one-day permit effluent violation to be offset by multiple weekly and monthly sampling events which would enable a discharger to comply with the weekly average and monthly average permit limitations. Mass limits (69 lbs/day, monthly average and 69 lbs/day, weekly average) are derived by multiplying the concentration limits by the permitted flow. Given the dilution and mixing within the reservoir, the discharge does not have a potential to cause or contribute to a violations of the water quality standards. The TSS monthly monitoring requirement is unchanged from the previous permit.

**pH** – The pH limitation is proposed to remain at 6.5 - 8.5 Standard Units. This limitation is based on 3-01 B.9. of the Vermont Water Quality Standards, effective December 30, 2011. Monitoring remains at daily.

**Settleable Solids** - The limitation of 1.0 ml/l instantaneous maximum and daily monitoring remain unchanged from the previous permit. This numeric limit was established in support of the narrative standard in Section 3-01 B.5. of the Vermont Water Quality Standards.

***E. coli* Bacteria** - The *E. coli* limitation is 77/100 ml as specified in Section 3-04 B.3., Vermont Water Quality Standards. Once per month monitoring is required.

**Total Residual Chlorine**

The Total Residual Chlorine limitations is 1.0 mg/l, weekly average and 2.0 mg/l, instantaneous maximum. These limitations ensure that the instream water quality criteria

of chlorine of 0.019 mg/l (acute) and 0.011 mg/l (chronic) of the Vermont Water Quality Standards are met. This limitation is unchanged from the current permit. Total Residual Chlorine sampling is required once per day and is unchanged from the current permit.

**Total Phosphorus** – The Agency has recently adopted scientifically based phosphorus criteria for lakes and wadeable streams to determine if discharges cause or contribute to eutrophication and adversely impact the aquatic biota. During the last permitting period, this discharge was monitored once per month for Total Phosphorus. The results of this monitoring indicates that the Total Phosphorus concentration averaged 3.5 mg/l between January 2013 and August 2014. Therefore, based on data this data and the IWC at summer low median monthly flows, it can be concluded that this discharge does not have a reasonable potential to cause or contribute to eutrophication. To provide on-going data to support this conclusion, Total Phosphorus monitoring is required once per month.

**Waste Management Zone** - As defined under 10 V.S.A. §1251(16), a waste management zone is “a specific reach of Class B waters designated by a permit to accept the discharge of properly treated wastes that prior to treatment contained organisms pathogenic to human beings. Throughout the receiving waters, water quality criteria must be achieved but increased health risks exist due to the authorized discharge”.

The permit retains the existing waste management zone (WMZ) in the Connecticut River beginning at the outfall and extending downstream for 1.0 miles.

**Septage Received** – During the recent upgrade of the WWTF a septage receiving station was installed and the WWTF was designed to treat up to 6,000 gpd of septage. Historically the Agency has encountered many operational problems due to the introduction of septage into aerated lagoon wastewater treatment facilities due to their limited ability to treat and manage this type of waste. Therefore Condition I.B has been included in this permit. This Condition limits the volume of septage received to 6,000 gpd and allows the Agency to reduce this limitation if it determines that septage is interfering with the proper operation of the WWTF or is causing a violation of the effluent limitations. Also the daily volume of septage received must be reported on the monthly Discharge Monitoring Report and to provide adequate data on the impact of septage on the influent loadings, influent sampling for BOD<sub>5</sub> and TSS has been increased to a minimum of twice per month.

**Total Nitrogen** – A November 10, 2011 letter from Region I of the Environmental Protection Agency to the Agency of Natural Resources mandated that Vermont establish Total Nitrogen limitations in permits to ensure that the total nitrogen load discharged from Vermont wastewater treatment facilities in the Connecticut River watershed be consistent with the requirements of the Long Island Sound Total Nitrogen Total Maximum Daily Load (LIS TMDL). This letter exempted aerated lagoons and RBC facilities from numerical effluent limits due to the design and operational limitations of these types of treatment systems to reliably remove nitrogen. However EPA mandated



that aerated lagoon and RBC facilities implement operational procedures to optimize nitrogen removal to the extent feasible based on the design of the facility.

Therefore Condition I.D has been included in this permit. This Condition requires the permittee have a qualified consultant develop and implement a Nitrogen Removal Optimization Plan by September 30, 2015. The plan shall be provided to the Agency before implementation. Beginning in January 2017, an annual report will be due to the Agency documenting the pounds of Total Nitrogen discharged as well as removal optimization and efficiencies. In addition this Condition contains as clause that allows the Agency to reopen the permit to include a wasteload allocation for this facility based on the LIS TMDL.

Total Nitrogen is a calculated value based on Total Kjeldahl Nitrogen and Nitrate/Nitrite Nitrogen. Monthly monitoring will be required for Total Kjeldahl Nitrogen and Nitrate/Nitrite (NO<sub>x</sub>) Nitrogen. The sum of TKN and NO<sub>x</sub> shall be used to derive Total Nitrogen.

**Whole Effluent Toxicity (WET) Testing** - 40 CFR Part 122.44(d)(1) requires the Department to assess whether the discharge causes, has the reasonable potential to cause, or contribute to an excursion above any narrative or numeric water quality criteria. Based on the 1994 Vermont Toxic Discharge Control Strategy, due to the very low instream waste concentration and the lack of industrial sources within the collection system, it was determined that this discharge had a very low potential to cause toxicity and WET testing has not been required on this discharge.

**Operation, Management, and Emergency Response Plans**

Condition I.I.a. requires the Operation, Management, and Emergency Response Plan for the wastewater treatment facility, pump stations, and stream crossings approved by the Agency on September 29, 2008, amended June 28, 2012 be implemented.

Condition I.I.b requires that the Operation, Management, and Emergency Response Plan for the sewage collection system submitted on July 1, 2010 be implemented upon approval by the Agency.

**Electric Power Failure** - Within 30 days of the effective date of the permit, the permittee must submit to the Department, updated documentation addressing how the discharge will be handled in the event of an electric power outage. The effluent must receive a minimum of primary treatment plus disinfection.

VI. Procedures for Formulation of Final Determinations

The public comment period for receiving comments on this draft permit is from April 13, 2015 through May 13, 2015 during which time interested persons may submit their written views on the draft permit.

All written comments received by 4:30 PM on May 13, 2015, will be retained by the Department and considered in the formulation of the final determination to issue, deny or

modify the draft permit. The period of comment may be extended at the discretion of the Department. Written comments should be sent to:

Vermont Agency of Natural Resources  
Department of Environmental Conservation  
Watershed Management Division – Main 2  
1 National Life Drive  
Montpelier, VT 05620-3522

Comments may also be faxed to: 802-828-1544 or submitted by e-mail using the e-mail provisions included at <http://www.anr.state.vt.us/dec/waterq/ww/htm/notices.htm>

Any interested person or groups of persons may request or petition for a public hearing with respect to this draft permit. Any such request or petition for a public hearing shall be filed within the public comment period described above and shall indicate the interest of the party filing such request and the reasons why a hearing is warranted.

The Department will hold a hearing if there is significant public interest in holding such a hearing. Any public hearing brought in response to such a request or petition will be held in the geographical area of the proposed discharge or other appropriate area, at the discretion of the Department and may, as appropriate, consider related groups of draft permits. Any person may submit oral or written statements and data concerning the draft permit at the public hearing. The Department may establish reasonable limits on the time allowed for oral statements and may require the submission of statements in writing. All statements, comments, and data presented at the public hearing will be retained by the Department and considered in the formulation of the final determination to issue, deny, or modify the draft permit

The complete application, draft permit, and other information are on file and may be inspected at the VTDEC, Watershed Management Division, Montpelier, VT. Copies will be made at a cost based on the current Secretary of State Official Fee Schedule for Copying Public Records from 8:00 AM to 4:30 PM, Monday through Friday. The draft permit and fact sheet may also be viewed on the Division's website at [www.anr.state.vt.us/dec/ww/wwmd.cfm](http://www.anr.state.vt.us/dec/ww/wwmd.cfm).