VERMONT

State of Vermont
Department of Environmental Conservation

Agency of Natural Resources

Wastewater Management Division
103 South Main St. - Sewing Bldg.
Waterbury VT 05671-0405
Telephone: (802) 241-3822
FAX: (802) 241-2596

February 25, 2009

Justin Rabidoux
Town of Stowe
PO Box 730
Stowe, VT 05672

Re: Discharge Permit No. 1232 – Stowe Wastewater Treatment Facility, Fact Sheet, and Response Summary

Dear Mr. Rabidoux,

Enclosed is your copy of Discharge Permit No. 3-1232, 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 Town's wastewater treatment facility to the Little River.

Please review the permit carefully and make note of the effluent limitations, monitoring requirements, and other special conditions facility. There are several minor changes in this permit from the permit that currently authorizes your discharge.

1. Condition I.G requires the Town to implement the Operation, Management, and Emergency Response Plan for the components of the wastewater treatment facility, pump stations, and stream crossings that was approved by the Agency in October 2008 and to submit a plan for the collection system by July 1, 2010.

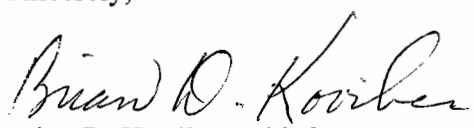
2. Total Nitrogen monitoring has been included in this permit in order to provide data on the discharge of total nitrogen from Vermont's wastewater treatment facilities.

3. Condition I.I requires the Town to update their Electric Power Failure plan within 30 days after the effective date of this permit.

Also included is a Response Summary which addresses the comments that were submitted on the draft permit.

If you have any questions regarding this permit, please contact our office.

Sincerely,



Brian D. Kooiker, Chief
Direct Discharge and O&M Section

attachments

cc. w/attachments
Suzanne Pickett, VT DEC WWMD
Mike Rapacz, Conservation Law Foundation

AGENCY OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WASTEWATER MANAGEMENT DIVISION
103 SOUTH MAIN STREET
WATERBURY, VERMONT 05671-0405

Permit No.: 3-1232
File No.: 08-08
PIN: BR95-0001
NPDES No.: VT0100455

Name of Applicant: Town of Stowe
PO Box 730
Stowe, VT 05672-0730

Expiration Date: December 31, 2013

DISCHARGE PERMIT

In compliance with the provisions of the Vermont Water Pollution Control Act as amended (hereinafter referred to as the "Act") and the Federal Clean Water Act, as amended (33 U.S.C. §1251 et seq), the Town of Stowe, Vermont (hereinafter referred to as the "permittee") is authorized by the Secretary, Agency of Natural Resources, Waterbury, Vermont, to discharge from the Stowe Wastewater Treatment Facility Wastewater Treatment Facility to the Little River in accordance with the following general and special conditions.

This permit shall become effective on the date of signing and shall expire on December 31, 2013.

Laura Q. Pelosi, Commissioner
Department of Environmental Conservation

By: Christine Thompson
Christine Thompson, Director
Wastewater Management Division

Date: February 27, 2009

I. SPECIAL CONDITIONS

A. EFFLUENT LIMITS

1. From the date of signing until December 31, 2013 the permittee is authorized to discharge from S/N 001 - outfall, the Stowe Wastewater Treatment Facility, to the Little River, an effluent whose characteristics shall not exceed the values listed below:

DISCHARGE LIMITATIONS								
Effluent Characteristic	**Annual Limitation**	**Monthly Average**	**Weekly Average**	**Maximum Day**	**Monthly Average**	**Weekly Average**	**Maximum Day**	**Instantaneous Maximum**
		.....(lbs/ day)			..... (Concentration)			
Flow	1.0 MGD average							
Ultimate Oxygen Demand **(a,b)**				300				
Biochemical Oxygen Demand, 5-day, 20° C **(b)**		168	252		30 mg/l	45 mg/l	50 mg/l	
Total Suspended Solids **(c)**		168	252		30 mg/l	45 mg/l	50 mg/l	
Total Phosphorus **(d)**	621 total pounds				0.8 mg/l			
Total Ammonia		59.6 (June 1 – October 31) 217 (November 1 – May 31)						
Total Copper		0.34		0.47				
Settleable Solids								1.0 ml/l
Total Kjeldhal Nitrogen				monitor only			monitor only	
Total Nitrogen				monitor only			monitor only	
Escherichia coli Bacteria								20/100 ml
pH					Between 6.5 and 8.5 Standard Units			

(a) The Ultimate Oxygen Demand (UOD) limit shall be in effect during the period of June 1 to October 31 each year. UOD Shall be calculated using the following equation: UOD (lbs/day) = Flow (MGD) x 8.34 [(BOD_5 mg/l x 1.43) + (TKN mg/l x 4.57)]

(b) The quantity of BOD and TKN discharged shall be limited such that the discharge does not exceed the UOD maximum daily limitation of 300 pounds **or** the BOD limitations, whichever are more stringent.

(c) The permittee shall operate the facility to meet the Total Suspended Solids concentration limitation, or the Total Suspended Solids pounds limitation, or to provide a Total Suspended Solids concentration which ensures that the ultraviolet light disinfection system can meet the Escherichia coli bacteria effluent limitation, whichever is more restrictive.

(d) Total Annual Pound of Phosphorus discharge shall be defined as the sum of all the Total Monthly Pounds of Phosphorus discharged for the calendar year. Total Monthly Pounds of Phosphorus discharged shall be calculated as follows:
(Monthly Average Phosphorus Concentration) x (Total Monthly Flow) x 8.34 (See Total Phosphorus monitoring report form WR43-PO4.)

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 water quality standards of the receiving waters.

3. The discharge shall not cause a violation of water quality standards in the receiving water or cause visible discoloration of the receiving waters.

4. The monthly average concentrations of BOD5 and total suspended solids in the discharge shall not exceed 15 percent of the monthly average concentrations of BOD5 and total suspended solids 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 discharge and the influent shall be taken with appropriate allowance for detention times. See Part I, Special Conditions, Paragraph F.2., Effluent Monitoring.

5. When the effluent discharged for a period of 90 consecutive days exceeds 80 percent of the permitted flow limitation, the permittee shall submit to the permitting authority 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.

7. The permittee shall maintain sufficient reserve capacity at the upgraded wastewater treatment facility to enable the connection of wastewater flows from all existing developments within the expanded sewer service area.

8. The permittee shall clean the quartz sleeves of the ultraviolet light disinfection system at a frequency which assures that effective disinfection is maintained and shall replace the Ultraviolet Light disinfection lamps **as necessary to maintain compliance with the E. coli bacteria limitation**. The dates and a description of the Ultraviolet Light disinfection system maintenance activities shall be included on the monthly monitoring report.

9. In addition to normal weekday coverage, the permittee shall provide operational coverage at the facility during normal working hours (ie. 8 hour workday) during weekends and holidays for the period of May 15 through September 15. Coverage shall be provided by personnel certified as required under the Vermont Water Pollution Abatement Facility Operator Certification Regulations.

10. The permittee shall maintain an alarm system on all components of the disinfection system and treatment units critical to the effective operation of the ultraviolet light

disinfection system. This alarm system shall activate upon the failure or malfunction of any equipment critical to the effective operation of the ultraviolet light disinfection system and allow the permittee to respond in a timely and adequate manner.

11. The permittee shall maintain a written response plan to ensure a timely and adequate response to any alarms associated with the critical components of the disinfection system and treatment units critical to the effective operation of the ultraviolet light disinfection system. This plan shall be kept on file at the wastewater treatment facility and be made available to the Secretary and other Agency personnel upon request.

12. During the period of May 15 through September 15, the permittee shall provide public notification of a disinfection system failure by taking the following actions on occurrence of any event that interferes with the effective operation of the ultraviolet light disinfection system.

    A disinfection system failure is considered to have occurred when a partial or complete failure of ultraviolet light disinfection system or other treatment components integral to maintaining the effective operation of the disinfection system has occurred. In the event of a disinfection system failure, the permittee shall take the following actions at the earliest practical opportunity and in all cases within 12 hours:

    a. Notify the local health officer and take any action as may be directed under the authority of the local health officer;

    b. Notify the Vermont Department of Environmental Conservation, Wastewater Management Division;

    c. Notify the Gold Brook Campground;

    d. Provide a notice of the possible public health hazard on two radio stations (one AM and one FM) having coverage of the local area.

13. The permittee shall maintain processing capacity for use only in receiving and processing septage for the useful life of the facility as required under 10 V.S.A. '1626a (a), (c) and (d). Such septage shall be accepted from any Vermont municipality, and shall not be restricted to specific municipalities. The rate or rates charged for acceptance by the plant of septage from sources other than the users for whom the plant is designed primarily to serve, shall be equal to the rate or rates charged the primary users, and shall not subsidize the primary users.

B. 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 Stowe Wastewater Treatment Facility Wastewater Treatment Facility in the Little River downstream 1.4 miles.

C. 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: June 30, 2013

D. 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.

E. TOXICITY TESTING

1. The permittee shall conduct and submit the results of one single specie (Pimephales promelas) or (Ceriodaphnia dubia), 48 hour acute Whole Effluent Toxicity (WET) tests to the Agency as specified below.

a. In August or September 2009, the Permittee shall conduct a single specie (Pimephales promelas) acute WET test on S/N 001 and the results shall be submitted to the Agency by November 15, 2009.

b. In January or February 2010, the Permittee shall conduct a single specie (Ceriodaphnia dubia) acute WET test on S/N 001 and the results shall be submitted to the Agency by April 15, 2010

c. In August or September 2011, the Permittee shall conduct a single specie (Ceriodaphnia dubia) acute WET test on S/N 001 and the results shall be submitted to the Agency by November 15, 2011.

d. In January or February 2012, the Permittee shall conduct a single specie ((Pimephales promelas) acute WET test on S/N 001 and the results shall be submitted to the Agency by April 15, 2012.

f. Based upon the results of these tests or any other toxicity tests conducted on this discharge, this permit may be amended to require additional Whole Effluent Toxicity testing or a Toxicity Reduction Evaluation be conducted.

g. The whole effluent toxicity tests shall be conducted according to the procedures and guidelines specified in: Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (most recent edition) USEPA document.

2. **By December 31, 2009, December 31, 2010 and December 31, 2011**, the permittee shall conduct an effluent analysis of S/N 001 for the pollutants included in Appendix J, Table 2 of 40 CFR Part 122 (see Attachment A) and submit the results to the Agency.

F. 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).

If applicable, *Escherichia coli* shall be tested using one of the following methods:

a. "Most Probable Number" (MPN) method 9223B found in Standard Methods for the Examination of Water and Wastewater, 18th or subsequent approved edition(s). Premade formulations are available as Colilert and Colilert 18 from IDEXX Labs Inc., Westbrook, ME;

b. EPA "membrane filtration" (MF) method 1603 using modified mTEC; or

c. A single step membrane filtration (MF) method using mColiBlue 24 available from Hach Company, Loveland, CO.

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 Stowe Wastewater Treatment Facility, according to the following schedule and other provisions:

From the date of signing until December 31, 2013

PARAMETER	MINIMUM FREQUENCY OF ANALYSIS	SAMPLE TYPE
Flow	Continuous	Daily Total, Max., Min.
UOD	1 x weekly (1)	calculated
BOD_5	1 x weekly	24 hour composite
TSS	1 x weekly	24 hour composite
TKN	1 x weekly (1)	24 hour composite
Total Phosphorus	1 x weekly	24 hour composite
Total Ammonia	1 x weekly (2)	grab
Escherichia coli Bacteria	1 x weekly	grab
Total Copper	1 x monthly	24 hour composite
Total Nitrogen	1 x monthly	24 hour composite (3)
Settleable Solids	1 x daily	grab (4)
pH	1 x daily	grab

1. UOD and TKN monitoring is only required for the period of June 1 through October 31.

2. Ammonia monitoring is only required twice per month from November 1 through May 31.

3. Notwithstanding Part I.F.1., Total Nitrogen shall be determined by the persulfate digestion method (Standard Methods for the Examination of Water and Wastewater, 21st edition, method 4500-NC) with a minimum detection limit of 0.5 mg/l.

4. Settleable Solids samples shall be collected during the period of peak flow.

Annually, by December 31 of each year, the permittee shall also monitor discharge S/N 001 and submit the results, including units of measure, for the following parameters:

Temperature	Dissolved Oxygen	Oil & Grease
Total Dissolved Solids	Nitrite/Nitrate	

The results of this monitoring shall be submitted as an attachment to the applicable monthly WR-43 Discharge Monitoring Report. Grab samples shall be used for temperature, dissolved oxygen, and oil & grease. All other parameters shall be composite samples. Samples shall be representative of seasonal variations in the discharge.

3. 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 BOD5	1 x monthly	8 - hour composite, minimum (1)
Influent TSS	1 x monthly	8 - hour composite, minimum (1)
Septage Received	Daily	Total volume received

(1) Composite samples for BOD5 and TSS 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.

4. 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
Wastewater Management Division
103 South Main Street
Waterbury, Vermont 05671-0405

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.

5. 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.

6. 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.

G. 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.

H. 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 October 6, 2008.

2. **By July 1, 2010,** the permittee shall prepare and submit to the Agency for review and approval, an Operation, Management and Emergency Response Plan for the sewage collection system.

   The Plan shall include the following:

   a. the identification of the components that are determined to be prone to failure based on installation, age, design or other relevant factors and which, if one or more failed, would result in a significant release of untreated or partially treated sewage to waters of the State.

   b. an inspection schedule for the components identified in subsection H.2.a. above.

   c. an emergency contingency plan to reduce the volume of a detected sewage release and to mitigate the effect of such a release on public health and the environment.

   Upon the Secretary's approval of each individual inspection schedule as specified in H.2.b. above, the permittee shall implement each element of the Operation, Management, and Emergency Response Plan for the collection system.

I. 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 Wastewater Management Division upon completion.

J. 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 as provided for in Section 1274 and 1275 of the Vermont Water Pollution Control Act. 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 ± 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 t 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, 103 South Main Street, Waterbury, Vermont 05671-0405.

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 G.), 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 penalties, as authorized under 10 V.S.A. §1274 and 10 V.S.A. §8010, shall not exceed $10,000 a day for each day of violation. Criminal penalties, as authorized under 10 V.S.A. §1275, shall not exceed $25,000 for each day of violation, imprisonment for up to six months, or both.

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. §1259 which states that: "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", and under the authority of Section 402 of the Clean Water Act, as amended.

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
Wastewater Management Division
103 South Main Street
Waterbury, Vermont 05671-0405

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.

07/2000; u. 8/2003; u.4/2007

NPDES Permit Testing Requirements for POTWs
40 CFR •122.21 - Appendix J, Table 2

Hardness (of receiving water, upstream of WWTF outfall)

Metals (total recoverable), cyanide and total phenols:
Antimony
Arsenic
Beryllium
Cadmium
Copper
Lead
Mercury
Nickel
Selenium
Silver
Thallium
Zinc
Cyanide
Total phenolic compounds

Volatile organic compounds:
acrolein
acrylonitrile
benzene
bromoform
carbon tetrachloride
chlorobenzene
chlorodibromomethane
chloroethane
2-chloroethylvinyl ether
chloroform
dichlorobromomethane
1,1-dichloroethane
1,2-dichloroethane
Trans-1,2-dichloroethylene
1,1-dichloroethylene
1,2-dichloropropane
1,3-dichloropropylene
ethylbenzene
methyl bromide
methyl chloride
methylene chloride
1,1,2,2-tetrachloroethane
tetrachloroethylene
toluene
1,1,1-trichloroethane
1,1,2-trichloroethane
trichloroethylene
vinyl chloride

Acid-extractable compounds:
p-chloro-m-cresol

2-chlorophenol
2,4-dichlorophenol
2,4-dimethylphenol
4,6-dinitro-o-cresol
2,4-dinitrophenol
2-nitrophenol
4-nitrophenol
pentachlorophenol
phenol
2,4,6-trichlorophenol

Base-neutral compounds:
acenaphthene
acenaphthylene
anthracene
benzidine
benzo(a)anthracene
benzo(a)pyrene
3,4-benzofluoranthene
benzo(ghi)perylene
benzo(k)fluoranthene
bis(2-chloroethoxy)methane
bis(2-chloroethyl)ether
bis(2-chloroisopropyl)ether
bis(2-ethylhexyl)phthalate
4-bromophenyl phenyl ether
butyl benzyl phthalate
2-chloronaphthalene
4-chlorophenyl phenyl ether
chrysene
di-n-butyl phthalate
di-n-octyl phthalate
dibenzo(a,h)anthracene
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
3,3'-dichlorobenzidine
diethyl phthalate
dimethyl phthalate
2,4-dinitrotoluene
2,6-dinitrotoluene
1,2-diphenylhydrazine
fluroranthene
fluorene
hexachlorobenzene
hexachlorobutadiene
hexachlorocyclo-pentadiene
hexachloroethane
indeno(1,2,3-cd)pyrene
isophorone
napthalene
nitrobenzene
N-nitrosodi-n-propylamine

N-nitrosodimethylamine
N-nitrosodiphenylamine
phenanthrene
pyrene
1,2,4-trichlorobenzene

AGENCY OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WASTEWATER MANAGEMENT DIVISION
103 SOUTH MAIN STREET
WATERBURY, VERMONT 05671-0405

FACT SHEET
January 2009

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

PROJECT ID NO.: BR95-0001
PERMIT NO.: 3-1232
NPDES NO.:VT0100455

NAME AND ADDRESS OF APPLICANT:

Town of Stowe
P.O. Box 730
Stowe, VT 05672-0730

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Stowe Wastewater Treatment Facility
River Road
Stowe, Vermont

RECEIVING WATER AND CLASSIFICATION: Little River: 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 of 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 has applied to the Vermont Department of Environmental Conservation for renewal of its permit to discharge into the designated receiving water. The facility is engaged in the treatment of domestic wastewater from the Town of Stowe. The discharge is from the Stowe Wastewater Treatment Facility outfall to the Little River.

II. Description of Discharge

This permit authorizes the discharge of 1.0 MGD of treated municipal wastewater. The treatment system is considered advanced treatment of wastewater and consists of the following processes: flow equalization and fine screening, sequencing batch reactors for secondary treatment, nitrification, biological phosphorus removal and chemical precipitation for additional phosphorus removal, an effluent filter for effluent polishing, and ultraviolet light disinfection.

A quantitative description of the discharge in terms of significant effluent parameters is presented in section IV. below.

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 6, 8, and 9

The complete application, draft permit, and other relevant information are available and may be inspected at the VTDEC, Wastewater Management Division, Waterbury Office. Copies will be made at a cost based on the previous Secretary of State Official Fee Schedule for Copying Public Records from 8:00 am to 4:00 pm, Monday through Friday.

IV. Permit Basis and Explanation of Effluent Limitation Derivation

History & Summary

In November 1998, the Agency issued Discharge Permit No. 3-1232 to the Town of Stowe authorizing the expansion and upgrade of its existing wastewater treatment facility from 0.25 MGD (million gallons per day) to a new facility with a treatment capacity of 1.0 MGD. In November 2002, the Town notified the Agency that construction of the expanded wastewater treatment facility was complete and, the Agency authorized expansion of the facility.

The wastewater treatment facility provides wastewater treatment capacity for both existing residential and commercial properties and for new development, in areas that lie within and outside the existing sewer service area.

On June 27, 2008, the Town submitted an application for renewal of their discharge permit. Having completed its review of the application, the Agency has made a determination to renew the discharge permit for the wastewater treatment facility's discharge. Following is a discussion of the specific factors considered in the renewal of this permit.

Receiving Water

The reach of the Little River downstream of the Stowe WWTF is a Class B water, with a waste management zone, and has been designated as a Cold Water Fish Habitat. There are no permitted direct discharges upstream or downstream of the Stowe WWTF in the Little River.

Summer 7Q10 flow is 8 cfs. Winter 7Q10 flow is 15.1 cfs. Low median monthly summer flow is 45.1 cfs.

The reach of river downstream of the Stowe WWTF is not considered impaired and is not listed on the federal Clean Water Act 303(d) list.

Effluent Limitations

Flow

This permit includes a flow limitation of 1.0 MGD, annual average, based on the design capacity of the facility. This is unchanged from the previous permit. Flow monitoring is required daily. This facility maintains a constant discharge.

Phosphorus
The Stowe WWTF provides optimal biological phosphorus removal via the sequencing batch reactor process. Additionally, a chemical precipitation clarifier process followed by an effluent polishing cloth filter is used to achieve phosphorus removal.

This draft discharge permit for the Stowe WWTF contains a phosphorus effluent concentration limit of 0.8 mg/l, monthly average, and a mass effluent limit of 621 total pounds, annual limitation.

The 0.8 mg/l, monthly average, concentration effluent limitation is based on the requirements of 10 V.S.A. 1266a.

The 621 totals pound, annual mass effluent limitation is a water quality based effluent limitation which was developed from studies conducted by the Agency in the late 1980s and early 1990s. This limitation was established to prevent eutrophication in the upper reaches of the Waterbury Reservoir. After the establishment of this limitation, the Agency conducted follow-up biological assessment studies of the receiving water which indicated that the limitation was adequate to prevent eutrophication.

This mass limitation was then incorporated into the Lake Champlain Phosphorus TMDL, effective November 4, 2002. The TMDL allocated 0.282 metric tons per year or 621 pounds per year to the Stowe WWTF.

These effluent limitations are unchanged from the previous permit and the permittee must comply with the concentration limitation or mass limitation, whichever is more stringent. This permit requires weekly monitoring of effluent composite samples for total phosphorus and these requirements are unchanged from the previous permit.

The annual total pounds is defined the total of the twelve monthly totals which are calculated by multiplying the total monthly flow x the monthly average phosphorus concentration x 8.34. The annual total must be submitted with the December monthly monitoring report.

Ultimate Oxygen Demand (UOD)
The UOD discharged from a wastewater treatment facility is dependent on the quantity of flow, biochemical oxygen demand (BOD_5) and total kjeldahl nitrogen (TKN), as specified in the following equation:

UOD (lbs/day) = Flow (MGD) x 8.34 [(BOD_5 (lbs/day) x 1.43) + (TKN (lbs/day) x 4.57)]

Receiving waters are the most sensitive to oxygen depleting wastes during periods of high water temperature, therefore in Vermont the impacts of UOD on the receiving water only occur during the summer season.

Based on assimilative capacity modeling conducted on the Little River, the Agency determined the assimilative capacity of the Little River to be 400 lbs UOD/day during the summer period in the reach below the outfall of the Stowe WWTF.

During the review of the design of the upgrade and expansion of the Stowe WWTF, it was determined that the facility was designed to reliably meet a maximum daily UOD discharge of

300 lbs/day.

Consequently the draft permit contains a UOD effluent limitation of 300 lbs/day maximum day, for the period of June 1 through October 31. This limitation can be achieved by the Stowe WWTF, is within the assimilative capacity of the Little River, and is unchanged from the previous permit.

TKN monitoring is required weekly but only during the period in which the UOD limit is in effect. The UOD analysis frequency in the draft permit is weekly and is unchanged from the previous permit.

Biochemical Oxygen Demand (BOD_5)
The draft permit contains BOD concentration limitations of 30 mg/l monthly average and 45 mg/l weekly average, which are based on 40 CFR Part 133.102. A 50 mg/l, daily maximum, limitation has been included in the draft permit. This is a limitation which the Agency implements 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 the discharger to comply with the weekly average and month average permit limitations.

The mass limitations, which were established in a previous permit issued on April 25, 1996, of 168 pounds per day monthly average and 252 pounds per day weekly average have been retained.

The permittee must comply with the concentration limitation or mass limitation, whichever is more stringent.

In addition to complying with the mass and/or concentration limits, the quantity of BOD in the discharge must be limited such that the discharge meets the 300 lbs/day UOD limit during the period June 1 - October 31.

The draft permit requires weekly BOD monitoring and is unchanged from the previous permit.

Total Suspended Solids (TSS)
The draft permit contains TSS concentration limitations of 30 mg/l monthly average and 45 mg/l weekly average, which is based on 40 CFR Part 133.102. A 50 mg/l, daily maximum, limitation has been included in the draft permit. This is a limitation which the Agency implements 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 the discharger to comply with the weekly average and month average permit limitations.

The mass limitations, which were established in a previous permit issued on April 25, 1996, of 168 pounds per day monthly average and 252 pounds per day weekly average have been retained.

An additional narrative operation requirement has been included that requires that the facility be operated to meet the concentration limitation, mass limitation, or a TSS concentration necessary to maintain compliance with the E. coli limitation, whichever is more restrictive. This operational requirement is unchanged from the previous permit

The draft permit requires weekly TSS monitoring and is unchanged from the previous permit.

Copper

Based an investigation of the potential for heavy metals from this discharge to impact the receiving water, the Agency determined that copper had a reasonable potential to cause an impact in the Little River. Consequently, a water quality based effluent limitation for Total Copper was established for this discharge.

The draft permit contains a Total Copper daily maximum limit of 0.47 lbs/day and a monthly average limit of 0.34 lbs/day with monthly monitoring. These limitations and the monitoring frequency are unchanged from the pervious permit.

These limits were derived from the water quality criteria for copper as specified in Appendix C of the Vermont Water Quality Standards. The equations for the instream total copper criteria are as follows:

Acute criterion = exp(0.9422(ln hardness) - 1.464)
Chronic criterion = exp(0.8545(ln hardness) - 1.465)

A hardness of 50 mg/l in the Little River was used, resulting in an instream acute criterion for total copper of 9.22 ug/l, and an instream chronic criterion of 6.54 ug/l.

As specified in the Water Quality Standards, these criteria apply at 7Q10 stream flow. The 7Q10 flow of the Little River at the point of discharge of the Stowe Wastewater Treatment Facility is 8 cfs. Therefore at the design flow of 1.0 MGD, the effluent limits for copper are 56.90 ug/l (acute) and 40.33 ug/l (chronic). These limitations have been converted to mass limitations and are expressed as a daily maximum total copper limitation of 0.47 lbs/day and monthly average total copper limitation of 0.34 lbs/day.

Ammonia

The Agency has determined that this discharge has a reasonable potential to result in chronic ammonia toxicity in the Little River. Consequently ammonia effluent limitations have been included in this permit.

The ammonia limitations are based on the US EPA 1999 Update of Ambient Water Quality Criteria for Ammonia.

A summer time temperature of 26°C and a winter temperature of 5°C was assumed. A pH of 8.0 was used. The summer conditions resulted in a summer instream acute criteria of 5.62 mg/l and a summer instream chronic criterion of 1.16 mg/l. The winter conditions resulted in a winter instream acute criterion of 5.62 mg/l and a winter instream chronic criteria of 2.43 mg/l.

Adjusting for the summer time instream waste concentration of 0.162 (based on a 1.0 MGD discharge and a summer 7Q10 stream flow of 8 cfs) resulted in an acute ammonia effluent concentration of 34.66 mg/l and a chronic ammonia effluent concentration of 7.1 mg/l.

Adjusting for the winter instream waste concentration of 0.093 (based on a 1.0 MGD discharge and a winter 7Q10 stream flow of 15.1 cfs) resulted in an acute ammonia effluent limitation of 66.44 mg/l and a chronic effluent concentration of 26.2 mg/l.

The summer value is expressed in the draft permit as a monthly average (chronic) mass limitation of 59.6 lbs/day during the period of June 1 through October 31. Monitoring is required once per week. This limitation is unchanged from the previous permit.

The winter value is expressed in the draft permit as a monthly average (chronic) mass limitation of 217 lbs/day during the period of November 1 through May 3. Monitoring is required twice per month. This limitation is unchanged from the pervious permit.

Since the any acute ammonia effluent limitations would greatly exceed the ammonia concentration in untreated municipal wastewater, an acute effluent limitation (maximum day) has not been included in the draft permit.

Escherichia coli bacteria
The draft permit contains an E. coli limit of 20/100 ml in order to protect the existing contact recreational uses identified in the Little River near the confluence with Gold Brook and near the Moscow Bridge. This limitation is unchanged from the previous permit.

This limitation was derived by decreasing the original E. coli permit limitation established on December 23, 1993 of 77/100ml in proportion to the increase in flow from the expanded facility (from 0.25 MGD to 1.0 MGD, a four (4) times increase in flow). By using an E. coli limitation of 20/100ml, the instream risk associated with this discharge will be kept the same as the original 0.25 MGD discharge.

E. coli monitoring is required once per week and is unchanged from the previous permit.

Settleable Solids
The Settleable Solids limitation is 1.0 ml/l, instantaneous maximum and is established in support of the narrative standard in Section 3-01.B.5 of the Vermont Water Quality Standards effective January 1, 2008. This limitation is unchanged from the previous permit. Sampling is required once per day and is unchanged from the previous permit.

Total Nitrogen
The Agency is currently in the process of proposing scientifically based nitrogen criteria for lakes and wadeable streams for review by the Vermont Water Resources Panel and the USEPA. In support of this effort the Department is including requirements in WWTF discharge permits to monitor discharges for total nitrogen. Once adopted the total nitrogen criteria will be used to determine the potential of WWTF discharges to cause or contribute to eutrophication and adversely impact the aquatic biota downstream of the discharge. Monitoring is required monthly.

Reserve Capacity
The draft permit maintains a special condition that requires the Town of Stowe to maintain sufficient reserve capacity at the wastewater treatment facility to enable the connection of wastewater flows from all existing developments within the expanded sewer service area. The Town's proposal provided significant treatment capacity (approximately 425,000 gallons per day) for existing developments in the draft sewer service area that are currently served by on-site sewage disposal.

In addition, the Town's wastewater allocation ordinance requires any failing systems within the service area to connect to the municipal sewer. The Agency believes it is appropriate to require

the Town to keep sufficient capacity available to ensure that all such systems, in the long term, can be connected to the municipal system. Though the Town did not previously intend to require all existing land-based systems to hook onto the municipal sewer, it will offer a financial incentive to encourage existing developments to hook onto the municipal sewer as soon as possible, instead of waiting for a system failure.

This condition is unchanged from the previous permit

Waste Management Zone
The previous permit established a waste management zone beginning at the outfall of the Stowe Wastewater Treatment Facility and extending downstream for 1.4 miles. The draft permit will maintain this waste management zone.

Operation, Management, and Emergency Response Plan
Per the requirements of the revisions to 10 V.S.A. Section 1278, promulgated in the 2006 legislative session, Condition I.G. was included in the draft permit. Condition I.G.1 reads:

"The permittee shall implement the Operation, Management and Emergency Response Plan for the wastewater treatment facility, sewage pump/ejector stations, and stream crossings approved by the Agency on October 6, 2008."

In regards to the Operation, Management and Emergency Response Plan for the sewage collection system, Act 130 was promulgated by the legislature during the 2008 legislative session and modified 10 V.S.A. 1278 to require that Operation, Management and Emergency Response Plans for the sewage collection systems be submitted by July 1, 2010.

Therefore to be consistent with 10 V.S.A. 1278, Condition I.G.2 requires submission of an Operation, Management and Emergency Response Plan for the sewage collection system, by July 1, 2010.

Additional Conditions
The following conditions are in the previous permit and also have been included in the draft permit.

Condition I.A.8. requires the permittee to clean the quartz sleeves of the UV light disinfection system as necessary to maintain effective disinfection and replace the UV Light disinfection system lamps as necessary to maintain compliance with the E. coli bacteria limitation.

Condition I.A.9. requires the permittee to provide operational coverage of the facility on weekends and holidays between May 15th and September 15th of each year.

Condition I.A.10. requires the permittee to maintain an alarm system on all critical components of the disinfection system and treatment units critical to the effective operation of the disinfection system.

Condition I.A.11. requires the permittee to implement a response plan to ensure a timely and adequate response to any alarms associated with the critical components of the disinfection system and treatment units critical to the effective operation of the UV light disinfection system.

Condition I.A.12. requires that between *May 15 and September 15 of each year*, the permittee shall provide public notification of a disinfection system failure by taking the following actions at the earliest practical opportunity and in all cases within 12 hours: notify the local health officer and take any action as may be directed under the authority of the local health officer, notify the Vermont Department of Environmental Conservation, Wastewater Management Division, notify the Gold Brook Campground, and provide a notice of the possible public health hazard on two local radio stations.

Condition I.A.13 requires that the facility conform to the provisions of 10 V.S.A. 1626a, regarding awards to wastewater treatment plants with a capacity of 250,000 gallons or more per day. Specifically the plant capacity must be sufficient to receive, treat, and dispose of septage in a quantity equivalent to the ratio of 4,000 gpd of septage for each 1 MGD of facility hydraulic capacity. Therefore the facility must reserve 4,000 gpd and its equivalent BOD for septage.

Toxicity Testing

Based on the results of the Whole Effluent Toxicity (WET) tests and chemical pollutant analyses conducted on this discharge, the Agency has determined that this discharge does not have the potential to cause an instream toxic impact except for ammonia and copper (as discussed above).

However to ensure compliance with 40 CFR 122.21.j, at the time of permit renewal, a requirement (Condition I.E) to conduct WET testing has been included in the draft permit. This Condition requires a single specie acute WET test to be done in 2009, 2010, 2011, and 2012. The specie to be tested will alternate each year between fathead minnow and daphnia and the time of year the test will be conducted will alternate between winter and late summer to ensure representative sampling is done.

In addition, this Condition I.E also requires the effluent be analyzed for selected heavy metals and toxic organic pollutants once per year in 2009, 2010, and 2011 to ensure compliance with 40 CFR 122.21.j at the time of permit renewal.

VI. Procedures for Formulation of Final Determinations

The public comment period for receiving comments on this draft permit is from January 20, 2009 through February 20, 2009 during which time interested persons may submit their written views on the draft permit. All written comments will be retained by the Agency 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 Agency.

Written comments should be sent to:

Vermont Agency of Natural Resources
Department of Environmental Conservation
Wastewater Management Division - Sewing Building
103 South Main Street
Waterbury, VT 05671-0405

Comments may also be faxed to: 802-241-2596.

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 Agency 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 draft discharge or other appropriate area, at the discretion of the Agency 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 Agency 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 Agency and considered in the formulation of the final determination to issue, deny, or modify the draft permit.

Send To Printer Back To TerraServer Change to 11x17 Print Size Show Grid Lines Change to Landscape

USGS **4 km NE of Stowe, Vermont, United States** 07 May 1996

Image courtesy of the U.S. Geological Survey

RESPONSE SUMMARY FOR
DRAFT DISCHARGE PERMIT No. 3-1232
Proposed NPDES Municipal Discharge Permit
for the
Town of Stowe

This was the proposed renewal of an existing discharge permit which incorporated an additional requirement for Total Nitrogen monitoring.

A draft permit for this discharge was placed on public comment from January 20, 2009 through February 20, 2009.

Comments were received during the public notice period from Conservation Law Foundation and the Town of Stowe. The following is a summary of the relevant comments received on this draft Discharge Permit, and the Agency's responses to these comments.

Comment 1: Since the "Main Lake" segment of Lake Champlain does not meet the phosphorus criteria specified in the Vermont Water Quality Standards, the phosphorus limitation in this Discharge Permit should be lowered.

Response 1: The Agency disagrees with this comment. The 621 total pound, annual mass effluent limitation for phosphorus in this permit is a Water Quality Based Effluent Limitation (WQBEL) which was derived from studies conducted by the Agency. Initially this limitation was derived to protect the Waterbury Reservoir and Little River from eutrophication. Then this limitation was adopted in the Lake Champlain Phosphorus Total Maximum Daily Load (TMDL) as a specific allocation for the discharge from the Stowe Wastewater Treatment Facility (WWTF). The phosphorus allocations in the Lake Champlain TMDL are WQBELS, specifically derived to achieve compliance with the phosphorus criteria in the Main Lake segment specified in the Vermont Water Quality Standards. Consequently there is no legal or scientific basis to modify this phosphorus limitation.

The concentration limitation for phosphorus in the permit is based on the requirements of 10 VSA 1266a and prevents the excessive discharge of phosphorus on a monthly basis.

Comment 2: Due to the advanced design of the Stowe WWTF, the phosphorus limitation in the Discharge Permit should be lowered.

Response 2: The Agency disagrees with this comment. At the permitted flow of 1.0 mgd, the Stowe WWTF must achieve an effluent phosphorus concentration of 0.2 mg/l to comply with the 621 total pounds, annual mass effluent limitation. The Stowe WWTF is an "advanced design", however this WWTF was specifically designed to meet the currently permitted phosphorus limitation. Therefore it is unlikely that it can be operated to reliably meet a lower phosphorus limitation.

Comment 3: In order to achieve compliance with the phosphorus water quality criteria in the Main Lake Segment, the Discharge Permit should establish an enforceable plan to offset all the phosphorus discharged from the Stowe WWTF.

Response 3: The Agency disagrees with this comment. As stated in Response 1 above, the phosphorus limitations in this Discharge Permit are WQBELS and are based on the Lake Champlain Phosphorus TMDL. The Lake Champlain Phosphorus TMDL contains allocations for both point sources and nonpoint sources of phosphorus. This TMDL was approved by EPA on November 4, 2002, and specifically meets the requirements of Section 303(d) of the Clean Water Act and EPA's implementing regulations, such as 40 CFR Part 130.

Consequently, there is no scientific basis to apply additional phosphorus restrictions to the Town of Stowe, nor does the Agency have the legal authority to arbitrarily establish these types of addition phosphorus restrictions.

Comment 4: With respect to the Discharge Permit containing a new requirement for the monitoring of the effluent for Total Nitrogen, the commentor seeks to participate in any eutrophication studies to assure that the monitoring data will be used appropriately.

Response 4: The Agency is not specifically including Total Nitrogen monitoring in this Discharge Permit in response to potential eutrophication concerns due to the discharge from the Stowe WWTF. As stated in the Fact Sheet, Total Nitrogen monitoring is being required as part of a state-wide effort to gather data on Total Nitrogen discharged from Vermont's WWTFs and to gauge compliance with the proposed water quality standards for nutrients.

At the direction of EPA, the Agency is in the process of developing proposed water quality criteria for Total Nitrogen and Total Phosphorus in riverine systems (rivers, streams, creeks, etc). Excessive Total Nitrogen and Total Phosphorus are the nutrients which result in eutrophication in riverine system. These proposed water quality criteria will be submitted to the Water Resources Panel of the Vermont Environmental Board for consideration in the upcoming revision of the Vermont Water Quality Standards. The process to revise the Vermont Water Quality Standards is a public process and all the data and studies conducted in the development of these proposed criteria can be reviewed as part of the Water Quality Standards adoption process. The commentor is encouraged to participate in this process.

In conjunction with the development of these proposed water quality criteria for Total Nitrogen and Total Phosphorus, the Agency has been requiring permittees to monitor their effluent for Total Nitrogen and Total Phosphorus (when applicable) via the NPDES permit renewal process. The intent of this effluent monitoring is to gather data on the Total Nitrogen discharged from Vermont's WWTFs. Then to use this effluent data to determine which Vermont WWTFs will need additional nutrient removal to comply with these proposed nutrient criteria and to determine the costs associated with installing

additional nutrient removal at these WWTFs to comply with these proposed nutrient criteria.

Comment 5: With respect to the Discharge Permit containing a new requirement for the monitoring of the effluent for Total Nitrogen, the commentor is requesting a copy of the study methods and procedures that will be used, the research plan, a schedule, and a contact person for this work to develop this water quality criteria and assess the impacts of Total Nitrogen from WWTF discharges in Vermont.

Response 5: As stated in Response 4 above, the Agency is not specifically including Total Nitrogen monitoring in this Discharge Permit in response to potential eutrophication concerns due to the discharge from the Stowe WWTF.

The development of the total nitrogen and total phosphorus water quality criteria is being lead by the Agency's Water Quality Division. This process has been ongoing since 2004 and complete listing of all the documents compiled by the Agency to date is available at:

http://www.anr.state.vt.us/dec/waterq/cfm/ref/ref_result.cfm