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

Permit No.: 3-1235
PIN: SJ99-0128
NPDES No.: VT0100633

Name of Applicant: Town of Danville
P.O. Box 183
Danville, VT 05828

Expiration Date: September 30, 2021

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 Danville, Vermont (hereinafter referred to as the "Permittee") is authorized by the Secretary of Natural Resources (Secretary) to discharge from the Danville Wastewater Treatment Facility to the Water Andric in accordance with the following conditions.

This permit shall become effective on October 1, 2016.

Alyssa B. Schuren, Commissioner
Department of Environmental Conservation

By: Mary L. Borg Date: 9/28/16
Mary L. Borg, Deputy Director
Watershed Management Division

I. SPECIAL CONDITIONS

A. EFFLUENT LIMITS

1. Until September 30, 2021, the Permittee is authorized to discharge from outfall serial number S/N 001 of the Danville Wastewater Treatment Facility to the Water Andric, an effluent for which the characteristics shall not exceed the values listed below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS							
	Annual Average	Monthly Average	Weekly Average	Maximum Day	Monthly Average	Weekly Average	Maximum Day	Instantaneous Maximum
		Mass (**lbs/day**)			Concentration (**mg/L**)			
Flow	0.060 MGD							
Ultimate Oxygen Demand (UOD) [1]	As necessary to meet the Vermont Water Quality Standards							
Biochemical Oxygen Demand (5-day, 20° C) (BOD_5) [2]		15	22.5			45	50	
Total Suspended Solids (TSS) [2]		15	22.5		30	45	50	
Total Phosphorus (TP)							Monitor only	
Total Nitrogen (TN) [3,4]	See Special Condition I.B			30			Monitor only	
Total Kjeldahl Nitrogen (TKN)							Monitor only	
Nitrate/Nitrite Nitrogen (NO_x)							Monitor only	
Ammonia (NH_3)							Monitor only	
Settleable Solids								1.0 mL/L
Escherichia coli								77/100 mL
pH					Between 6.5-8.5 Standard Units			

[1] During the period of June 1 through September 30, the discharge of UOD shall be restricted in accordance with the calculations and requirements specified in Section I.H.5 of this permit, and in no case shall the discharge exceed the BOD_5 limitation specified above.
[2] The Permittee shall comply with the mass limitations or the concentration limitations, whichever is more restrictive.
[3] $TN = TKN + NO_x$
[4] See Total Nitrogen Form WR-43-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_5) and Total Suspended Solids (TSS) in the effluent shall not exceed 15 percent of the monthly average concentrations of BOD_5 and TSS in the influent into the Permittee's wastewater treatment facility. 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 Agency projected loadings and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans.

6. The Permittee shall clean the quartz sleeves of the ultraviolet (UV) light disinfection system at a frequency that assures that effective disinfection is maintained and the Permittee shall replace the UV light disinfection system lamps as necessary to maintain compliance with the *E. coli* bacteria limitation. **The dates and a description of the UV light disinfection system maintenance activities shall be included on the applicable Discharge Monitoring Report (DMR) form WR-43**.

7. Any action on the part of the Agency 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. TOTAL NITROGEN

1. Optimization Plan

By **December 31, 2016,** the Permittee shall develop and submit to the Agency of Natural Resources (Agency) for review and approval a Nitrogen Removal Optimization Evaluation 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: operational, process, 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 to maintain the existing mass discharge loading of total nitrogen (TN). The baseline annual average daily TN load discharge from this facility is estimated to be **approximately 12 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 by the Permittee upon the Agency's request 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, 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 one year and six months following the implementation of the plan 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, the Permittee shall submit a report to the Agency as an attachment to the **December** DMR form WR-43 that documents the annual average TN discharged (in pounds per day) from the facility, summarizes nitrogen removal optimization and efficiencies, and tracks trends relative to the previous year. The first annual report shall include data collected during 2017, and shall be attached to the December 2017 DMR form WR-43.

TN = Total Kjeldahl Nitrogen (TKN) + Nitrite/Nitrate (NO_x).

TN pounds per day, annual average, shall be calculated as follows:

1. Calculate the pounds of TN discharged on each sample date:

TN (lbs/day) = TN (mg/L) × volume discharged (million gallons) on day of sample × 8.34

2. Calculate the TN, pounds per day, annual average:

TN (lbs/day, annual average = (Sum of all TN [lbs/day])/(count of TN samples)

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 TN load.

The Agency reserves the right to reopen and amend this permit to include an alternate TN 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 Total Maximum Daily Load.

C. WASTE MANAGEMENT ZONE

In accordance with 10 V.S.A. § 1252, this permit hereby establishes a waste management zone that extends from the outfall of the Danville Wastewater Treatment Facility in the Water Andric downstream 1 mile.

D. 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: March 31, 2021

E. OPERATING FEES

This discharge is subject to operating fees as required by 3 V.S.A. § 2822.

F. INSTREAM MONITORING

The Permittee shall perform biological and water quality monitoring in the Water Andric above and below the Danville Wastewater Treatment Facility outfall S/N 001. The Permittee shall submit a study plan, outlining the locations of the collections, sampling methodology, and analysis of the data, to the Agency's Monitoring, Assessment and Planning Program for approval before sampling begins.

1. The Permittee shall perform macroinvertebrate assessments during **September 2016**. The biological data shall be submitted electronically (Excel); taxonomic data shall be submitted using VT taxonomic codes. The results of the 2016 assessment shall be submitted as an attachment to the **March 2017 DMR form WR-43**.

   If the biological conditions below the outfall do not achieve Class B standards for aquatic biota and aquatic habitat uses for Small High Gradient stream types, the Permittee shall optimize the operation of the facility, to the extent feasible, to eliminate the instream toxic impact or the instream excursion above the water quality standards due to this discharge.

2. The Permittee shall perform macroinvertebrate assessments during **September 2018**. The biological data shall be submitted electronically (Excel); taxonomic data shall be submitted using VT taxonomic codes. The results of the 2018 assessment shall be submitted as an attachment to the **March 2019 DMR form WR-43**.

   If the biological conditions below the outfall do not achieve Class B standards for aquatic biota and aquatic habitat uses for Small High Gradient stream types, the Permittee shall

optimize the operation of the facility, to the extent feasible, to eliminate the instream toxic impact or the instream excursion above the water quality standards due to this discharge

3. The Permittee shall monitor TP, pH, turbidity and DO **during the months of June through October of 2016, 2017 and 2018**. Sampling shall occur once per month. Streamflow characteristics should be documented for each sample collection. The results of the sampling shall be submitted as an attachment to the **appropriate DMR form WR-43**.

The Agency reserves the right to reopen and amend this permit to include additional monitoring or effluent limitations

G. WHOLE EFFLUENT TOXICITY (WET) TESTING

During **August or September 2016**, the Permittee shall conduct a two-species (*Pimephales promelas* and *Ceriodaphnia dubia*) acute WET test on a composite effluent sample collected from S/N 001. The results shall be submitted to the Agency by **December 31, 2016**.

The WET 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" (October 2002 or, if a newer edition is available, the most recent edition) U.S. EPA document.

Based upon the results of these tests or any other toxicity tests conducted, the Agency reserves the right to reopen and amend this permit to require additional WET testing or a Toxicity Reduction Evaluation be conducted.

H. MONITORING AND REPORTING

1. Sampling and Analysis

The sampling, preservation, handling, and analytical methods used shall conform to the test procedures published in 40 C.F.R. Part 136.

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) at outfall serial number S/N 001 of the Danville Wastewater Treatment Facility, according to the following schedule and other provisions: until September 30, 2021

For the period of October 1 through May 14:

PARAMETER	MINIMUM FREQUENCY OF ANALYSIS	SAMPLE TYPE
Flow	Continuous	Daily Total, Max., Min.
Biochemical Oxygen Demand (BOD_5) [1]	1 × month	composite
Total Suspended Solids (TSS) [1]	1 × month	composite
Total Phosphorus (TP) [1]	1 × month	composite
Total Nitrogen (TN) [2,3]	1 × month	[calculated]
Total Kjeldahl Nitrogen (TKN) [1,3]	1 × month	composite
Nitrate/Nitrite Nitrogen (NO_x) [1,3]	1 × month	composite
Ammonia (NH_3)	1 × month	grab
Settleable Solids [4]	1 × day	grab
Escherichia coli	2 × month	grab
pH	1 × day	grab

[1] Composite samples for BOD_5, TSS, TP, TKN and NO_x shall, at a minimum, be taken during the hours 6:00 AM to 6:00 PM, unless otherwise specified. Eight hours is the minimum period for the composite, 24 hours is the maximum for the composite.

[2] TN = TKN + NO_x

[3] Submit results on Total Nitrogen Monitoring Report Form WR-43-TN.

[4] Settleable Solids samples shall be collected between 10:00 AM and 2:00 PM or during the period of peak flow.

For the period of May 15 through September 30:

PARAMETER	MINIMUM FREQUENCY OF ANALYSIS	SAMPLE TYPE
Stream Flow [1]	Daily	Instantaneous
Calculated Effluent Flow [1]	Daily	Calculated
Flow	Continuous	Daily Total, Max., Min.
Biochemical Oxygen Demand (BOD_5) [2,3]	2 × month	composite
Total Suspended Solids (TSS) [2]	1 × month	composite
Total Phosphorus (TP) [2]	1 × month	composite
Total Nitrogen (TN) [4,5]	1 × month	[calculated]
Total Kjeldahl Nitrogen (TKN) [2,3,5]	2 × month	composite
Nitrate/Nitrite Nitrogen (NO_x) [2,5]	1 × month	composite
Ammonia (NH_3)	1 × month	grab
Settleable Solids [6]	1 × day	grab
Escherichia coli	2 × month	grab
pH	1 × day	grab

[1] Stream Flow and Calculated Effluent Flow monitoring is only required from June 1st through September 30th.
[2] Composite samples for BOD_5, TSS, TP, TKN and NO_x shall, at a minimum, be taken during the hours 6:00 AM to 6:00 PM, unless otherwise specified. Eight hours is the minimum period for the composite, 24 hours is the maximum for the composite.
[3] BOD_5 and TKN samples shall be collected during the first and third weeks of each month. BOD_5 and TKN samples do not have to be collected for the third week in September.
[4] $TN = TKN + NO_x$
[5] Submit results on Total Nitrogen Monitoring Report Form WR-43-TN.
[6] Settleable Solids samples shall be collected between 10:00 AM and 2:00 PM or during the period of peak flow.

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
Biochemical Oxygen Demand (BOD_5) [1]	1 × month	composite
Total Suspended Solids (TSS) [1]	1 × month	composite
Total Nitrogen (TN) [2,3]	1 × quarter	[calculated]
Total Kjeldahl Nitrogen (TKN) [1,3,4]	1 × quarter	composite
Nitrate/Nitrite Nitrogen (NO_x) [1,3,4]	1 × quarter	composite

[1] Composite samples for BOD_5, TSS, TKN and NO_x shall, at a minimum, be taken during the hours 6:00 AM to 6:00 PM, unless otherwise specified. Eight hours is the minimum period for the composite, 24 hours is the maximum for a composite.
[2] $TN = TKN + NO_x$
[3] Submit results on Total Nitrogen Monitoring Report Form WR-43-TN.
[4] The influent TKN and NO_x sample shall be collected on the same day as an effluent TKN and NO_x sample.

4. Stream Flow Monitoring

a. During the period of June 1st through September 30th, the Permittee shall monitor and record, on a daily basis, the stream flow of the Water Andric at the gauging station located immediately upstream of the wastewater treatment facility outfall. Stream flow results shall be recorded as cubic feet per second (CFS) and reported on the DMR form WR-43.

b. **By December 31, 2016**, the Permittee, in conjunction with a qualified professional, shall perform a calibration on the gauging station. The Permittee shall determine a long-term schedule to calibrate or verify the gauging station at intervals sufficient to ensure acceptable accuracy and reliability. The proposed schedule shall be submitted by December 31, 2016.

c. The Permittee shall actively maintain the gauging station to control and address any factors that could affect stream flow measurements.

5. Calculating Allowable Discharge Volume

During the period of June 1st through September 30th, the Permittee shall restrict the discharge volume from the wastewater treatment facility in order to meet the Ultimate Oxygen Demand (UOD) permit limitations in accord with the equations and conditions specified here (an example calculation is provided in Attachment A):

Step 1: Determine the UOD of the wastewater from the previous BOD_5 and TKN values as follows:

$$\textbf{UOD (mg/L)} = (1.43 \times \textbf{BOD}_5\textbf{ (mg/L)}) + (4.57 \times \textbf{TKN (mg/L)})$$

Step 2: Using the UOD value calculated following the instructions above, the daily stream flow measurement, and the equation specified below, the Permittee shall calculate and record, on a daily basis, the allowable discharge volume from the wastewater treatment facility

$$\textbf{Allowable Discharge Volume (MGD)} = \frac{100 \times Q_s}{\textbf{UOD (mg/L)} \times 8.34}$$

where,
Q_s = daily stream flow measurement in cubic feet per second (CFS)

Step 3: The Permittee shall adjust the discharge volume at the ball valve on the discharge line (located in the UV room) on a daily basis (or as necessary) such that the actual discharge volume does not exceed the calculated discharge volume.

6. Reporting

The Permittee is required to submit monthly reports of monitoring results on DMR form WR-43. Reports are due on the 15th day of each month, beginning with the month following the effective date of this permit. When the Permittee submits DMRs using an electronic system designated by the Agency, it is not required to submit hard copies of DMRs.

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, 2nd 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 and the authorization is made in writing and submitted to the Agency;

b. In the case of a partnership, by a general partner;

c. In the case of a sole proprietorship, by the proprietor; or

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 shall be submitted to the Agency on the DMR form WR-43. Operations reports shall be submitted monthly.

7. 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 or measurement;

b. The individual(s) who performed the sampling or measurements;

c. The dates and times the analyses were performed;

d. The individual(s) who performed the analyses;

e. The analytical techniques and methods used including sample collection handling and preservation techniques;

f. The results of such analyses;

g. The records of monitoring activities and results, including all instrumentation and calibration and maintenance records; and

h. 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 DMR form WR-43 or other forms approved by the Agency.

8. 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 DMR form WR-43. Such increased frequency shall also be indicated.

I. 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.

J. OPERATION, MANAGEMENT, AND EMERGENCY RESPONSE PLANS

1. The Permittee shall continue to implement the Operation, Management, and Emergency Response Plan for the wastewater treatment facility, pump stations, and stream crossings as approved by the Agency on August 7, 2008.

2. The Permittee shall implement the Operation, Management, and Emergency Response Plan for the sewage collection system as submitted to the Agency on February 18, 2009.

The Permittee shall revise these plans upon the Agency's request or on its own motion to reflect equipment or operational changes.

K. EMERGENCY ACTION - ELECTRIC POWER FAILURE

The Permittee shall indicate in writing to the Agency **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 wastewater treatment facility (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 wastewater treatment facility, 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 wastewater treatment facility or purchased from an independent source of electricity, must be separate from the existing power source used to operate the wastewater treatment facility. If a separate unit located at the wastewater treatment facility is to be used, the Permittee shall certify in writing to the Agency when the unit is completed and prepared to generate power.

The determination of treatment system storage capacity shall be submitted to the Agency upon completion.

L. SEWER ORDINANCE

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

1. Prohibit the introduction by any person into the Permittee's sewerage system or wastewater treatment facility 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 in this permit, contains an incompatible pollutant, as defined in this permit, 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 and monitoring methods, keeping records of the results of such monitoring, and reporting the results of such monitoring to the Permittee. Such records shall be made available by the Permittee to the Agency 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 Agency 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 alterations or expansions or process modifications which will result in new, different, or increased discharges of any 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 Agency 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 Agency 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 Agency, 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 wastewater treatment facility.

2. Noncompliance Notification

a. The Permittee shall give advance notice to the Agency of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

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

i. Breakdown or maintenance of waste treatment equipment (biological and physical-chemical systems including all pipes, transfer pumps, compressors, collection ponds or tanks for the segregation of treated or untreated wastes, ion exchange columns, or carbon absorption units);

ii. Accidents caused by human error or negligence;

iii. Any unanticipated bypass or upset which exceeds any effluent limitation in the permit;

iv. Violation of a maximum day discharge limitation for any of the pollutants listed by the Agency in this permit; or

v. Other causes such as acts of nature,

the Permittee shall provide notice as specified in subdivisions (c) and (d) of this subsection.

c. Pursuant to 10 V.S.A. §1295, notice for "untreated discharges," as defined.

i. Public notice. For "untreated discharges" an operator of a wastewater treatment facility or the operator's delegate shall as soon as possible, but no longer than one hour from discovery of an untreated discharge from the wastewater treatment facility, post on a publicly accessible electronic network, mobile application, or other electronic media designated by the Secretary an alert informing the public of the untreated discharge and its location, except that if the operator or his or her delegate does not have telephone or Internet service at the location where he or she is working to control or stop the untreated discharge, the operator or his or her delegate may delay posting the alert until the time that the untreated discharge is controlled or stopped, provided that the alert shall be posted no later than four hours from discovery of the untreated discharge.

ii. Agency notification. For "untreated discharges" an operator of a wastewater treatment facility shall within 12 hours from discovery of an untreated discharge from the wastewater treatment facility notify the Secretary and the local health officer of the municipality where the facility is located of the untreated discharge. The operator shall notify the Secretary through use of the Department of Environmental Conservation's online event reporting system. If, for any reason, the online event reporting system is not operable, the operator shall notify the Secretary via telephone or e-mail. The notification shall include:

(1) The specific location of each untreated discharge, including the body of water affected. For combined sewer overflows, the specific location of each untreated discharge means each outfall that has discharges during the wet weather storm event.

(2) Except for discharges from a wastewater treatment facility to a separate storm sewer system, the date and approximate time the untreated discharge began.

(3) The date and approximate time the untreated discharge ended. If the untreated discharge is still ongoing at the time of reporting, the entity reporting the untreated discharge shall amend the report with the date and approximate time the untreated discharge ended within three business days of the untreated discharge ending.

(4) Except for discharges from a wastewater treatment facility to a separate storm sewer system, the approximate total volume of sewage and, if applicable, stormwater that was released. If the approximate total volume is unknown at the time of reporting, the entity reporting the untreated discharge shall amend the report with the approximate total volume within three business days.

(5) The cause of the untreated discharge and a brief description of the noncompliance, including the type of event and the type of sewer structure involved.

(6) The person reporting the untreated discharge.

d. For any non-compliance not covered under Section II.A.2.b. of this permit, an operator of a wastewater treatment facility or the operator's delegate shall notify the Agency within 24 hours of becoming aware of such condition and shall provide the Agency with the following information, in writing, within five 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

i. 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 and control facilities and systems (and related appurtenances) installed or used by the Permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the Permittee only when the operation is necessary to achieve compliance with the 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 Wastewater Treatment Facility Operator Certification Rule.

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 Agency.

The Permittee shall demonstrate the accuracy of the effluent 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 to ensure analytical quality control.

5. Bypass

The bypass of facilities (including pump stations) is prohibited, except where authorized under the terms and conditions of an Emergency Pollution Permit issued pursuant to 10 V.S.A. § 1268. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the activity in order to maintain compliance with the conditions of this permit.

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, all calibration and maintenance of instrumentation records and all original chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit shall be retained for a minimum of three years, and shall be submitted to the Agency upon request. This period shall be extended during the course of unresolved litigation regarding the discharge of pollutants or when requested by the Agency.

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 accordance 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. § 1268. The Permittee shall notify the Agency of the emergency situation by the next working day.

10 V.S.A. § 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 at the following address: Agency of Natural Resources, Department of Environmental Conservation, One National Life Drive, Main Building, 2nd Floor, Montpelier VT 05620-3522.

B. RESPONSIBILITIES

1. Right of Entry

The Permittee shall allow the Agency or authorized representative, upon the presentation of proper credentials:

a. To enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

b. To have access to and copy, at reasonable times, any records required to be kept under the terms and conditions of this permit;

c. To inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. To sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

2. Transfer of Ownership or Control

This permit is not transferable without prior written approval of the Agency. 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 Agency **at least 30 days in advance of the proposed transfer date**. The notice to the Agency shall include a written agreement between the existing and new Permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them. 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 Agency 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; and

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 Agency 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.

Claims for confidentiality for the following information will be denied:

a. The name and address of any permit applicant or Permittee.

b. Permit applications, permits, and effluent data.

c. Information required by application forms, including information submitted on the forms themselves and any attachments used to supply information required by the forms.

4. Permit Modification, Suspension, and Revocation

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 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.

The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance shall not stay any permit condition.

The Permittee shall provide to the Agency, within a reasonable time, any information which the Agency may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee shall also furnish to the Agency upon request, copies of records required to be kept by this permit.

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 Clean Water 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 modified or revoked and reissued 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 Agency 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 the Vermont Water Quality Standards; and

c. The Permittee is not notified by the Agency 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 “Emergency Action – Electric Power Failure” (Section I.K), "Bypass" (Section II.A.5), and “Emergency Pollution Permits” (Section II.A.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. Other Information

If the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Agency, it shall promptly submit such facts or information.

13. 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.

14. 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.

15. Definitions

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

Agency – The Vermont Agency of Natural Resources

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.

Bypass – The intentional diversion of waste streams from any portion of the treatment facility.

The Clean Water Act - The federal Clean Water Act, as amended (33 U.S.C. § 1251, *et seq*.).

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.

Discharge – Any wastes, directly or indirectly, that are placed, deposited or emitted into waters of the state.

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

Incompatible Substance – 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 the works or on water quality. This includes all pollutants required to be regulated under the 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, 2nd Floor
Montpelier, VT 05620-3522

Waste – Effluent, sewage or any substance or material, liquid, gaseous, solid or radioactive, including heated liquids, whether or not harmful or deleterious to waters.

Waste Management Zone – 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.

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.

This is an example of how to use the equations in Condition I.G.5 of this permit to restrict the Danville Wastewater Treatment Facility effluent flow during June 1 through September 30 to ensure that the discharge does not cause water quality violations.

On June 1st, the operator shall begin daily monitoring of the stream flow at the staff gauge on the Water Andric and restrict effluent flow by using the following procedure:

1. Using **BOD_5** and **TKN** results from the samples collected during the third week in May:

   BOD_5 = 25 mg/L

   TKN = 20 mg/L

   the operator shall calculate a **UOD** value to be used for the first half of the month of June:

   UOD = (1.43 × **BOD_5** (mg/L)) + (4.57 × **TKN** (mg/L))

   = (1.43 × 25) + (4.57 × 20)

   = 127.2 mg/L

2. Using this calculated **UOD** value and the stream flow (**Q_s**) of the Water Andric on June 1st:

   UOD = 127.2 mg/L

   Q_s = 0.558 CFS

   the operator shall calculate the permitted discharge volume:

$$\textbf{Allowable Discharge Volume (MGD)} = \frac{100 \times \mathbf{Q_s}}{\mathbf{UOD}\ (\mathrm{mg/L}) \times 8.34}$$

$$= \frac{100 \times 0.558}{127.2 \times 8.34}$$

$$= 0.526 \text{ MGD}$$

The stream flow shall be monitored daily, and used to calculate a new **Allowable Discharge Volume** *each day*. The same calculated **UOD** value shall also be used for June 2nd through June 15th. A new **UOD** value to be used in the second half of the month shall be calculated using the most recent **BOD_5** and **TKN** values (i.e., the samples collected during the first week in June).

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

FACT SHEET
(May 2016)

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

PERMIT NO: 3-1235
PIN: SJ99-0128
NPDES NO: VT0100633

NAME AND ADDRESS OF APPLICANT:

Town of Danville
P.O. Box 183
Danville, VT 05828

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Danville Wastewater Treatment Facility
Danville, Vermont

RECEIVING WATER: Water Andric

CLASSIFICATION: Class B with a waste management zone. Class B waters are suitable for swimming and other forms of water-based recreation and irrigation of crops and other agricultural uses without treatment; good aesthetic value; aquatic biota and wildlife sustained by high quality aquatic habitat; suitable for boating, fishing, and other recreational uses; 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 Vermont Agency of Natural Resources (Agency) received a renewal application for the permit to discharge into the designated receiving water from the above named applicant on June 29, 2011. At this time the Agency 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 Danville's Wastewater Treatment Facility to the Water Andric.

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

Effluent Limitations:	Page 2
Monitoring Requirements:	Pages 6-10

IV. Receiving Water

The receiving water for this discharge is the Water Andric, a designated Cold Water Fish Habitat. At the point of discharge, the river has a contributing drainage area of 2.05 square miles. The summer 7Q10 flow of the river is estimated to be 0.54 cubic feet per second (CFS) and the summer Low Median Monthly flow is estimated to be 1.14 CFS. The instream waste concentration at the summer 7Q10 flow is 0.146 (14.6%) and the instream waste concentration at the summer Low Median Monthly flow is 0.076 (7.6%).

V. Facility History and Background

The Town of Danville owns and operates the Danville Wastewater Treatment Facility. The facility is an aerated lagoon system, and utilizes ultraviolet lamp disinfection system. The collection system services the Danville village area, with extensions out Peacham Road, Walden Hill Road, Crystal Avenue, Route 2 East and the Sugar Ridge development.

VI. Permit Basis and Explanation of Effluent Limitation Derivation

Flow – The effluent flow limitation remains at 0.060 MGD, annual average, based on the facility's design flow.

Ultimate Oxygen Demand (UOD) – The permit requires the Permittee to restrict the discharge of oxygen-demanding pollutants during the summer months (June 1 through September 30) due to the extremely limited assimilative capacity of the Water Andric (approximately 15 lbs of UOD at a low flow of 0.15 CFS). Discharge restrictions are based on the UOD content of the effluent and the daily stream flows of the Water Andric. This draft permit proposes to utilize the same procedure as the current permit to determine the allowable daily discharge volume during the summer months. The formulae are found in Section I.H.5 of the draft permit.

Biochemical Oxygen Demand (BOD_5) – The effluent limitations for BOD_5 remain unchanged from the current permit. The monthly average (45 mg/L) and weekly average (45 mg/L) reflect the minimum level of effluent quality specified for treatment equivalent to secondary treatment (aerated lagoons) in 40 CFR Part 133.105. In addition, the draft permit contains a 50 mg/L, maximum day, BOD_5 limitation. This is the Agency standard applied to all such discharges

pursuant to 13.4 c. of the Vermont Water Pollution Control Permit Regulations. 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 (15 lbs/day, monthly average and 22.5 lbs/day, weekly average), established in the discharge permit issued in 1983 for the recently constructed facility, were derived by multiplying the then-permitted concentration limits (30 and 45 mg/L, respectively) by the permitted flow. The BOD_5 monitoring requirements are unchanged from the current permit, remaining once per month for the period of October 1 through May 14, and twice per month during the summer months.

Total Suspended Solids (TSS) – The effluent limitations for TSS remain unchanged from the current permit. The monthly average (45 mg/L) and weekly average (45 mg/L) reflect the minimum level of effluent quality specified for treatment equivalent to secondary treatment (aerated lagoons) in 40 CFR Part 133.105. In addition, the draft permit contains a 50 mg/L, maximum day, TSS limitation. This is the Agency standard applied to all such discharges pursuant to 13.4 c. of the Vermont Water Pollution Control Permit Regulations. 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 (15 lbs/day, monthly average and 22.5 lbs/day, weekly average), established in the discharge permit issued in 1988, were derived by multiplying the then-permitted concentration limits (30 and 45 mg/L, respectively) by the permitted flow. The TSS monthly monitoring requirement is unchanged from the current permit.

Total Phosphorus (TP) – In light of the recent adoption of numeric water quality criteria for phosphorus, the Agency is including requirements in discharge permits to monitor for discharges of TP. For future permit reissuance, the criteria will be used to determine the potential of discharges to cause or contribute to eutrophication and/or to adversely impact the aquatic biota downstream of the discharge. The Permittee shall monitor the discharge for TP once per month to be consistent with wastewater treatment facilities of similar size in Vermont.

Total Nitrogen (TN) – On November 10, 2011, a letter from the EPA (Region I) to the Agency indicated that Vermont must establish TN limitations in permits such that the TN load from all facilities in the Connecticut River watershed is consistent with the requirements of the Long Island Sound Total Maximum Daily Load (TMDL).

Section I.B in this draft permit requires the Permittee have a qualified professional develop and submit a Nitrogen Removal Optimization Evaluation Plan by December 31, 2016. The plan shall be provided to the Agency before implementation. Additionally, an annual report will be due to the Agency documenting the pounds of TN discharged as well as removal optimization and efficiencies; the first annual report shall be submitted by January 15, 2018, as an attachment to the December 2017 DMR WR-43 report. Finally, this Condition contains a clause that allows the Agency to reopen the permit to include a wasteload allocation for this facility based on the LIS TMDL.

TN is a calculated value based on Total Kjeldahl Nitrogen (TKN) and Nitrate/Nitrite (NO_x) Nitrogen. Monthly monitoring will be required for NO_x; TKN shall be sampled once per month

for the period of October 1 through May 14, and twice monthly during the summer months. The sum of TKN and NO_x shall be used to derive TN.

Ammonia – The draft permit proposes to extend the monthly ammonia analysis on their discharge to encompass all months of the year. The past 5 years of summer ammonia monitoring provided data for the warm weather periods; however, because of the temperature dependence of ammonia, the monitoring period will include the cold weather months to provide additional data for evaluation.

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

Escherichia coli – The *E. coli* limitation is 77 colonies/100 mL as specified in Section 3-04 B.3, Vermont Water Quality Standards. Monitoring requirement remains once per month.

pH – The pH limitation remains at 6.5 - 8.5 Standard Units as specified in Section 3-01 B.9. in the Vermont Water Quality Standards. Monitoring remains at daily.

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 draft permit retains the existing waste management zone that extends downstream from the outfall for approximately one mile in the Water Andric.

Instream Monitoring – Although biological assessments conducted in 2010 and 2012 below the outfall exceeded the Class B standards for a Small High Gradient stream type, the assessment in 2015 indicated that receiving water did not. Furthermore, instream water chemistry data collected by the Agency show that TP is significantly and consistently higher below the outfall in comparison to above the outfall.

Therefore, the draft permit includes instream water quality monitoring above and below the outfall to determine compliance with the Vermont Water Quality Standards. If the results of this monitoring verify a reasonable potential to cause an instream excursion about the water quality criteria, the Permittee shall optimize the facility to remove the responsible pollutants.

Toxicity Testing – 40 CFR Part 122.44(d)(1) requires the Agency to assess whether the discharge causes, or has the reasonable potential to cause or contribute to an excursion above any narrative or numeric water quality criteria. Whole Effluent Toxicity (WET) testing is being required in accordance with the 1994 Vermont Toxic Discharge Control Strategy. The draft permit includes a requirement to conduct a two-species WET test in August of September of 2016. If the results of this test indicate a reasonable potential to cause an instream toxic impact, the Agency may require additional WET testing, establish a WET limit, or require a Toxicity Reduction Evaluation.

Stream Flow Monitoring – The stream flow monitoring requirement is necessary to calculate the summer discharges (Section I.H.4). Maintenance and scheduled calibrations of the stream gauge are required in order to obtain correct flow information for the discharge calculations. The assignment of calibration intervals can be a formal process based on the results of previous calibrations.

Operation, Management, and Emergency Response Plans – As required by the revisions to 10 V.S.A. Section 1278, promulgated in the 2006 legislative session, Section I.I has been included in the draft permit. This condition requires that the Permittee implement the Operation, Management and Emergency Response Plans for the Wastewater Treatment Facility, sewage pump/ejector stations, and stream crossings as approved by the Agency on August 7, 2008, and for the sewage collection system upon approval by the Agency.

Electric Power Failure – Within 30 days of the effective date of the permit, the Permittee must submit to the Agency 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 (or in the case of ultraviolet light disinfection systems, not less than secondary treatment) plus disinfection.

VII. Procedures for Formulation of Final Determinations

The public comment period for receiving comments on this draft permit is from **May 30 through June 30, 2016** during which time interested persons may submit their written views on the draft permit. All written comments received by 4:30 PM on **June 30, 2016** 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:

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

Comments may also be faxed to: 802-828-1544 or submitted by e-mail using the e-mail comment provisions included at http://www.watershedmanagement.vt.gov/

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 proposed 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.

The complete application, draft permit, and other information are on file and may be inspected by appointment on the 2nd floor of the Main Building at One National Life Drive, Montpelier, Vermont. Copies may be obtained by calling 802-828-1535 from 7:45 AM to 4:30 PM Monday through Friday, and will be made at a cost based upon the current Secretary of State Official Fee Schedule for Copying Public Records. The draft permit and fact sheet may also be viewed on the Division's website at http://www.watershedmanagement.vt.gov/

Response to Comments

for

NPDES Discharge Permit No. 3-1235

Danville Wastewater Treatment Facility

The above referenced permit was place on public notice for comment from a period of May 30 through June 30, 2016. This is a renewal permit.

Comments on the draft permit were received during the public notice period from Paul Olander, on behalf of the Town of Danville. The following are the comments and the Agency of Natural Resources' (Agency) responses to these comments.

COMMENT: As a general comment on the permit, the Town notes that the Determination of Reasonable Potential (DRP) by the Monitoring, Assessment and Planning Program (MAPP), upon which was based a number of new permit requirements, was prepared using the 2014 Water Quality Standards, in violation of Town of Danville's vested rights to the WQS in place at the time the application for permit renewal was made. The application was received by the Agency on June 29, 2011 and the DRP should have used the 2008 WQS in place at that time. Technically, legally, the Agency should withdraw the permit, redo the DRP against the 2008 WQS, and then reissue the permit. The Town suggests that in the future the Wastewater Management Program should supply the MAP Program with the date of application so that the applicable WQS may be used in their Determination of Reasonable Potential.

RESPONSE: *The Agency disagrees with the comment. A careful review of the language in the Reasonable Potential Determination, and language in this responsiveness summary, will reveal that the Department in each instance relied upon criteria in place in the 2008 Standards in evaluating the reasonable potential to cause or contribute to impairment in receiving waters. The specific criteria relied upon as cited in the Reasonable Potential Determination include:*

- *Phosphorus: §3-01.B.2.A.*
- *Ammonia: §3-01.B.10.a.3 and §3-01.B.10.c.*
- *pH: §3-01.B.9.*
- *Turbidity: §3-01.B.1.*
- *Dissolved Oxygen §3-04.B.2.*
- *Aquatic biota: §3-01.D, §3-04.B.4.d. and §2-01.e.*

COMMENT: Section I.A.1 (Effluent Limits Table) - Both the BOD concentration limits, and the TSS mass limits are incorrect as given in the table (and discussed in the Fact Sheet). This is an error that continues from the 2006 Discharge Permit. The BOD monthly average concentration limit should be 30 mg/L rather than 45 mg/L, and the TSS monthly average mass limit should be 22.5 pounds per day rather than 15 pounds per day.

RESPONSE: *The Agency agrees that the BOD monthly average concentration should be 30 mg/L, rather than 45 mg/L, but does not agree with raising the TSS monthly average mass limit from 15 pounds per day to 22.5 pounds per day. The statutory and regulatory provisions of anti-backsliding generally prohibit the renewal, reissuance, or modification of an existing NPDES permit that contains effluent limitations, permit conditions, or standards less stringent than those established in a previous permit.*

The application of the permit adjustment anti-backsliding provisions, found at 40 C.F.R. § 133.105(f), to the Danville direct discharge permit require effluent limits as follows:

EFFLUENT CHARACTERISTICS	**DISCHARGE LIMITATIONS**							
	Annual Average	Monthly Average	Weekly Average	Maximum Day	Monthly Average	Weekly Average	Maximum Day	Instantaneous Maximum
		Mass (**lbs/day**)			Concentration (**mg/L**)			
Biochemical Oxygen Demand (5-day, 20° C) (BOD_5)		[1]	22.5 [1]		30 [1]	45 [1]	50 [1]	
Total Suspended Solids (TSS)		15 [2]	22.5 [1]		30 [2]	45 [1]	50 [2]	

[1] Effluent limit established in 1983 Discharge Permit
[2] Effluent limit established in 1988 Discharge Permit

40 C.F.R. § 133.102 sets the minimum requirements for BOD and TSS attainable through the application of secondary treatment. Although 40 C.F.R. § 133.105(a) and (b) provide the authority to adjust the minimum level of effluent quality for facilities with treatment equivalent to secondary treatment, the Secretary is required under 40 C.F.R. § 133.105(f) to set more stringent limitations, if achievable through proper operation and maintenance of the treatment works, based on the past performance of the treatment works. Furthermore, according to EPA guidance, it is appropriate for the permit effluent limitations to reflect the actual flow condition, plus the expected increase during the permit term. This facility has demonstrated the ability to attain the effluent quality presented in the above table at current flow (approximately 50% design flow), and has not presented evidence of a major expected increase in flow. However, the permit adjustment anti-backsliding provisions do not restrict an underloaded facility from moving towards its design capacity. If a facility demonstrates an expected increase in flow, the Agency would reevaluate the facility's eligibility for revised standards no less stringent than the standards in 40 C.F.R. § 133.102.

COMMENT: Section I.B (TOTAL NITROGEN) - The Town operates an aerated lagoon facility, as stated by the Fact Sheet accompanying the Draft Permit. EPA's November 10, 2011 letter to Vermont DEC outlining the expectations for Vermont's implementation of the Long Island Sound TMDL recognizes the very limited potential for operational control of nitrogen removal processes in aerated lagoon treatment facilities and specifically exempts them from nitrogen loading caps. The baseline average daily Total Nitrogen load cap in Section I.B.1 should be removed from the permit, as well as Section I.B.4, page 4/23, the Wasteload Allocation reopener provision.

RESPONSE: *The baseline annual average daily TN load discharge of this facility (12 lbs/day) is a load **trigger**, NOT a load cap; load triggers were established in permits for exempt facilities (lagoons and RBCs). The interim load trigger temporarily constitutes a non-enforceable goal which, if exceeded, will incur additional sampling and monitoring requirements for the facility.*

The Agency is currently issuing renewal NPDES permits for facilities discharging to the LIS watershed with interim load triggers (for exempt facilities) and interim load caps (for non-exempt facilities). These interim limits were developed, in part, to assure that Vermont's wastewater treatment facilities can continue operations under their present flows and conditions and still achieve compliance with Vermont's LIS TMDL limit of 1727.3 lbs N/day. Once sufficient data of the removal efficiency that is typical for each treatment technology in Vermont's climate is obtained through the new TN monitoring requirements, the Agency will initiate the formal process of developing and assigning final facility-specific waste load allocations for ALL facilities, including lagoons and RBCs.

COMMENT: Section I.B (TOTAL NITROGEN) - The nitrogen processes in lagoon systems are temperature-controlled. There is almost no practical information available with regard to operating schemes that will promote any significant change in nitrogen removal rates in aerated lagoons. When the wastewater temperatures reach 15°C they begin to partially nitrify and denitrify and when the lagoons cool in the Fall these processes stop. The requirement for a Nitrogen Removal Optimization Plan for the Danville WWTF is therefore a needless expenditure of time and money and results in no demonstrable public or environmental benefit. This requirement in Section I.B.1 should be removed from the permit, as well as the Plan Evaluation requirement in Section I.B.2 on Page 4/23. Section I.B., Total Nitrogen, should therefore be limited to the Total Nitrogen annual average reporting required in Section I.B.3.

RESPONSE: *The Agency is requiring all Vermont facilities to evaluate the potential for optimization of nitrogen removal, regardless of treatment type. While the Agency recognizes that certain treatment types may be limited in the ability to reduce TN, we believe there is merit in analyzing each system for possible low- or no-cost reductions.*

COMMENT: Section I.F.1, 2 (Instream Monitoring – Biological) – The Town objects to the inclusion in the permit of the requirement for the Town to perform biological instream monitoring in 2016 and 2018. The Town maintains that the Agency has not demonstrated that the Danville WWTF has caused an undue adverse effect on the health of the aquatic biota in the Water Andric downstream of the WWTF discharge.

The Danville Wastewater Treatment Facility began discharging in 1984. The 2010 and 2012 biology assessments both were scored "Good", meeting the "Full Support " scoring guidelines in 8 of 8 and 7 of 8 indices, respectively (the remaining index in the 2012 sampling was assessed in the "Meets Threshold" category), as shown in MAPP's Determination of Reasonable Potential. During the 28 years of discharging, during which time facility flows and loads have risen only modestly and effluent quality has

been exceptional for this type of facility, the plant effluent had not had an undue adverse effect on the instream biota.

In the 2015 aquatic biota sampling results, 6 of the 8 indices were in "Full Support", the Biotic Index was "Near Threshold" and the PPCS-F index was in the "Non-Support" category of the guidelines. There could be a variety of reasons other than enrichment by the WWTF effluent for the distribution shift in the types of organisms present, from sampling variability to changes in the watershed affecting habitat at the sampling locations. During the period May – October 2015 bracketing that sampling the Danville WWTF continued to produce some of the finest quality effluent possible in an aerated lagoon discharge. In an observation in early October 2015 bottom features 6-8 feet below the surface of the final lagoon were able to be seen. The attached spreadsheet shows the excellent plant effluent performance during the last six years, which include all three of the VTDEC aquatic biota samplings.

There have been changes in the watershed. Beginning in 2011 and lasting through 2013 a major VTrans project on US Route 2 took place, involving road re-construction in the area of the Water Andric crossing and the installation of a new large stormwater retention pond system near the WWTF to handle a storm sewer installed along Route 2 from just above the Water Andric crossing and reaching up through the town center. The farm immediately above the river has increased its agricultural activity in the watershed. June 2015 was the wettest June on record and this would contribute additional non-point loading to the watershed above the discharge. Additionally, there is an impoundment downstream of the "Above" aquatic biota sampling point and upstream of the discharge – the pool behind the stream gauging weir. If changes or events in the watershed resulted in increased deposition behind the weir, subsequent "bleed out" of contaminants could be affecting these instream biological water quality indicators in a way that might suggest effects of the WWTF discharge.

It is very significant that the ranking of the "Above" station results went from "Very Good" for the 2012 sample to "Good" for the 2015. As well, the two indices that did not meet the guideline thresholds in the 2015 "Below" sample also showed significant decreases in "support" (BI rose, PPCS-F decreased) in the "Above" sample from 2012 to 2015. In fact, the "Above" Biotic Index and PPCS-F index were barely above "Full Support", and the B.I. value at the "Above" station rose more between 2012 and 2015 than it did between the "Below" samples.

The Town maintains that the results from the 2015 aquatic biota do not demonstrate an undue adverse effect from the discharge and that the continued exceptional effluent quality from the Danville WWTF suggests that the Agency should look further into the changes that have occurred in the watershed. The Town strongly objects to the inclusion in the draft permit of the requirement for the very expensive instream biological monitoring and requests the requirement be removed from the permit.

RESPONSE: *MAPP has determined that the lower site (RM 6.5) did not meet Vermont's macroinvertebrate biocriteria (an undue adverse effect) in 2015 and it was borderline in 2010 and 2012. It has not been listed on the 303d list since two years of impairment data are needed for listing. In all years sampled for biology and water quality, the facility discharge location was bracketed by sampling sites, thus accounting for upstream sources including both Stormwater and agricultural issues in the vicinity. The Stormwater ponds and discharges are above the upstream site, and the agricultural drainage comes into Water Andric below the downstream site. The following is a direct quote from MAPPs investigator in the specific matter of the farm runoff:*

> "I stopped by the water Andric and confirmed that the drainage from the farm enters the water Andric Just below (maybe 100 ft) the downstream sampling point so any runoff from this farm can't be a factor in the drop in the assessment in 2015. "

Nutrient data shows a significant increase in TP and often TN (May 13, 2016 Danville RPD Memorandum). The lower site RM 6.5 has consistently averaged TP of over 300 µg/L in 2010, 2012 and 2015. Compared to the upper site TP < 10 µg /L all three years. This constitutes one of the highest increases in total phosphorus documented from upstream-downstream monitoring conducted by MAPP for the Department, for any facility examined since MAPP began conducting Reasonable Potential Determinations after 2010.

The Nutrient Criteria for Vermont's Inland Lakes and Wadeable Streams Technical Support Document (10/30/2014) specifies a sampling design framework for the determination of stream responses to nutrients. The number of samples required for compliance purposes may be determined on a site-specific basis, but should in no case be less than three samples collected on separate non-consecutive days. The flow conditions during nutrient sampling should approximate the low median monthly flow for the site. The Water Andric above/below sampling all occurred under base flows; not directly influenced by surface runoff, with flow level either low or moderate.

Insofar as this facility applied for reauthorization to discharge prior to promulgation of the numeric nutrient criteria for phosphorus, the application was not reviewed against the numeric nutrient criteria. Instead, the assessment of undue adverse effect was evaluated according to a decision framework similar to that presented in Table 13 of Nutrient Criteria document, that relies specifically on water quality criteria that existed in the 2008 Water Quality Standards. Under this framework when nutrient response variables of pH, DO, turbidity, or biological response are not met; annual monitoring will be recommended by MAPP to the Wastewater Program for phosphorus concentration and all nutrient response conditions at sites affected by permitted discharges.

Monitoring is justified as "reasonable potential" exists for water quality excursions as evidenced by the very significant increases in instream phosphorus concentration coupled with biological assessments that have been on the threshold all years sampled, and failed in 2015. The biology shows a classic nutrient enrichment fingerprint, and nutrient sampling has shown significant increases in TP below the WWTF Further substantiating these conclusions, the instream phosphorus concentrations observed downstream of the facility are consistent with calculated phosphorus concentrations attributable to the facility discharge using facility flows.

Therefore, MAPP does not see how the other sources cited could account for the loss in biological quality downstream of the wastewater discharge.

COMMENT: Section I.F.3 (Instream Monitoring- Chemical) - the Town objects to the use of a few stream grab samples (9 samplings over a 6 year period) to characterize the instream water quality of the Water Andric and to assess the impacts on the stream from the Danville WWTF. Grab samples provide a mere snapshot of the instantaneous concentration at a particular moment in a particular day and are subject to misinterpretation. They do not define the water quality in the receiving waters but are merely indicators. Far more creditable data would be produced by instream composites and comparison to WWTF effluent composites, using stream and plant flows. As stated in the general comment, the Town also objects to the use of the 2014 WQS in the assessment.

DO - one downstream sample of the 6 taken in the 2010-2015 period, on 9/2/2012, did not meet the 6 mg/L minimum value. The one "O2 percent saturation" that was below the 70% criterion for "Cold Water Fish Habitat" occurred in November 2012. The data for these two dates indicates lower than expected DO concentrations in the "Above" samples and raises a question as to the accuracy of the meter

used during that period, and suggests that these two results do not indicate that the Town should begin monthly warm weather instream monitoring.

RESPONSE: *As cited above, the Nutrient Criteria for Vermont's Inland Lakes and Wadeable Streams Technical Support Document (10/30/2014) specifies the number of samples required for compliance purposes may be determined on a site-specific basis, but should in no case be less than three samples collected on separate non-consecutive days. The flow conditions during nutrient sampling should approximate the low median monthly flow for the site. While the guidance pertains to application of the numeric nutrient criteria in the 2014 water quality standards, the recommendations contained therein comprise common sampling practices that have been in place in the Department since MAPP began conducting Reasonable Potential Determinations after 2010. They are not specific to the application of the numeric nutrient criteria per-se, and thus are applicable in this instance.*

The water chemistry data presented in Table 1 (May 13, 2016 Danville RPD Memorandum) represents a total of 9 sampling events, 3 samples were collected in 2010 (August, September, November), 3 samples were collected in 2012 (July, August, September) and 3 samples were collected in 2015 (August 3, August 20 and September). We feel this data is more than satisfactory for compliance purposes and adequately reflects the water chemistry above and below the outfall. MAPP contends that the increase in accuracy resulting from the acquisition of instream composite samples would not appreciably change the conclusions of our analysis. Further substantiating this conclusion is the finding that the instream phosphorus concentrations observed downstream of the facility are consistent with calculated phosphorus concentrations attributable to the facility discharge, using facility flows.

Water chemistry data presented in Table 1 (May 13, 2016 Danville RPD Memorandum) does not reflect the commenter's analysis provided above. The DO sample below 6.0 mg/L is from 9/2/2010 and the percent saturation value below 70% is from 11/3/2010; the Reasonable Potential Document exercises a conservative approach by examining worst-case values during the period of monitoring record. Analysis of the data indicates that DO and percent saturation were lower below the Danville outfall for all sampling events except on 9/10/2012 when percent saturation was slightly higher below the outfall (99.8% vs 98.3%). We have reviewed the data and do not find it suspect. Examination of a DO saturation table for these data indicate that the data are in fact accurate. The relevant data are:

Downstream	*Upstream*
Temperature: 2.5C	*Temperature: 2.5C*
DO: 8.55 mg/L	*DO: 10.87*
DO saturation: 64%	*DO Saturation: 84.2*

The DO concentration at this temperature, for 70% saturation would be 9.6 mg/L, suggesting an excess BOD load in the vicinity of 1mg/L at the time of sampling relative to criteria, and of 2.3 mg/L relative to the upstream DO concertation.

The recommended monthly warm weather (June – October) instream monitoring is not simply the result of the two DO results; it is because biological monitoring results do not consistently indicate attainment of all thresholds, and therefore the stream did not comply with VWQS for all identified response variables. To better assess compliance with the 2014 nutrient criteria at the next permit issuance and to ensure compliance with VWQS, we recommend water quality monitoring effort above and below the outfall to include turbidity, TP, pH and DO.

COMMENT: Section I.F.3 (Instream Monitoring – Chemical – Total Phosphorus) - It should be noted that while the DRP uses a default value of 5 mg/L Total Phosphorus, two years of Marshfield WWTF effluent data indicates that the effluent from a small aerated lagoon treating mostly domestic wastewater averages closer to 3.5 mg/L Total Phosphorus.

The Town agrees to a need to perform monthly effluent TP monitoring. Assessment of instream TP concentrations can be done via a calculation method using the effluent phosphorus and the plant and stream flows. This will result in far better information than monthly instream grab sampling. The Town requests that all instream chemistry sampling be removed from the permit.

RESPONSE: *The default of 5 mg/L-TP is the standard concentration used to reflect "no phosphorus removal," when evaluating facilities that do not have effluent monitoring data such as the Danville WWTF. We agree that the average effluent concentration may be below 5 mg/L-TP at the Danville facility. It is also likely that effluent concentrations at Danville WWTF will at times exceed the 5 mg/L - TP value used, similar to the Marshfield facility where data indicates several exceedances of 5.0 mg/L-TP.*

Effluent TP concentration at the Danville facility was calculated for Sept 3rd, 2015 using effluent flow data and stream flow data reported in the Danville DMRs and instream TP values from VTDEC monitoring. Calculations indicated the effluent concentration was 3.3 mg/L-TP, resulting in the observed instream TP concentration of 324 µg/L-TP. These calculations illustrate that instream chemistry can also be used to calculate effluent concentration when discharge and stream flow are known. Instream chemistry sampling will provide data necessary to ensure compliance with water quality standards and also ensure that other measures such as stream flow, facility flow and effluent concentrations are in alignment with computations.

COMMENT: Section I.H.2 (Effluent Monitoring - Ammonia) – In a letter dated May 27, 2009 VTDEC required monthly ammonia sampling of the Danville WWTF discharge. Further communication specified grab samples of the effluent rather than composites. Ammonia grab samples have typically been taken by plant personnel the morning after the day that composites for TKN are taken, immediately before both are sent to the contract laboratory for analysis. A review of the effluent ammonia and TKN data from 2010 through 2015 illustrates the problem with these grab samples. In 23 of the 30 samplings during the period the ammonia concentration found in the grab is higher, and in many cases significantly higher, than the TKN value in the composite. Again, grab samples are only snapshots of a moment and do not provide useful information about stream loadings or plant processes. The Town requests that the required monthly effluent ammonia samples be taken as composites, from the same samples as TKN.

RESPONSE: *If ammonia is in the permit limit, it is instantaneous maximum concentration. Composite samples would not be used to capture "instantaneous maximum concentration". Ammonia is unstable, and as such unionized ammonia is always a grab sample. The goal is to capture extreme conditions, to ensure compliance with water quality standards. During the collection of composite samples, the nitrification continues and unionized ammonia values will decrease, thus not representing the "real time" toxicity risk posed to aquatic biota.*

Effluent ammonia monitoring at the Danville facility has indicated that there is reasonable potential for excursions of water quality standards (May 13, 2016 Danville RPD Memorandum -Ammonia Monitoring). Observed effluent ammonia values have indicated the chronic criteria would be exceeded at all temperatures during 7Q10 flows; which are the flow conditions that apply to this pollutant. As such it

would be careless to rely on composite sampling for ammonia. If the applicant would like to collect composite samples as well as grab samples for comparison data; we are supportive.

COMMENT: Section I.H.4 (Stream Flow Monitoring) – current maintenance on the stream gauging station consists of cleaning out the impoundment area behind the weir in Spring before the streamflow measurement requirements commence in June. The station is monitored daily and if sediment is found to be collecting behind the weir it is cleaned again. The weir earthen embankments have been repaired a number of times. The Town requests that the Agency be more specific about the way in which the Town is to "determine the appropriate long-term schedule to calibrate or verify the gauging station at intervals sufficient to ensure acceptable accuracy and reliability".

As a side note: MAPP's DRP document states that on two separate occasions in the past year VTDEC personnel have observed the weir and had concerns about the accuracy of measurements due to problems seen with the weir. Unfortunately these concerns were not relayed to the Town or the WWTF staff. Should this happen in the future, please notify us immediately (802 – 684-2108) so that we can control or address any factors that could affect stream flow measurements.

RESPONSE: *Duly noted. DEC personnel had been examining the weir specifically to ensure the validity of conclusions made in the Reasonable Potential Determination. During a site visit, MAPP scientists noted water flowing around the ends of the weir and speculated as the possibility of additional subsurface loss through the coarse gravel substrate that appears to have been exacerbated after the 2011 flood. The observation was made at moderate to high flows, so an assessment of whether the weir is being bypassed at lower flows would be informative. The role of DEC's MAPP scientists is to conduct assessments of the stream quality. However, in the future, any such observations will be relayed promptly to the Wastewater Program inspector, to be relayed to the operator.*

The Agency cannot prescribe how often a recalibration of the weir should occur. The Permittee is responsible for the determination of calibration intervals, as s/he is in the best position to understand the long-term behavior of the weir, under various conditions.

COMMENT: Section I.J, K (Operation, Management and Emergency Response Plan and Emergency Action-Electric Power Failure Plan) – The Town requests that the language in these two sections be revised to reflect the fact that the Town has prepared and implemented both an OM&ER Plan (DEC Approval: 8/18/2008) and an EA-EPF Plan (DEC Approval: 3/2/2006) and needs merely to review and, if necessary, update those plans.

RESPONSE:

Section I.J.1: The permit has been modified to state that "The Permittee shall **continue to** *implement the Operation, Management, and Emergency Response Plan for the wastewater treatment facility . . . "*

Section I.J.2: The permit has been modified to state that "The Permittee shall implement the Operation, Management, and Emergency Response Plan for the sewage collection system **as submitted to the Agency on February 18, 2009."**

Section I.K: Per current procedure, all wastewater treatment facilities are required to update and resubmit an Emergency Action – Electric Power Failure plan. This condition remains in the permit.