

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

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<sub>5</sub>)** – The effluent limitations for BOD<sub>5</sub> 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<sub>5</sub> 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<sub>5</sub> 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<sub>x</sub>) Nitrogen. Monthly monitoring will be required for NO<sub>x</sub>; 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<sub>x</sub> 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, 2<sup>nd</sup> 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 2<sup>nd</sup> 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/>