

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)

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

**PERMIT NO:** 3-1198  
**PIN:** BR95-0050  
**NPDES NO:** VT0100285

**NAME AND ADDRESS OF APPLICANT:**

Town of Randolph  
Drawer B  
Randolph, VT 05060

**NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:**

Randolph Wastewater Treatment Facility  
18 Hedding Drive  
Randolph, Vermont

**RECEIVING WATER:** Third Branch of the White River

**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

***This is a permit amendment. Proposed changes to the permit are addressed on page 2 of this fact sheet.***

At this time the Agency has made a tentative decision to amend this discharge permit. The facility is engaged in the treatment of municipal wastewater. The discharge is from the outfall of the Town of Randolph's Wastewater Treatment Facility (WWTF) to the Third Branch of the White River.

## II. Description of Discharge

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

## III. Limitations and Conditions

The effluent limitations of the 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 & 3
Monitoring Requirements:	Pages 6, 7 & 8

## IV. Receiving Water

The receiving water for this discharge is the Third Branch of the White River, a designated Cold Water Fish Habitat. At the point of discharge, the river has a contributing drainage area of 109 square miles. The summer 7Q10 flow of the river is estimated to be 7.43 cubic feet per second (CFS) and the summer Low Median Monthly flow is estimated to be 35.74 CFS. The instream waste concentration at the summer 7Q10 flow is 0.07 (7%) and the instream waste concentration at the summer Low Median Monthly flow is 0.017 (1.7%).

## V. Facility History and Background

The Town of Randolph owns and operates the Randolph WWTF. The original facility – an activated sludge extended aeration system with secondary treatment and seasonal disinfection – was constructed in 1973.

Age-related process and physical deficiencies at the Randolph WWTF resulted in the Town's decision to upgrade the facility. A new sequencing batch reactor (SBR) facility with chlorine disinfection will be constructed on the same site as the existing facility. Construction on the upgrade began in 2014, and is anticipated to be completed by Spring 2016.

The town recently eliminated the two remaining combined sewer overflows: the Central Street (Route 66) Pump Station, and the Prince Street (manhole C-3).

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

**Facility Upgrade** – The facility upgrade is in progress at the time of this permit amendment. All permit limitations will remain the same following the completion of the upgrade. However, there will be several modifications of sampling methodology upon switching to SBRs; this will include: elimination of the requirement to report a daily maximum and minimum flow; a mandatory composite period of 24 hours.

**Following an SBR cycle, the effluent enters a chlorine contact tank for disinfection, where the effluent from several SBR cycles may be intermingled. Therefore, due to the absence of a sampling location from which grab samples would be representative of a specific SBR unit, the**

**requirement to collect grab samples from the SBR cells in an alternating manner has been eliminated in this draft permit.**

**Flow** – The original facility was designed for a flow of 0.32 MGD. A 30-day testing period and engineering analysis later determined that the plant could successfully achieve secondary treatment at increased flows. The design flow was thus increased to 0.400 MGD in the 1980 permit renewal. The effluent flow limitation in the draft permit remains at 0.400 MGD, annual average. The facility maintains a continuous discharge.

**Biochemical Oxygen Demand (BOD<sub>5</sub>)** – The effluent limitations for BOD<sub>5</sub> remain unchanged from the current permit. The monthly average (30 mg/L) and weekly average (45 mg/L) reflect the minimum level of effluent quality specified for secondary treatment in 40 CFR Part 133.102. 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 (80 lbs/day, monthly average and 120 lbs/day, weekly average) were derived by multiplying the concentration limits by the original design flow (0.32 MGD). The BOD<sub>5</sub> monthly monitoring requirement is unchanged from the current permit.

**Total Suspended Solids (TSS)** – The effluent limitations for TSS remain unchanged from the current permit. The monthly average (30 mg/L) and weekly average (45 mg/L) reflect the minimum level of effluent quality specified for secondary treatment in 40 CFR Part 133.102. 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 (80 lbs/day, monthly average and 120 lbs/day, weekly average) were derived by multiplying the concentration limits by the original design flow (0.32 MGD). The TSS monthly monitoring requirement is unchanged from the current permit.

**Total Phosphorus (TP)** – The Permittee shall monitor the discharge for TP once per month to be consistent with WWTF of similar size in Vermont.

The Agency recognizes that the biological assessments conducted since 2006 have consistently met or significantly exceeded Class B standards for aquatic biota and aquatic habitat uses for Cold Water Medium High Gradient stream type. However, the projected increase in downstream TP concentration attributable to the facility operating at design (i.e., permitted) flow with an effluent concentration of 7.1 mg/L (the highest value observed from VTDEC 2012 & 2013 effluent monitoring) under low monthly median flow conditions is 0.120 mg/L (120 µg/L), a load that could potentially contribute excessive instream phosphorus concentrations. Therefore, per Section II.B.4 of the permit, the Agency reserves the right to modify this permit during its term for cause including a change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

**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 (LIS) Total Maximum Daily Load (TMDL).

Section I.C in this draft permit requires the Permittee have a qualified professional develop and submit a Nitrogen Removal Optimization Plan by September 30, 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, 2017, as an attachment to the December 2016 DMR WR-43 report. In addition, 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 TKN and NO<sub>x</sub>. The sum of TKN and NO<sub>x</sub> shall be used to derive TN.

**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.

Seasonal disinfection, meaning the required use of chlorine or another disinfection method to kill effluent bacteria between the period of April 1 through October 31 only, is required for this discharge per agreement with the Vermont Department of Health. As a result, the bacteria monitoring and effluent limitation do not apply for the period of November 1 through March 31.

**Total Residual Chlorine** – The Total Residual Chlorine limit of 0.1 mg/L is based on meeting the instream water quality acute and chronic chlorine criteria (0.019 mg/L and 0.011 mg/L respectively) in the Vermont Water Quality Standards, effective February 9, 2006, for the protection of aquatic biota. Monitoring requirement remains daily when chlorination is occurring.

**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 Ottauquechee River.

**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 or September of 2016, and a two-species WET test in January or February of 2018. 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.

**Monitoring and Reporting** – For all facilities with a design flow of greater than 0.1 MGD, 40 CFR § 122.21(j) requires the submittal of effluent monitoring data for those parameters identified in Section I.I.3 of the draft permit. Samples must be collected once annually such that by the end of the term of the permit, all quarters have been sampled at least once, and the results will be submitted by December 31 of each year.

**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.K. has been included in the draft permit. This condition requires that the Permittee implement the Operation, Management and Emergency Response Plans for the WWTF, sewage pump/ejector stations, and stream crossings as approved by the Agency on July 22, 2009. The plan must be updated once the upgrade has been completed and the new SBR WWTF is fully in operation. This condition also requires that an Operation, Management and Emergency Response Plan for the collection system be developed, implemented and submitted to the Agency for review and approval within 90 days of the submittal of the engineer's certificate of completion of the upgrade.

**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. This shall again be updated within 30 days of the engineer's certificate of completing the upgrade.

## VII. Procedures for Formulation of Final Determinations

The public comment period for receiving comments on this draft permit is from **May 23 through June 23, 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 23, 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/>