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
(AUGUST 2016)

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

PERMIT NO: 3-1211
PIN: NS95-0163
NPDES NO: VT0100277

NAME AND ADDRESS OF APPLICANT:

Town of Putney
PO Box 233
Putney, VT 05346

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Putney Wastewater Treatment Facility
21 Treatment Plant Road
Putney, Vermont

RECEIVING WATER: Sackett's Brook

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 July 6, 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 Putney Wastewater Treatment Facility to Sackett's Brook.

II. Description of Discharge

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

III. Limitations and Conditions

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

Effluent Limitations:	Page 2
Monitoring Requirements:	Pages 6-8

IV. Receiving Water

The receiving water for this discharge is Sackett's Brook, a designated Cold Water Fish Habitat. At the point of discharge, the river has a contributing drainage area of 13.5 square miles. The summer 7Q10 flow of the river is 1.21 cubic feet per second (CFS) and the summer Low Median Monthly flow is 3.65 CFS. The instream waste concentration at the summer 7Q10 flow is 0.113 and the instream waste concentration at the summer Low Median Monthly flow is 0.041.

V. Permit Basis and Explanation of Effluent Limitation Derivation

History and Summary:
The Town of Putney owns the Putney Wastewater Treatment Facility. The Facility provides secondary treatment using an extended aeration activated sludge process followed by chlorination and dechlorination. Effluent is discharged to Sackett's Brook, at the deepest section of the stream, through a 6" outfall pipe. There are four pump stations within the collection system.

The facility was constructed in 1975 and upgraded in 2006. The upgrade included modifications to the aeration system in the oxidation ditch, installation of a secondary clarifier, construction of new chlorine contact chambers, and improvements to the sludge pumping system.

Antidegradation Discussion:
See attachment.

Flow – Based on the conditions of the current permit the effluent flow limitation is 0.1 MGD, annual average, which reflects the new design capacity from the facility upgrade. The facility maintains a continuous discharge.

Biochemical Oxygen Demand (BOD_5) – The effluent limitations for BOD_5 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 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. The mass limits for the facility are calculated using the concentration limitations outlined above and the flow of the wastewater treatment facility *prior* to the upgrade (0.080 MGD) and are thus unchanged from the current permit. The mass limitations are 20 lbs/day, monthly average, and 30 lbs/day, weekly average. The BOD_5 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 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. The mass limits for the facility are calculated using the concentration limitations outlined above and the flow of the wastewater treatment facility *prior* to the upgrade (0.080 MGD) and are thus unchanged from the current permit. The mass limitations are 20 lbs/day, monthly average, and 30 lbs/day, weekly average. The TSS monthly monitoring requirements are unchanged from the current permit.

Total Phosphorus (TP) – This draft permit contains a phosphorous mass effluent limit of 4.17 total pounds, monthly average. In considering the increase in design flow due to the facility upgrade, the Agency reviewed whether the increased flow was consistent with the Antidegradation Policy contained in the Vermont Water Quality Standards. The proposed mass limit identifies the total phosphorous loading attributable to the Facility prior to the upgrade; maintaining the phosphorus load at, or below, levels of pre-upgrade will protect the water quality and minimize the risk to existing and designated uses.

Total Nitrogen (TN) – On November 10, 2011, a letter from the EPA (Region I) to the Vermont Agency of Natural Resources 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 permit requires the Permittee have a qualified consultant develop and submit a Nitrogen Removal Optimization 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 as 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 TKN and NO_x. The sum of TKN and NO_x 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, of the 2011 Vermont Water Quality Standards. Monthly monitoring remains the same as in the current permit.

Total Residual Chlorine – The Total Residual Chlorine limits of 1.0 mg/l instantaneous max 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 for the protection of aquatic biota. Monitoring requirement remains daily.

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 1 mile through Sackett's Brook, terminating in the Connecticut River.

Instream Monitoring – The most recent biological assessments conducted above and below the Facility outfall in 2012 meet Class B water quality standards for aquatic biota and aquatic habitat uses for Medium High Gradient streams. However, the assessment below the outfall indicates a moderate level of nutrient enrichment, which can be attributed to the Putney Wastewater Treatment Facility. In addition, instream water chemistry data collected by the Agency show that TP is significantly and consistently higher below the outfall than above the outfall.

Therefore, several nutrient response conditions shall be monitored to ensure continued compliance with the narrative standard presented in § 3-01.B.2 of the Vermont Water Quality Standards. If the results of this monitoring indicate a reasonable potential to cause an instream excursion above the water quality criteria, the Agency may reopen and amend this permit to include additional effluent limitations and/or additional monitoring requirements.

Whole Effluent Toxicity (WET) 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. The goal of the Vermont Toxic Discharge Control Strategy is to assure that the state water quality standards and receiving water classification criteria are maintained. The draft permit includes a requirement to conduct a two-species WET test in August of September of 2020. 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 – The draft permit requires the Permittee to submit all monitoring data using an Agency-approved DMR form (WR-43). The Permittee shall submit all monitoring data using an electronic reporting system designated by the Agency once directed to do so by the Agency.

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.H has been included in the draft permit. This condition requires that the Permittee implement the Operation, Management and Emergency Response Plan for the wastewater treatment facility, sewage pump/ejector stations, and stream crossings as approved by the Agency on January 13, 2009, and for the wastewater collection system as approved by the Agency on September 21, 2010.

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 and dechlorination.

Noncompliance Notification – As required by the passage of 10 V.S.A. §1295, promulgated in the 2016 legislative session, Section II.A.2 has been included in the proposed permit. This condition requires the Permittee to provide public notification of untreated discharges from wastewater facilities. The Permittee is required to post a public alert within one hour of discovery, and submit to the Agency specified information regarding the discharge within 12 hours of discovery.

VI. Procedures for Formulation of Final Determinations

The public comment period for receiving comments on this draft permit was from **August 15 through September 15, 2016.** *The Agency received no comments from the public concerning the draft permit.*