

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. 3-1293
Project ID No. NS88-0012
NPDES No. VT0020915

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.*),

Town of Brattleboro
211 Fairground Road
Brattleboro, VT 05301

(hereinafter referred to as the "Permittee") is authorized by the Secretary of Natural Resources (Secretary), to discharge from a facility located at:

Pleasant Valley Water Treatment Facility
416 Pleasant Valley Road
Brattleboro, Vermont

to an unnamed tributary to Whetstone Brook, Class B at the point of discharge in accordance with the following conditions:

This permit shall become effective on January 1, 2017.

This permit and the authorization to discharge shall expire on December 31, 2021.

Alyssa B. Schuren, Commissioner
Department of Environmental Conservation

By: Mary L. Borg
Mary L. Borg, Deputy Director
Watershed Management Division

Date: 12/14/16

I.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Until December 31, 2021, the Permittee is authorized to discharge from outfall serial number **S/N 001**: filter backwash from the lagoon(s) to an unnamed tributary to Whetstone Brook. Such discharges shall be limited and monitored by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	Monthly Average	Maximum Day	Measurement Frequency	Sample Type
Flow	0.160 MGD	0.265 MGD	Daily	Total Flow ⁽¹⁾
Turbidity	10 NTU		1 x daily	Grab
Total Residual Chlorine (TRC)		0.020 mg/l ⁽³⁾	1 x daily	Grab
pH	Between 6.5 and 8.5 Standard Units		1 x daily	Grab

Samples collected in compliance with the monitoring requirements specified above shall be collected at sample location S/N 001, located at the outfall of the discharge pipe from the settling lagoons, prior to the swale.

- (1) For each discharge day, the Permittee shall determine the total volume discharged from clarifier flushes and from filter backflushes. The flow rate through each clarifier flush is directly proportional to the raw water flow rate and is calculated by the programmable logic controller (PLC) using the duration and number of flushes and the flow rate into the specific unit being cleaned. The backwash water flows through a metering device, and the PLC derives a backwash volume based on the flow rate and the actual backwash time.
- (2) See Special Condition I.A.2.a.

2. Special Conditions

- a. The minimum level (ML) of detection for Total Residual Chlorine is defined as .020 mg/l. This value is the minimum level for chlorine using EPA approved methods found in the most currently approved version of Standard Methods for the Examination of Water and Wastewater, Method 4500 CL-E and G. One of these methods must be used to determine Total Residual Chlorine. For effluent limitations less than .020 mg/l, compliance/non-compliance will be determined based on the ML. Sample results of .020 mg/l or less shall be reported as zero on the Discharge Monitoring Report, Form WR-43.
- b. The use of corrosion control products which contain priority pollutants (e.g. zinc) or phosphorus is prohibited without prior written approval from the Department.
- c. Floor drains and/or discharges from the chemical storage area to the lagoons are prohibited. The 6000-gallon fiberglass tank to which the floor drains are connected shall have a high level alarm system wired to the SCADA system such that overflows to the lagoon are prevented.
- d. Sludge monitoring and lagoon sludge removal must occur at a frequency that will prevent the loss of solids in the effluent discharges and subsequent water quality standards violations.
- e. The discharges shall not cause violations of the water quality standards in the receiving water.

B. REAPPLICATION

If the Permittee desires to continue to discharge after the expiration date of this permit, the Permittee shall apply on the application forms then in use at least 180 days before the permit expires.

Reapply for a Discharge Permit by: June 30, 2021.

C. OPERATING FEES

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

D. 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.

The Permittee shall use sufficiently sensitive test procedures (i.e., methods) approved under the Code of Federal Regulations, Title 40, Part 136 for the analysis of the pollutants or pollutant parameters specified in Condition I.A. above.

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. Reporting

The Permittee is required to submit monthly reports of monitoring results on Discharge Monitoring Report (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;
- 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.

3. 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 measurements;
- 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 analysis;

- 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 WR-43 or other forms approved by the Agency.

4. 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 WR-43. Such increased frequency shall also be indicated.

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.

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
- v. Steps to be taken by the Permittee to prevent recurrence of the condition of non-compliance.

3. Operation and Maintenance

All waste collection, control, treatment, and disposal facilities shall be operated in a manner consistent with the following:

- a. The Permittee shall, at all times, maintain in good working order and operate as efficiently as possible all treatment 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.

4. Quality Control

The Permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at regular intervals to ensure accuracy of measurements, or shall ensure that both activities will be conducted.

The Permittee shall keep records of these activities and shall provide such records upon request of the Secretary.

The Permittee shall demonstrate the accuracy of the effluent flow measurement device weekly and report the results on the monthly report forms. The acceptable limit of error is $\pm 10\%$.

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. § 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.

10. Power Failure

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the Permittee shall either:

- a. Provide an alternative power source sufficient to operate the wastewater control facilities, or if such alternative power source is not in existence,
- b. Halt, reduce, or otherwise control production and/or all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.

B. RESPONSIBILITIES

1. Right of Entry

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

- a. To enter upon the Permittee's premises 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 federal 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 at 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. Civil and Criminal Liability

Except as provided in, "Bypass" (Section II.A.5), "Emergency Pollution Permits" (Section II.A.9), and "Power Failure" (Section II.A.10), 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.

8. 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.

9. 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.

10. 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.

11. 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.

12. 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.

III.

A. OTHER REQUIREMENTS

This permit shall be modified, suspended or revoked to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

1. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit, or
2. Controls any pollutant not limited in the permit.

The permit as modified under this paragraph shall also contain any other requirements of the Vermont Water Pollution Control Act then applicable.

B. 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 these 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.

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WATERSHED MANAGEMENT DIVISION
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FACT SHEET FOR PERMIT
(SEPTEMBER 2016)

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

PERMIT NO: 3-1293
PROJECT ID NO: NS88-0012
NPDES NO: VT0020915

NAME AND ADDRESS OF APPLICANT:

Town of Brattleboro
211 Fairground Road
Brattleboro, VT 05301

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Pleasant Valley Water Treatment Facility
Brattleboro Water Department
416 Pleasant Valley Road
Brattleboro, Vermont

RECEIVING WATER: Unnamed tributary to Whetstone Brook

CLASSIFICATION: Class B. 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.

I. Proposed Action, Type of Facility, and Discharge Location

The above named applicant applied on July 1, 2015 to the Vermont Department of Environmental Conservation for a renewal of the permit to discharge into the designated receiving water. At this time the Department has made a tentative decision to renew the discharge permit. The facility is engaged in the treatment of municipal drinking water. The discharge is from the outfall of the Town of Brattleboro water treatment facility to an unnamed tributary to Whetstone Brook.

II. Description of Discharge

This permit authorizes the discharge of filter backwash effluent produced during the treatment of raw surface water via coagulation, filtration and chlorination. 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 and Monitoring Requirements: Pages 2 of 14

IV. Permit Basis and Explanation of Effluent Limitation Derivation

The Pleasant Valley Water Treatment Facility was constructed in 1989 to process surface water for the Town of Brattleboro's drinking water supply. The Town has been issued a series of discharge permits since 1990 for water treatment filter backwash and rinse water from two settling lagoons to an unnamed tributary of Whetstone Brook (S/N 001).

Discharge occurs during filter rinsing, following filter backwash and when the filter comes on line after being shut down. This rinsing process functions to provide a higher potable water quality to the consumers by removing possible *Giardia* and *Cryptosporidium* oocysts on the filters. The filter rinse/ backwash water is supplied from the storage tank and flows by gravity to the filters. The filter rinse/backwash water is then discharged to two settling lagoons, operating in parallel. Overflow from the two lagoons is conveyed via pipe to a swale before reaching the unnamed tributary. The outfall of the pipe, prior to the swale, is the point of compliance location for S/N 001.

Floor Drains - discharge to a 6000-gallon double-walled fiberglass tank located adjacent to the lagoons. Although there is an overflow to the lagoons for venting purposes only, a high water alarm is present to alert the operator such that an overflow will not occur (as prohibited in the existing permit).

Flow - At the request of the Permittee, the draft permit is proposing to increase the effluent flow limitation for S/N 001 (filter backwash and filter rinse water) from 0.105 to 0.160 million gallons per day (MGD), monthly average, and from 0.160 to 0.265 MGD, daily maximum. The request for flow limit increase is based on: 1) snow melt and precipitation events can result in heavy flow into the reservoir and degrade source water quality, resulting in an increased need for flushing of filters and in an increase in discharge volume; 2) expected increase in customer demand and, therefore, discharges from backflow; and 3) plans to upgrade the facility in the next five years that would require implementation of 'filtered water to waste' (wasting of unchlorinated filtered water after the filters return to service after a backwash) component of their operation.

The discharge flow to the settling lagoons is comprised of raw water from clarifier flushes and treated water from filter backflush. The flow rate through each clarifier flush is directly proportional to the raw water flow rate. When the clarifier is flushed, either directed by a time

interval or pressure limit, the flow is calculated by the programmable logic controller (PLC) using the duration and number of flushes and the flow rate into the specific unit being cleaned. The mixed media filter is backwashed using treated water flowing in the reverse direction to expand the filter bed and wash out the removed material. The backwash water flows through a metering device, and the PLC derives a backwash volume based on the flow rate and the actual backwash time. Backwash flow rate changes over time based on water temperature. The flow volumes from clarifier flush and filter backwash are totaled by the PLC and linked to SCADA (supervisory control and data acquisition) system for monitoring. The operators record total flow as well as the number of clarifier flushes and backwash flushes, daily.

Total Suspended Solids (TSS) - TSS monitoring at S/N 001 was eliminated from previous permits as sufficient data has been collected and the effluent is consistently below 10 mg/l. The addition of filter rinse water should not cause an increase of TSS.

pH - The pH limitation for S/N 001 is 6.5 - 8.5 Standard Units (S.U.). Monitoring is required once per day via a grab sample.

Total Phosphorus (TP) – The treatment facility has used a poly/orthophosphate (blended 60/40) corrosion inhibitor, Aquadene SK-7641, at a dosage of 0.6 mg/L. The corrosion inhibitor was injected into the water main to the 3 million-gallon storage tank at a location between the treatment facility and the storage tank. It was injected after treatment and prior to storage. The treated water, containing phosphate, was used for filter backwash and discharged. The Brattleboro WTP monitored TP in the discharge over three months (May-July) in 2016, revealing that TP averaged 0.05 to 0.17 mg/L, with a maximum of 0.45 mg/L. The facility committed, via a letter dated August 8, 2016, to relocating this polyphosphate injection point by December 1, 2016, thereby reducing phosphate in the discharge to background levels occurring in the raw water source. Therefore, no phosphorus limits or monitoring requirements will be included with the 2016 permit.

Records and decisions relating to phosphorus discharge limits included an April 24, 1989 letter from Brian Kookier of the Permits and Compliance Section of ANR-DEC states that “Personnel from the Agency WQD reviewed the draft permit and have determined that no phosphorus limits are necessary. This is based on the use of alum for water treatment; the alum floc is expected to help with phosphorus removal in the lagoons. We will require this parameter be monitored during discharges and concentrations reported monthly”.

The 1990 discharge permit included weekly monitoring requirements for total phosphorus and the 1990 Fact Sheet states “The WQD reviewed the potential phosphorus discharge, determining that phosphorus levels should be monitored but that it is not necessary to limit the discharge of phosphorus to the receiving stream”. By the time the 1996 discharge permit was issued, it did not include phosphorus monitoring or limits.

At some time after the 2000 discharge permit, the Town proposed rerouting the backwash discharge to the Pleasant Valley Reservoir, where source water is supplied to the treatment system, thereby recycling water. After review by ANR, the plan was not approved due to concerns over impacts to source water quality and to treatment ability of the water system, as well as to the potential discharge load of chlorine and phosphorus, out of compliance with Vermont Water Quality Standards. A memorandum from the WQD dated October 15, 2003

estimated that at a daily discharge rate of .063 MGD and phosphate concentrations of 0.3 mg/L in the filter backwash discharge would result in a TP load of 26 kg/yr to receiving water.

Previous fact sheets have discussed how the potential upgrade to the plant included plans to relocate the injecting point for poly-orthophosphate (needed for adequate corrosion control) so that the chemical does not enter the storage tank and therefore would not be present in filter backwash discharge to the receiving water.

Total Residual Chlorine (TRC) – The total residual chlorine (TRC) discharge limit of 0.020 mg/L and daily monitoring requirement for discharge point S/N 001 remain unchanged from the current permit.

Sodium hypochlorite (chlorine) is added to finished water at the storage tank and residual chlorine is therefore present in the filter backwash/rinse water that is discharged to the lagoons. During warmer weather, more chlorine is added to the potable water to maintain a free chlorine residual in distribution and this means the more potential for TRC exceedances in the lagoon outfall. The 1989 Fact Sheet indicated that due to possible near-zero instream flows, the max effluent limit for TRC would be 0.011 mg/L, which is the chronic criteria to protect aquatic biota. However, discharge permits issued in 1990, 1996, 2000 and 2005 set a TRC limit of 0.10 mg/L. The TRC limit was reduced to 0.020 mg/L in the 2010 discharge permit, which is the minimum level of detection for chlorine found in currently approved methods for determining TRC.

The 1990 Fact Sheet states that the Town “incorporated a dechlorinating system into the design”, however, dechlorinating was discontinued by the WTP at some point (date unknown). Due to regular exceedances of the TRC limit in the discharge point S/N 001 and to prompting by the Department, the WTP implemented a dechlorinating practice in June 2016 that uses sodium bisulfite to eliminate free chlorine in the backwash water as it passes to the lagoons. The WTP will operate the dechlorinating system going forward.

Turbidity – A limit of 10 Nephelometric Turbidity Units (NTU) and monthly monitoring for S/N 001 is required.

V. Procedures for Formulation of Final Determinations

The public comment period for receiving comments on this draft permit is from **September 26, 2016 through October 25, 2016** during which time interested persons may submit their written views on the draft permit. All written comments received by 4:30 PM on **October 25, 2016** will be retained by the Department 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 Department.

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://dec.vermont.gov/watershed>

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 Department 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 Department 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 Department 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 Department 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://dec.vermont.gov/watershed>