

AGENCY OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION
ONE NATIONAL LIFE DRIVE, DAVIS BUILDING, 3RD FLOOR
MONTPELIER, VT 05620-3522

Permit No.: 3-1414
PIN: EJ95-0322
NPDES No.: VT0101231

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 (Environmental Protection Rules, Chapter 13), and the federal Clean Water Act as amended (33 U.S.C. §1251 *et seq.*), and implementing federal regulations,

Town of North Hero
P.O. Box 38
North Hero, VT 05474

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

North Hero Water Treatment Facility
265 North End Road East
North Hero, VT

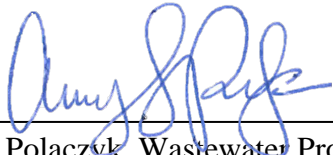
to Lake Champlain, Class B at the point of discharge in accordance with the following conditions.

This permit shall become effective on **May 1, 2020**.

This permit and the authorization to discharge shall expire on **March 31, 2025**.

Peter Walke, Commissioner
Department of Environmental Conservation

By: _____


Amy Polaczyk, Wastewater Program Manager
Watershed Management Division

Date: _____

4/13/2020

I. SPECIAL CONDITIONS**A. EFFLUENT LIMITS****1. Discharge Point S/N 001**

- a. During the term of this permit, the Permittee is authorized to discharge from outfall serial number S/N 001 (located at Latitude 44.89565 and Longitude -73.23233): treated filter backwash from a potable water treatment facility to Lake Champlain. Such discharges shall be limited and monitored by the Permittee as specified below:

From October 1 through May 31:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	Monthly Average	Maximum Day	Measurement Frequency	Sample Type
Flow	60,000 gpd	70,000 gpd	Daily	Estimate ¹
Turbidity	10 NTU		1 x Monthly	Grab ²
Total Suspended Solids		10 mg/l	1 x Monthly	Grab
Total Residual Chlorine		0.2 mg/l	Weekly	Grab ²
pH	Between 6.5 - 8.5 S.U.		Weekly	Grab ²

Samples collected in compliance with the monitoring requirements specified above shall be collected from the outfall pipe of the settling tank prior to discharge to Lake Champlain.

¹ Flow shall be estimated based on the number of backwash cycles per day.

² The Total Residual Chlorine, pH, and Turbidity analysis shall be conducted on the same sample when applicable.

From June 1 through September 30:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	Monthly Average	Maximum Day	Measurement Frequency	Sample Type
Flow	60,000 gpd	70,000 gpd	Daily	Estimate ¹
Turbidity	25 NTU		1 x Monthly	Grab ²
Total Suspended Solids		25 mg/l	1 x Monthly	Grab
Total Residual Chlorine		0.2 mg/l	Weekly	Grab ²
pH	Between 6.5 - 8.5 S.U.		Weekly	Grab ²

Samples collected in compliance with the monitoring requirements specified above shall be collected from the outfall pipe of the settling tank prior to discharge to Lake Champlain.

¹ Flow shall be estimated based on the number of backwash cycles per day.

² The Total Residual Chlorine, pH, and Turbidity analysis shall be conducted on the same sample when applicable.

2. Special Conditions

- a.** 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.
- b.** The effluent shall not cause visible discoloration of the receiving waters.
- c.** Discharge of algicides, slimicides, or any other chemical substances for backflushing the water intake line is prohibited.
- d.** Floor drains shall be used only for normal raw process water discharge. Discharge of chlorine or any other chemical substances via the floor drains are prohibited.
- e.** Only chemicals normally used for the operation of a water treatment facility shall be stored in the facility; in a designated chemical storage area. This area must be free of any floor drains. Any chemical spills shall be isolated and disposed of properly.
- f.** During the months of May and September, sludge depth accumulation shall be measured in the backwash settling tanks. Dates and results measured must be reported on the appropriate discharge monitoring report and comply with requirements in Condition I.D. of this permit.
- g.** Backwash settling tanks shall be cleaned as necessary to maintain design treatment specifications. Dates of sludge removal and volume of sludge shall be reported on the appropriate discharge monitoring report and comply with requirements in Condition I.D. of this permit.

B. MIXING ZONE

In accordance with 10 V.S.A. § 1252(b), this permit hereby establishes a mixing zone that extends 200 feet from the outfall of the WWTF.

C. 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 **September 30, 2024**

D. OPERATING FEES

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

E. MONITORING AND REPORTING**1. Sampling and Analysis**

The sampling, preservation, handling, and analytical methods used shall conform to the test procedures published in Title 40 of the Code of Federal Regulations (C.F.R.) Part 136.

The Permittee shall use sufficiently sensitive test procedures (i.e., methods) approved under 40 C.F.R. Part 136 for the analysis of the pollutants or pollutant parameters required under this Condition.

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. A description of the effluent sample location is included in Condition I.A.1.a.

2. Reporting

The Permittee is required to submit monthly reports of monitoring results as required in Condition I.A. and operational parameters on Discharge Monitoring Report (DMR) form WR-43 or through an electronic reporting system made available by the Secretary. Reports are due on the 15th day of each month, beginning with the month following the effective date of this permit.

Unless waived by the Secretary, the Permittee shall electronically submit its DMRs via Vermont's online electronic reporting system. The Permittee shall electronically submit additional compliance monitoring data and reports specified by the Secretary. When the Permittee submits DMRs using an electronic system designated by the Secretary, which requires attachment of scanned DMRs in PDF format, it is not required to submit hard copies of DMRs. The link below shall be used for electronic submittals:

<https://anronline.vermont.gov/>

If, in any reporting period, there has been no discharge, the Permittee must submit that information by the report due date.

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 Secretary;

- 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.

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;
- h. The original calculation and data bench sheets of the operator who performed analysis of the influent or effluent pursuant to requirements of this permit; and
- i. For analyses performed by contract laboratories:
 - a. The detection level reported by the laboratory for each sample; and
 - b. The laboratory analytical report including documentation of the QA/QC and analytical procedures.

When “non-detects” are recorded, the method detection limit shall be reported and used in calculating any time-period averaging for reporting on DMRs.

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 form 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 Secretary of such changes. Following such notice, the permit may be modified pursuant to Condition II.B.4. of this permit, to specify and limit any pollutants not previously limited.

2. Noncompliance Notification

- a. The Permittee shall give advance notice to the Secretary 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 Secretary in this permit; or
 - v. Other causes such as acts of nature,the Permittee shall provide notice as specified in subdivision (c) of this subsection.
- c. For any noncompliance not covered under Condition II.A.2.b. of this permit, an operator or the operator's delegate shall notify the Secretary within 24 hours of

becoming aware of such condition and shall provide the Secretary with the following information, in writing, within five days:

- i. Cause of noncompliance;
- ii. A description of the non-complying discharge including its impact upon the receiving water;
- iii. Anticipated time the condition of noncompliance is expected to continue or, if such condition has been corrected, the duration of the period of noncompliance;
- 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 noncompliance.

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; and
- b. The Permittee shall provide an adequate operating staff which is duly qualified to carry out the operation, maintenance, and testing functions required to ensure compliance with the conditions of this permit.

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.

For purposes of demonstrating compliance with the requirements of Condition II.A.3.a. of this permit regarding adequate laboratory controls and appropriate quality assurance procedures, the Permittee shall conduct and pass an annual laboratory proficiency test, via an accredited laboratory, for the analysis of all pollutant parameters performed within their

facility laboratory and reported as required by this permit. This can be carried out as part of an EPA DMR-QA study. Results shall be submitted to the Secretary by **December 31, annually**. The first results are due by **December 31, 2020**.

The Permittee shall analyze any additional samples as may be required by the Secretary 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, the environment, or human health resulting from noncompliance 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 Secretary upon request. This period shall be extended during the course of unresolved litigation regarding the discharge of pollutants or when requested by the Secretary.

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's discharge is covered under an emergency pollution permit under the provisions

of 10 V.S.A. § 1268. The Permittee shall notify the Secretary of the emergency situation by the next working day, unless notice is required sooner under Condition II.A.2.

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, the holder 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 Secretary shall proceed in accordance with chapter 170 of this title. 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; and
- (5) the cause or reason for the emergency is not due to willful 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, Davis Building, 3rd 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 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 Secretary. 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 Secretary **at least 30 days in advance of the proposed transfer date**. The notice to the Secretary 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 Secretary 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 Secretary 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 or information obtained under this permit program that constitutes trade secrets under 1 V.S.A. § 317(c)(9) shall be kept confidential, except that such records or information may 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 Secretary, within a reasonable time, any information which the Secretary 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 Secretary 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 pursuant to Condition II.B.4. of this permit, 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

The Permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Except as provided in "Bypass" (Condition II.A.5.) and "Emergency Pollution Permits" (Condition 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 noncompliance 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 Secretary, 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 – means the Vermont Agency of Natural Resources.

Annual Average – means 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 – means the arithmetic means of values taken at the frequency required for each parameter over the specified period.

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

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

Composite Sample – means 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 – means 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 – means the placing, depositing, or emission of any wastes, directly or indirectly, into an injection well or into the waters of the State.

Grab Sample – means an individual sample collected in a period of less than 15 minutes.

Incompatible Substance – means 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 – means a value not to be exceeded in any grab sample.

Major Contributing Industry – means 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 treatment works or on the quality of effluent from that treatment works.

Maximum Day or Maximum Daily Discharge Limitation – means the highest allowable “daily discharge” (mg/L, lbs or gallons).

Mean – means the arithmetic mean.

Monthly Average or Average Monthly Discharge Limitation – means 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 – means the National Pollutant Discharge Elimination System.

Secretary – means the Secretary of the Agency of Natural Resources or the Secretary’s duly authorized representative.

Septage – means the liquid and solid material pumped from a septic tank, cesspool, or similar domestic sewage treatment system, or a holding tank when the system is cleaned or maintained.

Untreated Discharge – means (1) combined sewer overflows from a WWTF; (2) overflows from sanitary sewers and combined sewer systems that are part of a WWTF during dry weather flows, which result in a discharge to waters of the State; (3) upsets or bypasses around or within a WWTF during dry or wet weather conditions that are due to factors unrelated to a wet weather storm event and that result in a discharge of sewage that has not been fully treated to waters of the State; and (4) discharges from a WWTF to separate storm sewer systems.

Waste – means 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 – means 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 in a waste management zone due to the authorized discharge.

Waters – means all rivers, streams, creeks, brooks, reservoirs, ponds, lakes, springs, and all bodies of surface waters, artificial or natural, which are contained within, flow through, or border upon the State or any portion of it.

Weekly average or Average Weekly Discharge Limitation – means 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.

Whole Effluent Toxicity (WET) – means the aggregate toxic effect of an effluent measured directly by a toxicity test.

Wastewater Treatment Facility (WWTF) – means a treatment plant, collection system, pump station, and attendant facilities permitted by the Secretary for the purpose of treating domestic, commercial, or industrial wastewater.

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WATERSHED MANAGEMENT DIVISION
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MONTPELIER, VT 05620-3522

FACT SHEET FOR DRAFT PERMIT
(April 2020)

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO
DISCHARGE TO WATERS OF THE STATE**

PERMIT NO: 3-1414
PIN: EJ95-0322
NPDES NO: VT0101231

NAME AND ADDRESS OF APPLICANT:

Town of North Hero
P.O. Box 38
North Hero, VT 05474

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

North Hero Water Treatment Facility
265 North End Road East
North Hero, VT

RECEIVING WATER: Lake Champlain

CLASSIFICATION: All uses Class B(2) with a waste management zone. Class B waters are suitable for swimming and other primary contact recreation; irrigation and agricultural uses; aquatic biota and aquatic habitat; good aesthetic value; boating, fishing, and other recreational uses; and suitable for public water source with filtration and disinfection or other required treatment. A waste management zone is a specific reach of Class B(1) or B(2) 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 Secretary of the Vermont Agency of Natural Resources (hereinafter referred to as the "Secretary") received a renewal application for the permit to discharge into the designated receiving water from the above-named applicant on September 12, 2019. The facility's previous permit was issued on April 1, 2015. The previous permit (hereafter referred to as the "current permit") has been administratively continued, pursuant to 3 V.S.A. § 814, as the applicant filed a complete application for permit reissuance within the prescribed time period as per the Vermont

Water Pollution Control Permit Regulations (VWPCPR) § 13.5(b). At this time, the Secretary has made a tentative decision to reissue the discharge permit.

The facility produces potable water for a portion of the Town of North Hero and filters backwash wastewater as part of the treatment process before discharging to Lake Champlain.

II. Description of Discharge

The facility is engaged in the discharge for treated filter backwash. The wastewater is conveyed from a sequence of filters to four surge tanks and then into two settling tanks for treatment prior to discharging. The facility maintains a constant discharge to Lake Champlain.

III. Limitations and Conditions

The draft permit contains limitations for effluent flow, turbidity, total suspended solids, Total residual Chlorine (TRC), and pH. The effluent limitations of the draft permit and the monitoring requirements may be found on the following pages of the draft permit:

Effluent Limitations:	Pages 2-3 of 15
Monitoring Requirements:	Pages 3-5 of 15

IV. Statutory and Regulatory Authority

A. Clean Water Act and NPDES Background

Congress enacted the Clean Water Act (CWA or Act), “to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.” CWA § 101(a). To achieve this objective, the CWA makes it unlawful for any person to discharge any pollutant into the waters of the United States from any point source, except as authorized by specified permitting sections of the Act, one of which is Section 402. CWA §§ 301(a), 402(a). Section 402 establishes one of the CWA's principal permitting programs, the National Pollutant Discharge Elimination System (NPDES). Under this section of the Act, the U.S. Environmental Protection Agency (EPA) may “issue a permit for the discharge of any pollutant, or combination of pollutants” in accordance with certain conditions. CWA § 402(a). The State of Vermont has been approved by the EPA to administer the NPDES Program in Vermont. NPDES permits generally contain discharge limitations and establish related monitoring and reporting requirements. CWA § 402(a)(1) - (2).

Section 301 of the CWA provides for two types of effluent limitations to be included in NPDES permits: “technology-based” limitations and “water quality-based” limitations. CWA §§ 301, 303, 304(b); 40 CFR Parts 122, 125, 131. Technology-based limitations, generally developed on an industry-by-industry basis, reflect a specified level of pollutant-reducing technology available and economically achievable for the type of facility being permitted. CWA § 301(b). As a class, WWTFs must meet performance-based requirements based on available wastewater treatment technology. CWA § 301(b)(1)(B). The performance level for WWTFs is referred to as “secondary treatment.” Secondary treatment is comprised of technology-based requirements expressed in

terms of BOD5, TSS and pH; 40 C.F.R. Part 133.

Water quality-based effluent limits, on the other hand, are designed to ensure that state water quality standards are achieved, irrespective of the technological or economic considerations that inform technology-based limits. Under the CWA, states must develop water quality standards for all water bodies within the state. CWA § 303. These standards have three parts: (1) one or more “designated uses” for each water body or water body segment in the state; (2) water quality “criteria,” consisting of numerical concentration levels and/or narrative statements specifying the amounts of various pollutants that may be present in each water body without impairing the designated uses of that water body; and (3) an antidegradation provision, focused on protecting high quality waters and protecting and maintaining water quality necessary to protect existing uses. CWA § 303(c)(2)(A); 40 C.F.R. § 131.12. The applicable water quality standards for this permit are the 2017 Vermont Water Quality Standards (Environmental Protection Rule, Chapter 29a).

A permit must include limits for any pollutant or pollutant parameter (conventional, non-conventional, toxic, and whole effluent toxicity) that is or may be discharged at a level that causes or has “reasonable potential” to cause or contribute to an excursion above any water quality standard, including narrative water quality criteria. See 40 CFR § 122.44(d)(1). An excursion occurs if the projected or actual in-stream concentration exceeds the applicable criterion. A NPDES permit must contain effluent limitations and conditions in order to ensure that the discharge does not cause or contribute to water quality standard violations.

Receiving stream requirements are established according to numerical and narrative standards adopted under state law for each stream classification. When using chemical-specific numeric criteria from the State’s water quality standards to develop permit limits, both the acute and chronic aquatic life criteria are used and expressed in terms of maximum allowable in stream pollutant concentrations. Acute aquatic life criteria are generally implemented through maximum daily limits and chronic aquatic life criteria are generally implemented through average monthly limits.

Where a state has not established a numeric water quality criterion for a specific chemical pollutant that is present in the effluent in a concentration that causes or has a reasonable potential to cause a violation of narrative water quality standards, the permitting authority must establish effluent limits in one of three ways: based on a “calculated numeric criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and fully protect the designated use”; on a “case-by-case basis” using CWA Section 304(a) recommended water quality criteria, supplemented as necessary by other relevant information; or, in certain circumstances, based on an “indicator parameter.” 40 CFR § 122.44(d)(1)(vi)(A-C).

The state rules governing Vermont’s NPDES permit program are found in the Vermont Water Pollution Control Permit Regulations (Environmental Protection Rule, Chapter 13).

1. Reasonable Potential Determination

In determining whether this permit has the reasonable potential to cause or contribute to an impairment, Vermont has considered:

- 1) Existing controls on point and non-point sources of pollution as evidenced by the Vermont surface water assessment database;
- 2) Pollutant concentration and variability in the effluent as determined from the permit application materials, monthly discharge monitoring reports (DMRs), or other facility reports;
- 3) Receiving water quality based on targeted water quality and biological assessments of receiving waters, as applicable, or other State or Federal water quality reports;
- 4) Toxicity testing results based on the Vermont Toxic Discharge Control Strategy, and compelled as a condition of prior permits;
- 5) Available dilution of the effluent in the receiving water, expressed as the instream waste concentration. In accordance with the applicable Vermont Water Quality Standards, available dilution for rivers and streams is based on a known or estimated value of the lowest average flow which occurs for seven (7) consecutive days with a recurrence interval of once in ten (10) years (7Q10) for aquatic life and human health criteria for non-carcinogens, or at all flows for human health (carcinogens only) in the receiving water. For nutrients, available dilution for stream and river discharges is assessed using the low median monthly flow computed as the median flow of the month containing the lowest annual flow. Available dilution for lakes is based on mixing zones of no more than 200 feet in diameter, in any direction, from the effluent discharge point, including as applicable the length of a diffuser apparatus; and
- 6) All effluent limitations, monitoring requirements, and other conditions of the proposed draft permit.

The Secretary has waived a full reasonable potential analysis. The decision to waive the determination was based the small size of the North Hero Water Treatment Facility discharge and the large size of the receiving water (Lake Champlain). The memo detailing this decision is attached to this Fact Sheet as Attachment A.

B. Anti-Backsliding

Section 402(o) of the CWA provides that certain effluent limitations of a renewed, reissued, or modified permit must be at least as stringent as the comparable effluent limitations in the current permit. EPA has also promulgated anti-backsliding regulations which are found at 40 C.F.R. § 122.44(l). Unless applicable anti-backsliding exemptions are met, the limits and conditions in the reissued permit must be at least as stringent as those in the current permit.

V. Description of Receiving Water

The receiving water for this discharge is Lake Champlain, a designated Warm Water Fish Habitat.

VI. Facility History and Background

The Town of North Hero owns the North Hero Water Treatment Facility which processes potable water and generates filter backwash wastewater as part of the treatment process. The Town contracts out to Simon Operating Services (SOS) to operate the facility. The current operator works part time while overseeing other treatment facilities within the region.

The flow sequence of discharge begins with raw water entering the plant which then gets injected with alum, polymer, and potassium permanganate. Potassium permanganate is used to control and reduce the spread of invasive zebra mussels habituated in Lake Champlain. This point-of-entry treatment method controls biological growths within pipes of the treatment plant as well as oxidizes dissolved iron, manganese, and hydrogen sulfide into solid particles which are then filtered out. After filtration, from 4 filters, the addition of chlorine, caustic, and phosphoric acid are injected before entering storage. When filters need to backwash; they utilize the water from storage. The filter flush cycle uses raw water. Backwash and flush water are then discharged into 4 surge tanks and continues to two 12,500 gallon settling tanks. The water is discharged through the overflow pipe in one of the settling tanks. Treated water is then discharged from Settling Tank 2 which is piped to a grass swale, approximately 55 feet inland, before discharging to Lake Champlain.

The renewal application submitted on September 12, 2019 mentioned modifications to the existing facility plans to complete construction of an additional WesTech 175 water filter in the spring of 2020, meaning the facility will have 5 filters. This filter will allow the facility to keep up with seasonal population demands and is expected to improve the filtering out of sediments and solids within the raw water intake.

In May-June/July the lake level is high enough to submerge the outlet and therefore the discharge flows directly to the lake during that period. During this time, the facility cannot collect a sample and typically do not report data within this time frame. In the past, the previous operator would collect a sample within the second settling tank, before the discharge pipe outlet. Since then, the facility decided this was not the best representation of their effluent and they would only sample at the outlet pipe when possible. The Secretary agrees and advises to continue sampling at the outlet pipe; since no other access point to the discharge pipe exists from the underground settling tank to the outfall. Condition VII of this fact sheet specifies changes proposed in the draft permit for Total Residual Chlorine (TRC) and pH monitoring requirements, as well as the inclusion of a waste mixing zone, to account for the seasonal high lake level.

Solids and sludge operation and maintenance management remains the same as the current permit where settling tanks are pumped out twice a year. Surge tanks are checked twice a year and pumped out as needed.

Lake Champlain has an approved TMDL for phosphorus, however this facility is not subject to phosphorus monitoring and other requirements outlined in the Vermont Lake Champlain Phosphorus TMDL Phase 1 Implementation Plan, as this constituent is not a product of concern from the North Hero Water Treatment Facility.

VII. Permit Basis and Explanation of Effluent Limitation Derivation

- A. Flow** – The draft permit maintains the effluent flow limitation of 0.06 MGD monthly average and 0.07 MGD daily maximum. This facility maintains a constant discharge. Daily flow monitoring is required.

B. Conventional Pollutants

- 1. Total Suspended Solids (TSS)** – The effluent limitations for TSS remain unchanged from the current permit and are to be sampled on a monthly basis.
 - October 1 – May 31, the TSS maximum day limitation is 10 mg/l
 - June 1 – September 30, the TSS maximum day limitation is 25 mg/l
- 2. pH** – The pH limitation remains the same as the current permit at 6.5 - 8.5 Standard Units; as specified in Section 29A-303(6) in the Vermont Water Quality Standards. However, the monitoring frequency has changed from a monthly to weekly basis.

C. Non-Conventional and Toxics

- 1. Total Residual Chlorine (TRC)** – The Total Residual Chlorine limitation has changed from the current permit limit of 1.0 mg/L maximum day on a monthly basis, to 0.2 mg/L maximum day on a weekly basis.
- 2. Turbidity** – The seasonal turbidity limitations remain the same from the permit that currently authorizes this discharge and based on Section 29A-302(4) and Appendix A in the Vermont Water Quality Standards. Monitoring frequency remains at monthly.
 - October 1 – May 31, the turbidity monthly average limitation is 10 NTU
 - June 1 – September 30, the turbidity monthly average limitation is 25 NTU

D. Special Conditions

- 1. Waste Mixing Zone (WMZ)** – Per 10 V.S.A. § 1252 and § 29A-204a of the 2016 Vermont Water Quality Standards, the draft permit hereby establishes a 200 feet mixing zone extending from the point of discharge from the North Hero Water Treatment Facility outfall for the dispersion and dilution of chlorine in the discharge, specifically when the outlet is submerged. Compliance with VT Water Quality Standards is required at the edge of the mixing zone.
- 2. Electronic Reporting** - The EPA recently promulgated a final rule to modernize the Clean Water Act reporting for municipalities, industries, and other facilities by converting to an electronic data reporting system. The final rule requires the inclusion of electronic reporting requirements in NPDES permits that became effective after December 21, 2015. The rule requires that NPDES regulated entities that are required to submit discharge monitoring reports (DMRs), including majors and nonmajors, individually permitted or covered by a general permit, must do so electronically after December 2016. The Secretary has created an

electronic reporting system for DMRs and has recently trained facilities in its use. As of December 2020, these NPDES facilities will also be expected to submit additional information electronically as specified in Appendix A in 40 CFR part 127.

- 3. Reopener** - This draft permit includes a reopener whereby the Secretary reserves the right to reopen and amend the permit to implement an integrated plan to address multiple Clean Water Act obligations.

VIII. Procedures for Formulation of Final Determinations

The public comment period for receiving comments on this draft permit was from December 31, 2019 through January 29, 2020. Comments received are addressed in the attached Responsiveness Summary.

RESPONSIVENESS SUMMARY
for
NPDES Discharge Permit 3-1414
North Hero Water Treatment Facility

The above referenced permit was placed on public notice for comment from a period of 12/30/2019 through 01/29/2020. This is a renewal permit.

Comments on the draft permit were received during the public notice period by Kevin Knapp of Simon Operation Services who is the chief operator of the Town of North Hero Water Treatment Facility and Jim Blandino with North Hero's Water Board. The following is a summary of the comments and the Agency's responses to those comments. Similar comments were grouped together. A copy of any or all comments received can be obtained by contacting the Agency's Watershed Management Division at (802)-828-1535.

COMMENT 1.

North Hero has an unusually high number of second homes and camps, so the processed volume of water varies greatly from the summer to winter seasons. In summer months the system may discharge daily but in the winter months there is often no discharge unless the system backwashes or flushes. The discharge is about 150+ feet from the plant and there is no maintained path to the discharge point. There could be several feet of snow/drifts, ice, wind and/or freezing temperatures to make this a difficult and at times, unsafe situation. The discharge swale is often filled with snow further increasing the difficulty and safety to get to the outfall pipe to sample. The colder months are the lowest flows which results in less discharge and less impact on the lake. This also makes the increased sample frequency more difficult because we might not be at the plant at the time of discharge. The proposed frequency for monitoring the chlorine and pH is not operationally friendly.

The warmer months it seems a little more reasonable to sample more frequently other than rain/storm activity and high lake levels. The weekends again have the potential for the same issue. We recommend and request maintaining the monthly sampling for the months of November through April and bi-monthly for the months of May through October.

RESPONSE 1.

The Secretary has the authority to propose monitoring limitation and frequency changes based on data available to meet water quality standards per 40 CFR Section 122.44(d)(1)(i) and comply with the Vermont Water Quality Standards (VWQS). Facilities that have a continuous, otherwise daily, discharge typically have daily monitoring requirements. The monitoring frequency for both pH and Total Residual Chlorine (TRC) were proposed to be

increased from monthly to daily in the draft permit. The comment proposes altering monitoring frequencies to monthly during the months of November 1st to April 30st and twice monthly from May 1st through October 31st. The facility is known to have a submerged outlet from May to June, sometimes July, so data would likely only be received from August to October.

After consideration of comments received and understanding the facility's seasonal discharge, the Secretary proposes a weekly monitoring frequency for pH and TRC. This frequency accommodates the staff's weekend work schedules and continues to respect water quality concerns.

While the Secretary acknowledges the safety-concerns mentioned, such conditions typically do not influence the monitoring frequency or effluent limit determinations. The Secretary recommends (1) maintaining a pathway to the outlet pipe during all seasons the outlet is accessible and (2) researching sampling methods and equipment that may benefit the safety of staff.

COMMENT 2.

Overall our discharge to Lake Champlain is relatively small and poses a minimal threat compared to other situations. We have never been in violation for chlorine residual or pH so the increased monitoring does not make sense. This is a water treatment facility and there is no treatment to the discharged water. Essentially, we are recycling to the lake what we removed from it.

We ask that the monitoring frequency remains the same as our previous permits or at the very least make the frequency something that makes sense operationally.

RESPONSE 2.

See comment response 1. Typically, when NPDES direct discharge permittee's experience a full permit term without violations, water-quality based effluent limitations may be reduced if there is reasonable potential for the constituents of concern to impact the quality of the receiving water.

COMMENT 3.

It also does not make sense that a proficiency test (PT) needs to be done annually by the Permittee (operator). The operators are certified by the state and take these readings for the water treatment side of the process without the need of an annual PT. If the equipment is calibrated properly then the results will be correct. Annually we have an outside service calibrate our lab equipment as a check to our routine calibrations. We are unclear of how a PT would be any better. The lab tests we do are very simple. Basically, read a number or put a reagent in and read a

number. The PT verifies that I can read a number, the calibration service verifies that the equipment is working properly. To me, it makes more sense that the numbers the equipment is telling me are correct.

We ask that the PT requirement be removed from the permit.

RESPONSE 3.

The Secretary has the authority to require a laboratory quality assurance sample program, or proficiency testing program, to ensure qualifications of laboratory analysts per 10 VSA 1263(d)(2). The Secretary's request for annual proficiency testing remains in the final permit.

COMMENT 4.

We currently have a Cl limit of 1.0 mg/l. The change to .15 mg/l is significant. We have submitted 2 test results of 0.15 mg/l two times in the past 3 years. We recommend and request a limit of 0.20 mg/l.

RESPONSE 4.


The facility's effluent limit currently exceeds both water quality standards for both the chronic 0.011 mg/L average and acute 0.019 mg/L allowable concentration criteria for chlorine. The Secretary has the authority to reduce limits to the maximum concentration reported over the past permit term, only if the maximum reported value was below the permitted limit, to comply the VWQS. The maximum value reported for TRC was 0.15 mg/L, which is below the current permit limit 1.0 mg/L. The comment proposed a 0.2 mg/L limit for TRC which remains below the current permit limit and supports the VWQS. The Secretary approves the proposed TRC limit for the final permit.

ATTACHMENT A

Agency of Natural Resources Department
of Environmental Conservation
Watershed Management Division 1
National Life Drive 2 Main
802-828-1535

MEMORANDUM

To: Jaime Bates, Wastewater Management Program (WWP)

From: Amy Polaczyk, WWP 

Cc: Rick Levey, Monitoring, Assessment and Planning Program
Chris Gianfagna, Manager, WWP

Date: December 10, 2019

Subject: North Hero Water Treatment Plant Reasonable Potential Determination Decision

Facility:

North Hero Water Treatment Plant
Permit No. 3-1414
NPDES No. VT0101231

Hydrology for the North Hero Water Treatment Plant used in this evaluation:

Receiving Water: Lake Champlain

Permitted Discharges:

Monthly Average = 0.06 MGD = 0.093 CFS

Maximum Day = 0.07 MGD = 0.1083 CFS = 9357 CF/day

The Reasonable Potential Determination for the North Hero Water Treatment Plant discharge and has been examined and it has been determined that a full assessment is not necessary due to the small discharge, limited frequency of discharge, history of monitoring and compliance, and the significant available dilution of the receiving water. The main pollutants of concern for this discharge are Chlorine, Total Suspended Solids, and Turbidity. TSS and Turbidity limits are set at 25 mg/L and 25 NTU, respectively, June 1 to September 30 to reflect warm-water fish habitat limits in the VWQS. TSS and Turbidity limits are 10 mg/L and 10 NTU, respectively, from October 1 to May 31 per VWQS for cold-water fish habitat protection. Federal Antidegradation laws prevent the relaxation of these limits.

The facility discharges through a pipe with an outlet approximately 55 feet from the shore. The discharge usually flows into a grass swale before reaching Lake Champlain. In May- June/July the lake level is high enough to submerge the outlet and therefore the discharge flows directly to the lake during that period.

The current permit does not include a mixing zone, however **a mixing zone extending 200 feet from the point of discharge should be included to the draft permit authorized for this facility** for the dispersion and dilution of Chlorine in the discharge, specifically when the outlet is submerged. Compliance with VT Water Quality Standards is required at the edge of the mixing zone.

The suggested mixing zone for this facility would extend 200 ft from the discharge point into Lake Champlain. To calculate the volume of this mixing zone it was modeled as a half cylinder with $r = 200\text{ft}$ and $h = 2\text{ ft}$, which reflects the average depth determined from bathymetric charts of Lake Champlain. This resulted in a mixing zone with a volume of 125,663 cubic feet. Given a permitted maximum day discharge volume of 9357 CFS for the facility, the discharge has a concentration of approximately 7.5% in the mixing zone. The VWQS for chlorine are 0.019 mg/L and 0.011 mg/L (acute and chronic). With a limit of 1 mg/L

at a dilution of 0.075, the receiving water concentration of chlorine is expected to be 0.075 mg/L, which exceeds both acute and chronic water quality standards.

In order to be protective of the VWQS, chlorine should be set to a daily maximum limit of 0.15 mg/L. This limit was calculated by dividing the chronic criteria for Chlorine (0.011 mg/L) by the IWC (0.075). Self-reported monitoring data for this facility indicate this limit should be met by the facility as the maximum Chlorine concentration observed over the last 5 years was 0.15 mg/L.

Given the facility discharges daily, it is recommended the monitoring for pH and Cl be increased to daily for each.