

**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.: 3-1289
PIN: EJ94-0011
NPDES No.: VT0100331

Name of Applicant: Town of Shelburne
PO Box 392
Shelburne, VT 05482

Expiration Date: September 30, 2022

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, the Town of Shelburne, Vermont (hereinafter referred to as the "Permittee") is authorized by the Secretary of the Agency of Natural Resources (Secretary) to discharge from the Shelburne 1 Crown Road Wastewater Treatment Facility (WWTF) to Shelburne Bay/Lake Champlain in accordance with the following conditions.

This permit shall become effective on October 1, 2017.

Emily Boedecker, Commissioner
Department of Environmental Conservation

By: Jessica Bulova

Date: September 28, 2017

Jessica Bulova, Wastewater Section Supervisor
Watershed Management Division

I. SPECIAL CONDITIONS**A. EFFLUENT LIMITS**

1. During the term of this permit, the Permittee is authorized to discharge from outfall serial number S/N 001 of the Shelburne 1 Crown Road WWTF to Shelburne Bay/Lake Champlain, an effluent for which the characteristics shall not exceed the values listed below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS							
	Annual Limitation	Monthly Average	Weekly Average	Maximum Day	Monthly Average	Weekly Average	Maximum Day	Instantaneous Maximum
		Mass (lbs/day)			Concentration (mg/L)			
Flow	0.44 MGD	Monitor Only ⁴						
Biochemical Oxygen Demand (5-day, 20° C) (BOD ₅)			105.1		30	45	50	
Total Suspended Solids (TSS)		70.1	105.1		30	45	50	
Total Phosphorus (TP) ^{1,3}	269 70.1				0.8			
Total Nitrogen (TN) ²							Monitor only	
Total Kjeldahl Nitrogen (TKN)							Monitor only	
Nitrate/Nitrite Nitrogen (NO _x)							Monitor only	
Total Ammonia Nitrogen (TAN)				Monitor only			Monitor only	
Settleable Solids								1.0 ml/l
<i>Escherichia coli</i>								77/100 ml
Total Residual Chlorine						1.0		2.0
pH					Between 6.5-8.5 Standard Units			

¹ Total Phosphorus shall be reported as Total Monthly Pounds, Running Total Annual Pounds, and Percentage of Running Total Annual Pounds to Annual Permit Limitation. See Condition I.B.5

² Total nitrogen (TN) shall be reported as pounds, calculated as: *Average TN (mg/L) x Total Daily Flow x 8.34*; where, $TN (mg/L) = TKN (mg/L) + NO_x (mg/L)$

³ The permittee shall operate the facility to meet the concentration limitations or pounds limitation, whichever is more restrictive.

⁴ Monthly average flow calculated by summing daily effluent flow for each day in the month and dividing by the number of days of discharge in that month.

2. 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.
3. The effluent shall not cause visible discoloration of the receiving waters.
4. The monthly average concentrations of Biochemical Oxygen Demand (BOD₅) and Total Suspended Solids (TSS) in the effluent shall not exceed 15 percent of the monthly average concentrations of BOD₅ and TSS in the influent into the Permittee's WWTF. For the purposes of determining whether the Permittee is in compliance with this condition, samples from the effluent and the influent shall be taken with appropriate allowance for detention times.
5. If the effluent discharged for a period of 90 consecutive days exceeds 80 percent of the permitted flow limitation, the Permittee shall submit to the Secretary projected loadings and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans.
6. Any action on the part of the Secretary in reviewing, commenting upon, or approving plans and specifications for the construction of WWTFs shall not relieve the Permittee from the responsibility to achieve effluent limitations set forth in this permit and shall not constitute a waiver of, or act of estoppel against any remedy available to the Secretary, the State of Vermont, or the federal government for failure to meet any requirement set forth in this permit or imposed by state or federal law.

B. TOTAL PHOSPHORUS

1. Wasteload Allocation for Phosphorus

This permit includes a formal total phosphorus (TP) waste load allocation (WLA) of 0.122 metric tons per year (269 lbs./yr.), as established by the U.S. EPA in the 2016 "Phosphorus TMDLs for Vermont Segments of Lake Champlain" (LC TMDL). The Secretary reserves the right to reopen and amend this permit, pursuant to Condition II.B.4 of this permit, to include an alternate total phosphorus (TP) limitation and/or additional monitoring requirements based on the monitoring data and/or the results of phosphorus optimization activities, or a reallocation of phosphorus wasteload allocations between the Permittee and another WWTF pursuant to the requirements of TMDL and Vermont's "Wasteload Allocation Process" Rule (Environmental Protection Rule, Chapter 17).

2. Phosphorus Optimization Plan

- a) **Within 120 days of permit issuance**, the Permittee shall develop or update (as appropriate), and submit to the Secretary a Phosphorus Optimization Plan (POP) to increase the WWTF's phosphorus removal efficiency by implementing optimization techniques that achieve phosphorus reductions using primarily existing facilities and equipment. The POP shall:

- i. Be developed by a qualified professional with experience in the operation and design of WWTFs in consultation with the WWTF;
 - ii. Evaluate alternative methods of operating the existing WWTF, including operational, process, and equipment changes designed to enhance phosphorus removal. The techniques to be evaluated may include operational process changes to enhance biological and/or chemical phosphorous removal, incorporation of anoxic/anaerobic zones, septage receiving policies and procedures, and side stream management;
 - iii. Determine which alternative methods of operating the existing WWTF, including operational, process, and equipment changes will be most effective at increasing phosphorus removal; and
 - iv. Include a proposed implementation schedule for those methods of operating the WWTF determined to be most effective at increasing phosphorus removal.
- b) The Secretary shall review the POP. The permittee shall commence implementation of the POP 60 days after submittal to the Secretary, unless the Secretary rejects the POP prior to that date for failure to meet the requirements of subsection (a) of this section.
- c) The Permittee shall annually submit a report to the Secretary as an attachment to the monthly electronic Discharge Monitoring Reporting (DMR) form WR-43 that documents:
- i. The optimization techniques implemented under the POP during the previous year.
 - ii. Whether the techniques are performing as expected.
 - iii. The phosphorus discharge trends relative to the previous year.

The first annual report shall include data collected during 2018, and shall be attached to the December 2018 DMR form WR-43.

3. Phosphorus Elimination/Reduction Plan

- (a) The facility shall have 12 months from the permit issuance date to optimize removal of total phosphorus.
- (b) If, after the 12-month optimization period, the WWTF's actual, total phosphorus loads reach or exceed 80% of the LC TMDL WLA for the WWTF, based on the WWTF's 12-month running annual load calculated using the Running Total Annual Pounds Calculation (Condition I.B.4 of this permit), the Permittee shall, within 90 days of reaching or exceeding 80% of the LC TMDL WLA for the WWTF, develop and submit to the Secretary a projection based on the WWTF's current operations and expected future loadings of whether it will exceed its WLA during the permit term.

- (c) If the facility is not projected to exceed its WLA within the permit term, the WWTF shall reassess when it is projected to reach its WLA prior to permit renewal and submit that information with its next permit application.
- (d) If the facility is projected to exceed its WLA during the permit term, the Permittee shall submit a Phosphorus Elimination/Reduction Plan (PERP) within 6 months from the date of submittal of the projection plan submitted under Part I.B.3.b. The PERP shall be submitted to the Secretary to ensure the WWTF continues to comply with its WLA.
- (e) The PERP shall be developed by qualified professionals in consultation with the WWTF.
- (f) The PERP shall include:
 - i. An evaluation of alternatives to ensure the WWTF's compliance with its WLA.
 - ii. An identification of the chosen alternative or alternatives to ensure the WWTF's compliance with its WLA;
 - iii. A proposed schedule, including an engineer approved design and construction schedule and, if the chosen alternative or alternatives require a pilot study, a schedule for testing, that shall ensure the WWTF's compliance with its WLA as soon as possible; and
 - iv. A financing plan that estimates the costs for implementing the PERP and describes a strategy for financing the project.
- (g) The PERP shall be treated as an application to amend the permit, and therefore, shall be subject to all public notice, hearing, and comment provisions, in place at the time the plan is submitted, that are applicable to permit amendments. The WWTF shall revise the PERP, if required by DEC.

4. Running Total Annual Pounds Calculation

Compliance with the annual TP limitation (presented in Condition I.A.1. and I.B.1.) will be evaluated each month, using the Running Total Annual Pounds Calculation. In order to calculate running annual TP loading relative to the TMDL WLA:

- a) Calculate the average of results for all TP monitoring events conducted in a month (Monthly Average TP Concentration). Units = mg/L.
- b) For flow, use the average daily flow for the month as reported on the DMR. Units = MGD.
- c) Calculate Total Monthly Pounds = (Monthly Average TP Concentration) \times (average daily flow from DMR) \times 8.34 \times number of daily discharges in the month.

- d) Sum the results for the immediately preceding 12 months to derive the Running Total Annual Pounds.

5. Total Phosphorus Reporting

Total Phosphorus shall be reported monthly, via electronic Discharge Monitoring Report, in the following ways:

- a) Monthly Average TP Concentration. See Condition I.B.4.a.
- b) Total Monthly Pounds, meaning the total monthly pounds of TP discharged during the month. See Condition I.B.4.c.
- c) Running Total Annual Pounds, meaning the 12-month running annual TP load, as specified by Condition I.B.4.d.
- d) Comparison (%) of Running Total Annual Pounds to Annual Permit Limitation, meaning the percentage of the Running Total Annual Pounds to the Annual Total Phosphorus Limitation. The comparison shall be calculated as:

Percentage of Running Total Annual Pounds to Annual Permit Limitation, % =
(Running Total Annual Pounds) / Annual TP Permit Limit \times 100

C. WASTE MANAGEMENT ZONE

In accordance with 10 V.S.A. § 1252, this permit hereby establishes a waste management zone that extends from the outfall of the Shelburne 1 Crown Road Wastewater Treatment Facility in the Shelburne Bay/Lake Champlain for a 200-foot radius.

D. 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: **March 31, 2022**

E. OPERATING FEES

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

F. TOXICITY TESTING

1. WHOLE EFFLUENT TOXICITY (WET) TESTING

- a) During **January or February 2018**, the Permittee shall conduct a two-species (*Pimephales promelas* and *Ceriodaphnia dubia*) 48-hour acute and 96-hour chronic WET test on a composite effluent sample collected from S/N 001. The results shall be submitted to the Secretary by **April 31, 2018**.
- b) During **August or September 2019**, the Permittee shall conduct a two-species (*Pimephales promelas* and *Ceriodaphnia dubia*) 48-hour acute and 96-hour chronic WET test on a composite effluent sample collected from S/N 001. The results shall be submitted to the Secretary by **December 31, 2019**.

The WET tests shall be conducted according to the procedures and guidelines specified in “Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms” and “Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms” (both documents U.S. EPA October 2002 or, if a newer edition is available, the most recent edition).

Based upon the results of these tests or any other toxicity tests conducted, the Secretary reserves the right to reopen and amend this permit, pursuant to Condition II.B.4 of this permit, to require additional WET testing or a Toxicity Reduction Evaluation be conducted.

G. 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 40 C.F.R. 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. Effluent Monitoring

During the term of this permit, the Permittee shall monitor and record the quality and quantity of discharge(s) at outfall serial number S/N 001 of the Shelburne 1 Crown Road WWTF, according to the following schedule and other provisions:

PARAMETER	MINIMUM FREQUENCY OF ANALYSIS	SAMPLE TYPE
Flow	Continuous	Daily Total, Max., Min.
Biochemical Oxygen Demand (BOD ₅)	1 × week	composite ¹
Total Suspended Solids (TSS)	1 × week	composite ¹
Total Phosphorus (TP)	1 × week	composite ¹
Total Nitrogen (TN)	1 × quarter	[calculated ²]
Total Kjeldahl Nitrogen (TKN)	1 × quarter	composite ^{1,2}
Nitrate/Nitrite Nitrogen (NO _x)	1 × quarter	composite ^{1,2}
Total Ammonia Nitrogen (TAN)	1 x month	grab
Settleable Solids	1 × day	Grab ⁵
<i>Escherichia coli</i>	1 × week	Grab ^{3,5}
Total Residual Chlorine	1 × day	Grab ^{4,5}
pH	1 × day	Grab ⁵
Temperature	1 x year	grab
Dissolved Oxygen	1 x year	grab
Oil & Grease	1 x year	grab
Total Dissolved Solids	1 x year	composite ¹

Samples collected in compliance with the monitoring requirements specified above shall be collected at chlorine contact tank following dechlorination.

¹ Composite samples for BOD₅, TSS, TP, TKN and NO_x shall be taken during the hours 6:00 AM to 6:00 PM, unless otherwise specified. Eight hours is the minimum period for the composite, 24 hours is the maximum for the composite.

² TN = TKN + NO_x

³ The weekly *E. coli* sample shall be collected at the same time and location as a daily TRC sample. Samples shall be collected between the hours of 6:00 AM and 6:00 PM.

⁴ TRC shall be monitored and recorded both prior to and following dechlorination.

⁶ Grab samples shall be collected in an alternating manner to be representative of each SBR cell discharge (for example, on Monday, the sample shall be collected as Cell #1 discharges; on Tuesday, the sample shall be collected as Cell #2 discharges; etc.).

3. Annual Constituent Monitoring

Annually, by December 31, the Permittee shall monitor S/N 001 and submit the results, including units of measurement, as an attachment to the DMR form WR-43 for the month in which the samples were taken for the following parameters:

Temperature
Dissolved Oxygen
Oil & Grease
Total Dissolved Solids

Grab samples shall be used for Temperature, Ammonia, Dissolved Oxygen, and Oil & Grease; all other parameters shall be composite samples. Samples shall be representative of the seasonal variation in the discharge.

Collect annual constituent monitoring samples once per year. The season in which samples are collected shall change chronologically from year to year to represent the seasonal variation of effluent constituents. The sampling seasons are as follows: Winter (January 1 – March 31), Spring (April 1 – June 30), Summer (July 1 – September 30), and Fall (October 1 – December 31). For easy reference regarding the season in which to sample, please refer to the “Guidance for Annual Constituent Monitoring.”

4. Influent Monitoring

During the term of this permit, the Permittee shall monitor the quality of the influent according to the following schedule and provisions:

PARAMETER	MINIMUM FREQUENCY OF ANALYSIS	SAMPLE TYPE
Biochemical Oxygen Demand (BOD ₅)	1 × month	composite ¹
Total Suspended Solids (TSS)	1 × month	composite ¹

¹ Composite samples for BOD₅ and TSS shall be taken during the hours 6:00 AM to 6:00 PM, unless otherwise specified. Eight hours is the minimum period for the composite, 24 hours is the maximum for a composite.

5. 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.

The Permittee shall electronically submit its DMRs via Vermont’s on-line electronic reporting system. The Permittee shall begin this electronic submission in accordance with the schedule provided by the Secretary. 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, 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.

All monitoring and 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.

In addition to the monitoring and reporting requirements given above, daily monitoring of certain parameters for operational control shall be submitted to the Secretary on the DMR form WR-43. Operations reports shall be submitted monthly.

6. 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 measurement;
- 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 analyses;
- 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 Condition I.A of this permit.

The results of monitoring requirements shall be reported (in the units specified) on the DMR form WR-43 or other forms approved by the Secretary.

7. 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.

H. DRY WEATHER FLOWS

Dry weather flows of untreated municipal wastewater from any sanitary or combined sewers are not authorized by this permit and are specifically prohibited by state and federal laws and regulations. If for any reason there is a discharge to waters of the State of dry weather flows of untreated municipal wastewater from any sanitary or combined sewer, the operator of the facility or the operator's delegate shall comply with the notice requirements outlined in Condition II.A.2 of this permit.

I. OPERATION, MANAGEMENT, AND EMERGENCY RESPONSE PLANS

1. The Permittee shall implement the Operation, Management, and Emergency Response Plan for the treatment facility, sewage pumping stations, and sewer line stream crossings as approved by the Secretary on September 29, 2009.
2. By no later than **December 31, 2018**, the Permittee shall prepare and submit to the Secretary for review and approval, an Operation, Management, and Emergency Response Plan for the sewage collection system. The Plan shall be immediately implemented upon approval by the Secretary. This plan shall comply with the provisions of 10 V.S.A. § 1278, which require:
 - a. Identification of those elements of the facility, including collection systems that are determined to be prone to failure based on installation, age, design, or other relevant factors.
 - b. Identification of those elements of the facility identified under subdivision (a) of this subsection which, if one or more failed, would result in a significant release of untreated or partially treated sewage to surface waters of the State.
 - c. A requirement that the elements identified in subdivision (b) of this subsection shall be inspected in accordance with a schedule approved by the Secretary.
 - d. An emergency contingency plan to reduce the volume of a detected spill and to mitigate the effect of such a spill on public health and the environment.

The Permittee shall revise these plans upon the Secretary's request or on its own motion to reflect equipment or operational changes.

J. EMERGENCY ACTION - ELECTRIC POWER FAILURE

The Permittee shall indicate in writing to the Secretary **within 90 days after the effective date of this permit** that in the event the primary source of electric power to the WWTF (including pump stations) fails, the Permittee shall either provide an alternative source of power for the operation of its WWTF, or demonstrate that the treatment facility has the capacity to store the wastewater volume that would be generated over the duration of the longest power failure that would have affected the facility in the last five years, excluding catastrophic events.

The alternative power supply, whether from a generating unit located at the WWTF or purchased from an independent source of electricity, must be separate from the existing power source used to operate the WWTF. If a separate unit located at the WWTF is to be used, the Permittee shall certify in writing to the Secretary when the unit is completed and prepared to generate power.

The determination of treatment system storage capacity shall be submitted to the Secretary upon completion.

K. SEWER ORDINANCE

The Permittee shall have in effect a sewer use ordinance acceptable to the Secretary which, at a minimum, shall

1. Prohibit the introduction by any person into the Permittee's sewerage system or WWTF of any pollutant which:
 - a) Is a toxic pollutant in toxic amounts as defined in standards issued from time to time under Section 307(a) of the Clean Water Act;
 - b) Creates a fire or explosion hazard in the Permittee's treatment works;
 - c) Causes corrosive structural damage to the Permittee's treatment works, including all wastes with a pH lower than 5.0;
 - d) Contains solid or viscous substances in amounts which would cause obstruction to the flow in sewers or other interference with proper operation of the Permittee's treatment works; or
 - e) In the case of a major contributing industry, as defined in this permit, contains an incompatible pollutant, as defined in this permit, in an amount or concentration in excess of that allowed under standards or guidelines issued from time to time pursuant to Sections 304, 306, and/or 307 of the Clean Water Act.
2. Require 45 days prior notification to the Permittee by any person or persons of a:
 - a) Proposed substantial change in volume or character of pollutants over that being discharged into the Permittee's treatment works at the time of issuance of this permit;

- b) Proposed new discharge into the Permittee's treatment works of pollutants from any source which would be a new source as defined in Section 306 of the Clean Water Act if such source were discharging pollutants; or
 - c) Proposed new discharge into the Permittee's treatment works of pollutants from any source which would be subject to Section 301 of the Clean Water Act if it were discharging such pollutants.
3. Require any industry discharging into the Permittee's treatment works to perform such monitoring of its discharge as the Permittee may reasonably require, including the installation, use, and maintenance of monitoring equipment and monitoring methods, keeping records of the results of such monitoring, and reporting the results of such monitoring to the Permittee. Such records shall be made available by the Permittee to the Secretary upon request.
4. Authorize the Permittee's authorized representatives to enter into, upon, or through the premises of any industry discharging into the Permittee's treatment works to have access to and copy any records, to inspect any monitoring equipment or method required under subsection 3 above, and to sample any discharge into the Permittee's treatment works.

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.

In addition, the Permittee, within 30 days of the date on which the Permittee is notified shall provide notice to the Secretary of the following:

- a) Any new introduction of pollutants into the treatment works from a source which would be a new source as defined in Section 306 of the Clean Water Act if such source were discharging pollutants;
- b) Except for such categories and classes of point sources or discharges specified by the Secretary, any new introduction of pollutants into the treatment works from a source

which would be subject to Section 301 of the Clean Water Act if such source were discharging pollutants; and

- c) Any substantial change in volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into such works at the time of issuance of the permit.

The notice shall include:

- i. The quality and quantity of the discharge to be introduced into the system, and
- ii. The anticipated impact of such change in the quality or quantity of the effluent to be discharged from the WWTF.

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 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 WWTF or the operator’s delegate shall as soon as possible, but no longer than one hour from discovery of an untreated discharge from the WWTF, 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. Secretary notification. For “untreated discharges” an operator of a WWTF shall within 12 hours from discovery of an untreated discharge from the WWTF 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 WWTF 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 WWTF 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 Condition II.A.2.c. of this permit, an operator of a WWTF 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 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 ensure compliance with the conditions of this permit; and
- c) The operation and maintenance of this facility shall be performed only by qualified personnel who are licensed as required by the Secretary and the Director of the Vermont Office of Professional Regulation.

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 $\pm 10\%$.

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 an annual laboratory proficiency test (via an accredited laboratory or as part of an EPA DMR-QA study) for the analysis of all pollutant parameters performed within their facility laboratory and reported as required by this permit. Results shall be submitted to the Secretary by **December 31, annually**.

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 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 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. The Permittee shall

notify the Secretary of the emergency situation by the next working day, unless notice is required sooner under Section 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, 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 willful or intended acts or omissions of the applicant.

Application shall be made to the Secretary at the following address: Secretary of Natural Resources, Department of Environmental Conservation, One National Life Drive, Main Building, 2nd Floor, Montpelier VT 05620-3522.

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;
- c) Reallocation of WLA under the LC TMDL;
- d) Development of an integrated WWTF and Stormwater runoff NPDES permit; or
- e) 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. Other Materials

Other materials ordinarily produced or used in the operation of this facility, which have been specifically identified in the application, may be discharged at the maximum frequency and maximum level identified in the application, provided:

- a) They are not:
 - i. Designated as toxic or hazardous under provisions of Sections 307 and 311, respectively, of the Clean Water Act, or
 - ii. Known to be hazardous or toxic by the Permittee

except that such materials indicated in (i) and (ii) above may be discharged in certain limited amounts with the written approval of, and under special conditions established by, the Secretary or his/her designated representative, if the substances will not pose any imminent hazard to the public health or safety;

- b) The discharge of such materials will not violate the Vermont Water Quality Standards; and
- c) The Permittee is not notified by the Secretary to eliminate or reduce the quantity of such materials entering the water.

8. Navigable Waters

This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities or the undertaking of any work in any navigable waters.

9. 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” (Section 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 non-compliance are provided for in 10 V.S.A. Chapters 47, 201, and 211.

10. 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.

11. 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.

12. 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.

13. 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.

14. 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.

15. 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 (maximum daily discharge limitation) – means the highest allowable “daily discharge” (mg/L, lbs or gallons).

Mean - is the arithmetic mean.

Monthly Average (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, provided however, the term “sewage” as used in this permit shall not include the rinse or process water from a cheese manufacturing process.

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 includes 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 - (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.

WWTF or wastewater treatment facility shall have the same meaning as “pollution abatement facilities,” as defined under 10 V.S.A. § 1251, which means municipal sewage treatment plants, pumping stations, interceptor and outfall sewers, and attendant facilities as prescribed by the Department to abate pollution of the waters of the State.

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

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

**FACT SHEET FOR PERMIT
(July 2017)**

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

PERMIT NO: 3-1289
PIN: EJ94-0011
NPDES NO: VT0100331

NAME AND ADDRESS OF APPLICANT:

Town of Shelburne
PO Box 392
Shelburne, VT 05482

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Shelburne 1 - Crown Road Wastewater Treatment Facility
81 Crown Road
Shelburne, Vermont

RECEIVING WATER: Shelburne Bay/Lake Champlain

CLASSIFICATION OF USES OF RECEIVING WATER: All uses Class B(2) with a waste management zone. Class B(2) 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 Vermont Agency of Natural Resources (Agency) received a renewal application for the permit to discharge into the designated receiving water from the above named applicant on October 11, 2011. The Town's previous permit was issued on April 1, 2007. 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 wastewater treatment facility (WWTF) is engaged in the treatment of municipal wastewater including domestic, commercial, and industrial wastewaters.

A map showing the location of facility, outfalls, and the receiving water is provided in the Reasonable Potential Determination (RPD) (see Attachment A).

II. Description of Discharge

The facility is engaged in the treatment of municipal wastewater including domestic, commercial, and industrial wastewaters. The wastewater treatment facility is a Sequencing Batch Reactor (SBR). The design flow of the facility is 0.44 million gallons per day (MGD) and design BOD loading is 225 mg/l (832 lbs/day).

The WWTF maintains a constant discharge to the Shelburne Bay/Lake Champlain.

III. Limitations and Monitoring Requirements

The draft permit contains limitations for effluent flow, biochemical oxygen demand, total suspended solids, total phosphorus, settleable solids, *Escherichia coli*, total residual chlorine, and pH. It also contains monitoring requirements for total nitrogen, Total Kjeldahl Nitrogen, nitrate/nitrite, and ammonia. The effluent limitations of the draft permit, the monitoring requirements, may be found on the following pages of the draft permit:

Effluent Limitations:	Page 2-4 of 25
Monitoring Requirements:	Pages 7-11 of 25

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 delegated by 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 C.F.R. 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 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 C.F.R. § 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 Toxics Control Discharge Strategy, and compelled as a condition of prior permits;
- 5) All effluent limitations, monitoring requirements, and other conditions of the proposed draft permit.

The Reasonable Potential Determination for this facility 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 previous 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 previous permit.

V. Description of Receiving Water

The WWTF maintains a constant discharge to the Shelburne Bay/Lake Champlain.

Lake Champlain is impaired for phosphorus and is subject to a Total Maximum Daily Load (TMDL) for phosphorus. This is discussed further in Section VII.C.1. of this Fact Sheet.

VI. Facility History and Background

The Town of Shelburne owns and operates the Crown Road WWTF. The facility consists of a headworks, Sequencing Batch Reactors (RBC), filtration and chlorine disinfection followed by dichlorination. The WWTF provides wastewater treatment capacity for residential, commercial, and industrial properties within its sewer service area in the Town of Shelburne.

The draft permit incorporates the newest language and requirements to support the State of Vermont's compliance with the Lake Champlain TMDL.

VII. Permit Basis and Explanation of Effluent Limitation Derivation

This permit was evaluated under the most recent Vermont Water Quality Standards (2017).

A. Flow

The draft permit maintains the annual average flow limitation of 0.44 MGD. This facility maintains a constant discharge. Continuous flow monitoring is required under the permit.

B. Conventional Pollutants

- 1. Biochemical Oxygen Demand (BOD₅)** – The effluent limitations for BOD₅ remain unchanged from the current permit. The monthly average (30 mg/L) and weekly average (45 mg/L) reflect the minimum level of effluent quality specified for secondary treatment in 40 CFR § 133.102. In addition, the draft permit contains a 50 mg/L, maximum day, BOD₅ limitation, which is the Agency standard applied to all such discharges pursuant to Section 13.4(c) of the Vermont Water Pollution Control Permit Regulations. The Secretary implements the limit to supplement the federal technology based limitations to prevent a gross one-day permit effluent violation to be offset by multiple weekly and monthly sampling events which would enable a discharger to comply with the weekly average and monthly average permit limitations. Mass limits (70.1 lbs/day, monthly average and 105.1 lbs/day, weekly average) are calculated using the concentration limits outlined above. The BOD₅ weekly monitoring requirement is unchanged from the current permit.
- 2. Total Suspended Solids (TSS)** – The effluent limitations for TSS remain unchanged from the current permit. The monthly average (30 mg/L) and weekly average (45 mg/L) reflect the minimum level of effluent quality specified for secondary treatment in 40 CFR § 133.102. In addition, the draft permit contains a 50 mg/L, maximum day, TSS limitation. This is the Agency standard applied to all such discharges pursuant to 13.4(c) of the Vermont Water Pollution Control Permit Regulations. The Secretary implements the limit to supplement the federal technology based limitations to prevent a gross one-day permit effluent violation to be offset by multiple weekly and monthly sampling events which would enable a discharger to comply with the weekly average and monthly average permit limitations. Mass limits (70.1 lbs/day, monthly average and 105.1 lbs/day, weekly average). The TSS weekly monitoring requirement is unchanged from the current permit.
- 3. *Escherichia coli*** – The E. coli limitation is 77/100ml, instantaneous maximum, based upon the limitation in the current permit and the anti-backsliding provisions of Section 402(o) of the CWA. As in the current permit, weekly monitoring is required.

4. **Settleable Solids** – The limitation of 1.0 mL/L instantaneous maximum and daily monitoring remain unchanged from the current permit. This numeric limit was established in support of the narrative standard in Section 29A-303(2) of the Vermont Water Quality Standards.
5. **pH** – The pH limitation remains at 6.5 - 8.5 Standard Units as specified in Section 29A-303(6) in the Vermont Water Quality Standards. Monitoring remains at daily.

C. Non-Conventional and Toxics

1. **Total Phosphorus (TP)**

Background:

Excess phosphorus entering Lake Champlain from a variety of sources has impaired the water quality of the Lake. The Lake Champlain Total Maximum Daily Load (LC TMDL), places a cap on the maximum amount of phosphorus from point and non-point sources that is allowed to flow into the Lake while still meeting Vermont's water quality standards. The EPA developed phosphorus TMDLs for the 12 Vermont segments of Lake Champlain in collaboration with the Vermont Agency of Natural Resources, Department of Environmental Conservation, and the Vermont Agency of Agriculture, Food, and Markets, and released the document titled "Phosphorus TMDLs for Vermont Segments of Lake Champlain" (June 2016). The 2016 LC TMDL specifies allowable phosphorus loads, or waste load allocations (WLA), expressed as metric tons per year (mt/yr), for each of the 59 WWTFs that discharge to the Lake's watershed. Discharge NPDES permits will be issued by the Secretary in accordance with the permit issuance schedule in the Lake Champlain TMDL Phase 1 Implementation Plan (Chapter 3, page 46). The Secretary will follow this schedule unless special circumstances are raised by the facility that warrant the issuance of the permit sooner (e.g., planned facility upgrades), and the Program has sufficient staff capacity to handle the request.

Reductions in WLAs are targeted only to WWTFs in those lake segment watersheds where the currently permitted wastewater load represents a significant (defined as being 10% or greater) portion of the total phosphorus load to that segment from all sources (Main Lake, Shelburne Bay, Burlington Bay, St. Albans Bay) or where wastewater upgrades would meaningfully reduce the phosphorus reduction burden placed on non-wastewater (non-point) sources (Missisquoi Bay). Therefore, WWTFs discharging to the Port Henry, Otter Creek, Mallets Bay, Northeast Arm, Isle LaMotte, and the South Lake A/B lake segments were not assigned a new waste load allocation. The EPA also determined that wastewater facilities with a design flow of < 0.1 MGD would be given the same allocations as in the 2002 TMDLs due their minor contribution of phosphorus loading.

The LC TMDL establishes new annual WLAs for WWTFs with a design flow capacity of above 0.1 million gallons per day (MGD) that discharge to the Main Lake, Shelburne Bay, Burlington Bay, St. Albans Bay, and Missisquoi Bay lake segments. Specifically, WWTFs with a design flow capacity of 0.1 to 0.2 MGD were assigned WLAs based on a 0.8 mg/L effluent phosphorus concentration at permitted flow while WWTFs with design capacity of > 0.2 MGD were assigned a WLA based on a 0.2 mg/L effluent phosphorus concentration at permitted flow.

In the LC TMDL, EPA acknowledged and supported the Secretary's commitment to employ flexible approaches to implementing the WWTF WLAs including "providing a period of time for optimization to be pursued and the corresponding load reduction results to be realized, and then commencement of the process to upgrade phosphorus treatment facilities will be required when actual phosphorus loads reach 80% of the LC TMDL limits." The Wastewater Management Program maintains a tracking system for phosphorus loading from Vermont WWTFs so facilities approaching or over the 80% threshold can be identified. The 80% phosphorus load threshold is calculated by comparing the individual WWTF phosphorus WLA established in the LC TMDL to the actual phosphorus discharge load from the WWTF over last 12 months:

WWTF Annual TP Load / LC TMDL WLA x 100

There are currently WWTFs in the Lake Champlain watershed with existing discharged loads of phosphorus already at, or above, 80% of allowable loads. To ensure facilities are operating as efficiently as possible, all reissued wastewater discharge (NPDES) permits under the LC TMDL will specify a period of 12-months for optimization to be pursued and the corresponding load reduction results to be realized, prior to evaluating where a facility ranks relative to the 80% trigger. Discharge permits will specify that after the optimization period, when an existing facility reaches 80% of its WLA for phosphorus (evaluated as a rolling, 12-month load), the permittee will have to develop and submit a projection of whether the facility will exceed its WLA during the permit term and if it is projected to do so, then the facility will be required to develop a Phosphorus Elimination/Reduction Plan (PERP) that will ensure the facility continues to comply with its WLA.

Effluent TP limits in permits are expressed as total annual mass loads for facilities that currently have an existing monthly effluent concentration limit for TP in their NPDES permit.

Phosphorus Limit in Draft Permit:

The previous discharge permit for this Facility included a mass-based, effluent limit of 767 pounds of TP per year. This annual mass limitation was based on an allocation of 0.348 metric tons established in the 2002 Lake Champlain Phosphorus TMDL. The previous permit also contained an effluent TP concentration limit of 0.8 mg/L, monthly average, consistent with the annual load limit.

This proposed draft permit contains a phosphorous effluent concentration limit of 0.8 mg/l, monthly average, and a mass effluent limit of 269 total pounds, annual limitation. The concentration effluent limitation is based on the requirements of 10 V.S.A. § 1266a and is unchanged from the previous permit. The mass annual effluent limitation is based on the LC TMDLs. The LC TMDL allocated 0.122 metric tons per year or 269 pounds per year to the Crown Road WWTF.

This new, annual WLA represents a 65% reduction (-498 pounds) from the previous and is equivalent to setting the effluent TP limit at 0.2 mg/L at the design capacity of the WWTF (0.440 MGD). To convert units of the WLA from metric tons to pounds for the annual, mass-

based TP permit limit, the following equation was used and the resulting WLA rounded down to the nearest pound:

$$(0.122 \text{ mt/yr}) (2204.62 \text{ lbs/mt}) = 269 \text{ lbs/yr}$$

The Secretary is adopting the WLA from the LC TMDL as the water quality based effluent limitation for this permit without additional analysis because this WLA was set by EPA less than a year ago as the limit necessary to ensure Lake Champlain is brought into compliance with the Vermont Water Quality Standards, and undertaking further analysis to determine if more stringent effluent limitations are needed would be meaningless at this time since the State has just started to implement the Vermont Lake Champlain Phosphorus TMDL Phase I Implementation Plan. *See In re Montpelier WWTF Discharge Permit*, 2009 WL 4396740, 6 (Vt. Env'tl. Ct. June 30, 2009).

The LC TMDL includes WLAs for WWTFs expressed as total annual mass loads; the LC TMDL does not include monthly average concentration effluent limits for WWTFs. State law (10 V.S.A. § 1266a) requires that, "No person directly discharging into the drainage basins of Lake Champlain or Lake Memphremagog shall discharge any waste that contains a phosphorus concentration in excess of 0.80 milligrams per liter on a monthly average basis." Therefore, in addition to the annual mass load effluent limitation required by the TMDL, the permit must also include a monthly average concentration limit for phosphorus. While the WLA in the TMDL was calculated based on a TP effluent concentration of 0.20 mg/L, the permit does not include 0.20 mg/L as the concentration effluent limitation because a permittee may not need to achieve 0.20 mg/L to ensure compliance with the WLA established in the TMDL. Rather the permit includes a monthly average concentration limit for phosphorus of 0.80 mg/L to ensure compliance with state law and to recognize seasonal variations in the facility's discharge. It is important to note that because the annual mass load and average monthly concentration limits are not mathematically consistent in the permit, meeting a 0.8 mg/L concentration limit at design flows will not result in meeting the annual mass limit.

The permittee must comply with both limitations and, as required by the permit, must operate the facility to meet the more restrictive limitation, which may vary depending upon discharge flows at the facility. If the facility is operating at design flows, the annual mass load limitation will be the more restrictive limitation. However, if the facility is operating at low flows, the monthly average concentration limit may be the more restrictive limitation.

The requirement for weekly sampling for total phosphorus is unchanged from the previous permit.

Condition I.G of this draft permit requires the submission of monitoring reports to the Secretary specific to tracking TP in the discharge. Monthly reporting of total monthly pounds, running total annual pounds, and a comparison (%) of running total annual pounds to the annual permit limitation shall be submitted monthly via electronic discharge monitoring report. A report that documents the annual TP discharged from the facility, summarizes phosphorus removal optimization and efficiencies, and tracks trends relative to the previous year shall be attached to the December WR-43 form. The annual and monthly TP loads

discharged from the facility shall also be reported electronically with other required parameters.

Phosphorus Optimization and Elimination/Reduction Plans:

To ensure the facility is operating as efficiently as possible for purposes of phosphorus removal, Condition I.B.2 of the permit requires that within 120 days of permit issuance, the permittee shall develop or update (as appropriate), and submit to the Secretary, a Phosphorus Optimization Plan (POP) to increase the WWTF's phosphorus removal efficiency by implementing optimization techniques that achieve phosphorus reductions using primarily existing facilities and equipment. The techniques to be evaluated may include operational process changes to enhance biological and/or chemical phosphorous removal, incorporation of anaerobic/anoxic zones, septage receiving policies and procedures, and side stream management.

The Permittee shall have 12 months from the permit issuance date to optimize removal of total phosphorus. If, after the 12-month optimization period, the WWTF's actual TP loads reach or exceed 80% of the LC TMDL WLA for the WWTF, based on the WWTF's 12-month running annual load calculated using the Running Total Annual Pounds Calculation (Condition I.B.4 of the permit) the permittee shall, within 90 days of reaching or exceeding 80% of the LC TMDL WLA for the WWTF, develop and submit to the Secretary a projection based on the WWTF's current operations and expected future loadings of whether it will exceed its WLA during the permit term.

If the WWTF is not projected to exceed its WLA within the permit term, the WWTF shall reassess when it is projected to reach its WLA prior to permit renewal and submit that information with its next permit application. If the facility is projected to exceed its WLA during the permit term, the permittee shall submit a Phosphorus Elimination/Reduction Plan (PERP) within 6 months to the Secretary to ensure the WWTF continues to comply with its WLA. The PERP shall be treated as an application to amend the permit, and therefore, shall be subject to all public notice, hearing, and comment provisions, in place at the time the plan is submitted, that are applicable to permit amendments. The WWTF shall revise the PERP, if required by the Secretary.

2. Total Nitrogen (TN)

To gather data on the amount of Nitrate/Nitrite (NO_x) and Total Nitrogen (TN) in this discharge and its potential impact on the receiving water, a quarterly "monitor only" requirement for NO_x and TN has been included in this permit. TN is a calculated value based on the sum of Total Kjeldahl Nitrogen (TKN) and Nitrate/Nitrite (NO_x) Nitrogen, and, shall be reported as pounds, calculated as:

$$\text{Average TN (mg/L)} \times \text{Total Daily Flow} \times 8.34$$

$$\text{where, TN (mg/L)} = \text{TKN (mg/L)} + \text{NO}_x \text{ (mg/L)}$$

Per EPA excess nitrogen (N) and phosphorus (P) are the leading cause of water quality degradation in the United States. Historically nutrient management focused on limiting a

single nutrient—phosphorus or nitrogen—based on assumptions that production is usually phosphorus limited in freshwater and nitrogen limited in marine waters. Scientific research demonstrates this is an overly simplistic model. The evidence clearly indicates management of both phosphorus and nitrogen is necessary to protect water quality. The literature shows that aquatic flora and fauna have differing nutrient needs, some are P dependent, others N dependent and others are co-dependent on these two nutrients.

Like P, N promotes noxious aquatic plant and algal growth. High concentrations of P and N together cause greater growth of algae than P alone. The relative abundance of these nutrients also influences the type of species within the community. Furthermore, a high N-to-P ratio may exacerbate the growth of cyanobacteria, while elevated levels of nitrogen increase toxicity in some cyanobacteria species. Given the dynamic nature of all aquatic ecosystems, for the State to fully understand the degradation to water quality it is necessary to limit P and monitor bioavailable N (including nitrate, ammonium, and certain dissolved organic nitrogen compounds).

Facilities with design flow greater than 1 MGD will complete monthly monitoring unless more frequent sampling is already required by the permit. Facilities with design flows less than 1 MGD will complete quarterly, unless more frequent sampling is already required by the permit.

For more information, see

<https://www.epa.gov/sites/production/files/documents/nandpfactsheet.pdf>.

Quarterly monitoring via composite sample is required for this facility.

3. Ammonia-Nitrogen

To gather data on the amount of Ammonia-N in this discharge and its potential impact on the receiving water, a new, “monitor only” requirement for TAN has been included in the draft permit. Monthly monitoring is required.

4. Total Residual Chlorine

The Total Residual Chlorine limits of 1.0 mg/l, weekly average, and 2.0 mg/l, instantaneous maximum, are set in accordance with the Agency’s Chlorine Policy for the protection of aquatic biota. Monitoring requirement remains daily.

5. Toxicity Testing

40 C.F.R. §§ 122.44(d)(1) and 122.21(j) require the Secretary to assess whether the discharge causes, or has the reasonable potential to cause or contribute to an excursion above any narrative or numeric water quality criteria. The permittee shall conduct WET testing and toxic pollutant analyses according to the schedule outlined in Section I.F of the draft permit, which requires 2-species, 48-hour acute and 96-hour chronic, WET tests be conducted in August or September 2019 and January or February 2018. If the results of these tests indicate a reasonable potential to cause an instream toxic impact, the Secretary may require additional WET testing, establish a WET limit, or require a Toxicity Reduction Evaluation.

6. Annual Monitoring

For all facilities with a design flow of greater than 0.1 MGD, 40 CFR § 122.21(j) requires the submittal of effluent monitoring data for those parameters identified in Section I.G.2 of the draft permit. Samples must be collected once annually such that by the end of the term of the permit, all quarters have been sampled at least once, and the results will be submitted by December 31 of each year. Sampling in 2017 should be taken in Fall. For subsequent sampling, the “Guidance for Annual Constituent Monitoring” document should be referred to determine the season in which samples should be taken each year.

D. Special Conditions

1. Waste Management Zone (WMZ)

As defined under 10 V.S.A. § 1251(16), a WMZ is “a specific reach of Class B waters designated by a permit to accept the discharge of properly treated wastes that prior to treatment contained organisms pathogenic to human beings. Throughout the receiving waters, water quality criteria must be achieved but increased health risks exist due to the authorized discharge”.

The proposed permit retains the existing waste management zone (WMZ) beginning at the outfall of the Shelburne 1 Crown Road WWTF and extending for a 200 foot radius in Shelburne Bay/Lake Champlain. The draft permit will maintain this waste management zone.

2. Laboratory Proficiency Testing

To ensure there are adequate laboratory controls and appropriate quality assurance procedures, the permittee shall conduct an annual laboratory proficiency test for the analysis of all pollutant parameters performed within their facility laboratory and reported as required by their NPDES permit. Proficiency Test samples must be obtained from an accredited laboratory or as part of an EPA DMR-QA study. Results shall be submitted to the Secretary by December 31, annually.

3. Operation, Management, and Emergency Response Plans

As required by the revisions to 10 V.S.A. § 1278, promulgated in the 2006 legislative session, Section I.I has been included in the draft permit. This condition requires that the permittee implement the Operation, Management, and Emergency Response Plans for the WWTF, sewage pump/ejector stations, and stream crossings as approved by the Secretary on September 29, 2009. Because it was not completed at the time of writing the draft permit, the permittee shall prepare and submit to the Secretary for review and approval, an Operation, Management, and Emergency Response Plan for the sewage collection system by December 31, **2018**. The permittee shall implement the plan upon submittal.

4. Engineering Evaluation

An engineering evaluation condition is not included in this permit. This condition requires the permittee to conduct an in-depth inspection and report of the treatment facility to identify and repair equipment, processes, and other possible deficiencies which may adversely affect effluent quality or proper operation. This type of evaluation is required once every 20 years and per DEC records was last completed in July 2013, therefore an Engineering Evaluation is not required in this permit cycle.

5. Electric Power Failure Plan

To ensure the facility can continue operations even during the event of a power failure, **within 90 days of the effective date of the permit**, the permittee must submit to the Secretary updated documentation addressing how the discharge will be handled in the event of an electric power outage.

6. 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 become 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. The Secretary completed a phased roll out of mandatory electronic reporting. As of December 2020, these NPDES facilities will also be expected to submit additional information electronically as specified in Appendix A in 40 C.F.R. Part 127.

7. Noncompliance Notification

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

8. 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.

E. Reasonable Potential Analysis

The Secretary has conducted a reasonable potential analysis, which is attached to this Fact Sheet as Attachment A. These analyses help to illustrate the de-minimis impact phosphorus, nitrogen, metals, or other pollutants within this discharge would pose to receiving waters. Considering this, it has been determined that this WWTF and its discharge quality pursuant to the draft permit does

not have the potential to cause measurable change in the receiving water outside of the mixing zone.

VIII. Procedures for Formulation of Final Determinations

The public comment period for receiving comments on this draft permit was from July 3 through August 17, 2017. Comments were received and are addressed in the Responsiveness Summary.

**Agency of Natural Resources
Department of Environmental Conservation**

**Watershed Management Division
1 National Life Drive 2 Main
802-828-1535**

MEMORANDUM

To: Dave DiDomenico, Wastewater Program (WWP)

From: Rick Levey, Monitoring, Assessment and Planning Program (MAPP) *Rick Levey 06/28/17*

Cc: Pete LaFlamme, Director, (WSMD)
Jessica Bulova, Manager, (WWP)
Neil Kamman, Manager, (MAPP)

Date: June 28, 2017

Subject: MAPP Reasonable Potential Determination for Shelburne FD#1 Crown Road Wastewater Treatment Facility (WWTF)

Facility:

Shelburne FD#1 Crown Road WWTF
Permit No. 3-1289
NPDES No. VT0100331

Hydrology for Shelburne FD#1 Crown Road WWTF:

Design Flow: 0.4 MGD = 0.74 CFS

Receiving Water:

Lake Champlain, Shelburne Bay -Shelburne, Vermont

MAPP has evaluated the draft permit for the Shelburne Crown Road WWTF, in relation to available water quality monitoring data, to determine the protectiveness of the permit with respect to receiving water quality criteria. Figure 1 provides a graphical representation of the location of the outfall for this facility, relative to the most proximal location from which water quality monitoring data are available.

Phosphorus: Lake Champlain TMDL – Shelburne Bay Segment.

The ultimate receiving water for this facility is the Shelburne Bay Segment of Lake Champlain, a phosphorus-impaired segment of Lake Champlain subject to the 2016 Lake Champlain TMDLs promulgated by USEPA. That TMDL establishes a wasteload allocation for this facility not to exceed 0.122 MT/year, a reduction of 0.226 MT from the prior limitation in the 2002 TMDL to which this facility was permitted previously. Although the new waste load allocation is based on an effluent TP concentration of 0.2 mg/L, this permit maintains the previous TP effluent limit of 0.8 mg/L, monthly average, which allows for TP discharge concentrations to fluctuate above 0.20 mg/L while holding the annual limit at a mass (total pounds) based on 0.20 mg/L. Effluent limitations in the draft permit reflect the TMDL. The Lake Champlain TMDL also contains a reasonable assurance analysis and accountability

framework demonstrating that the Main Lake Segment will achieve standards following implementation of the TMDL.

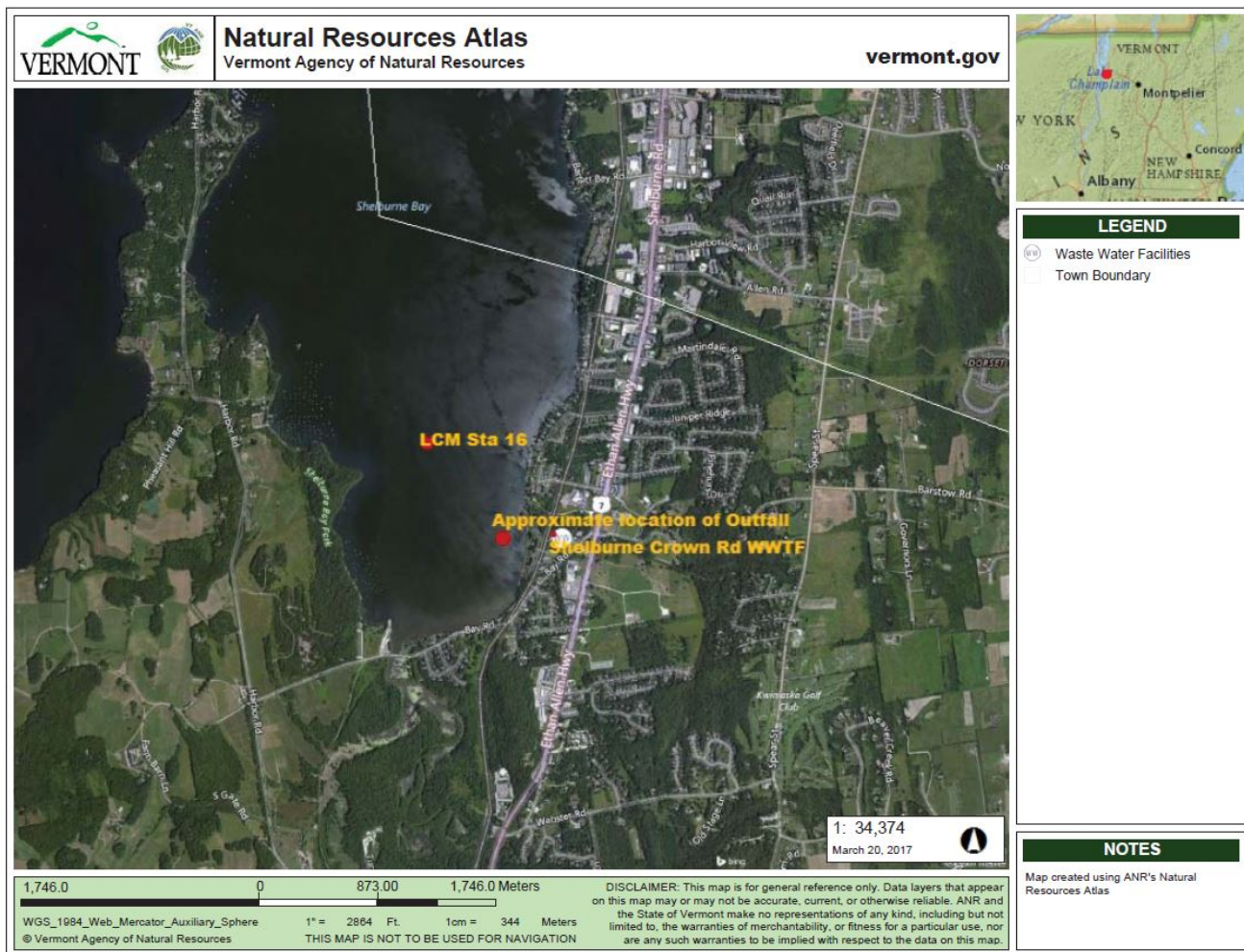


Figure 1. Approximate location of outfall pipe, relative to the Lake Champlain Long-term Biological and Chemical Monitoring Program station.

Review of Shelburne FD#1 Crown Road facility monitoring records indicate that the average effluent TP concentrations in 2016 was 0.27 mg/L. At these conditions, and presuming effectiveness of these high-quality treatment practices for phosphorus at higher flows, the TP concentration within the Waste Management Zone (WMZ) which is designated as a 200-foot radius around outfall (1:35 Dilution), would be 7.7 µg/L-TP were the facility to be operating at full design flow (0.4 MGD).

Monitoring records for 2016 indicate that the facility has been operating at about ½ design flow, at these conditions the TP concentration within the WMZ would be 3.8 µg/L-TP. These are conservative calculations and do not represent the significant dilution available outside of the WMZ.

Lake Champlain Water quality monitoring data are available from the [Lake Champlain Long-term Biological and Chemical Monitoring Program](#), from a monitoring station located approximately 2,800 feet west by southwest of the outfall and mixing zone centroid. Results from this station indicate that total phosphorus concentrations in the Shelburne Bay segment for the period 2015-2016 averaged 12.2

ug/L, and that long-term trends suggest that the average concentration in this segment has been declining slightly since 2012 (Figure 2). Pursuant to the Vermont Water Quality Standards, this location is an appropriate location to determine compliance with the relevant water quality criterion for this segment.

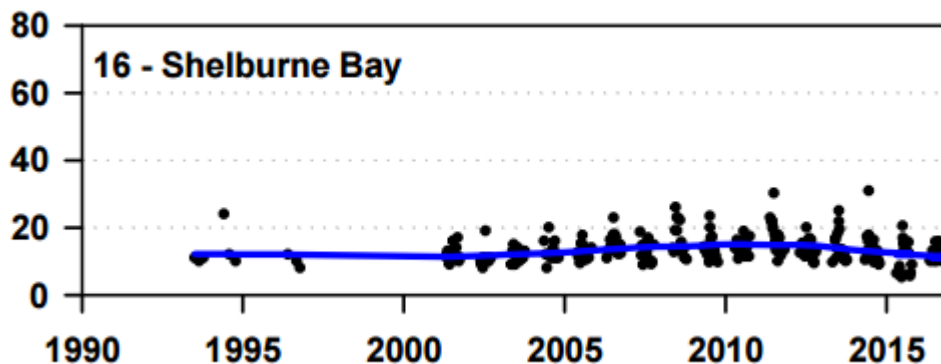


Figure 2. Long-term total phosphorus concentration monitored by the Lake Champlain Long-term Biological and Chemical Monitoring Program. Y-axis shows total phosphorus in ug/L.

Nitrogen:

While total nitrogen is not a causal pollutant of designated uses in Lake Champlain, we evaluated the prospective load of total nitrogen in the mixing zone as a further validation of the sufficiency of treatment for the facility.

Annual constituent monitoring records for the last few years indicate that the average effluent TN concentration is about 13.0 mg/L-TN. This concentration would account for a 0.37 mg/L-TN increase in the mixing zone surrounding the diffuser. This is 93% lower than the total allowable NO₃ criteria of 5 mg/L, and is highly-conservative, presuming that all nitrogen measured was in the form of NO₃-N.

Water quality monitoring data available from the [Lake Champlain Long-term Biological and Chemical Monitoring Program](#) indicates that total nitrogen concentrations in the Shelburne Bay segment for the period 2015-2016 average 0.37 mg/L, and long-term trends suggest that the average concentration in this segment is flat to slightly declining over the period of record (Figure 3).

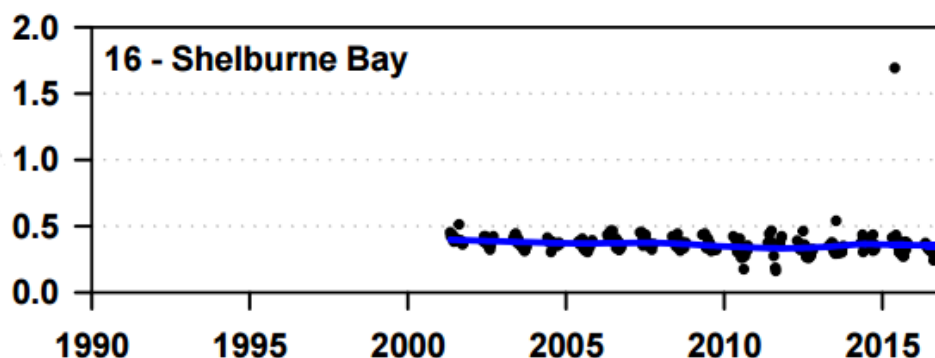


Figure 3. Long-term total nitrogen concentration monitored by the Lake Champlain Long-term Biological and Chemical Monitoring Program. Y-axis shows total nitrogen in mg/L.

Whole Effluent Toxicity (WET) and Priority Pollutant Testing:

40 CFR Part 122.44(d)(1) requires the Agency to assess whether the discharge causes, or has the reasonable potential to cause or contribute to an excursion above any narrative or numeric water quality criteria. The goal of the Vermont Toxic Discharge Control Strategy is to assure that the state water quality standards and receiving water classification criteria are maintained. Review of the most recent WET Test from 2009, a 2-species acute test, indicated that there was no effluent toxicity, even at 100% effluent for *Ceriodaphnia dubia*. The A-NOEC for *Pimephalas promelas* was 50% and the A-LC50 was 100%. These results pass the WET criteria and do not pose a risk to the receiving water. The draft permit requires a two-species 48-hour acute and 96-hour chronic WET test be conducted during August or September 2019 and 2021 and January or February 2018 and 2020. If the results of this test indicate a reasonable potential to cause an instream toxic impact, the Department may require additional WET testing, establish a WET limit, or require a Toxicity Reduction Evaluation.

Ammonia Monitoring:

Shelburne FD#1 Harbor Rd. WWTF effluent ammonia data is lacking, however the 35:1 available dilution provides significant dilution, an ammonia effluent concentration of 14 mg TAN/L would be necessary to exceed the chronic criteria RWC of 0.40 mg/L TAN, based on a pH of 8.3, and a 30-day average measured daytime temperature of 23 degrees C (data derived from the Lake Champlain Long-term Monitoring Program). Presuming that effluent TAN concentration remain below this level there would be no reasonable potential for VWQS excursion. We further note that total N averages 13 mg/L for this facility, and that TAN is only one component of total N, suggesting an unlikelihood of exceeding 14mg/L TAN, especially during summer months when total N and TAN are at lower concentrations in effluent generally. Owing to the lack of data to verify this, a monitoring requirement for effluent ammonia concentration is recommended to complement the total N requirement.

Metals:

Effluent characterization does not include metals data, but to help illustrate that it is very unlikely that metals would exceed WQS due to available dilution within the mixing zone, we will use nickel as an example. The chronic WQ standard for nickel at hardness 63 mg/L-CaCO₃ is 35µg/L-Ni, the effluent concentration of nickel would need to be 1225µg/L-Ni, a very high and unlikely concentration. Similar WWTFs that screen for priority metals are typically below the detection limit of 5µg/L-Ni.

Conclusion:

These analyses help to illustrate the de-minimis impact phosphorus, nitrogen, metals, or other pollutants within this discharge would pose to receiving waters. Considering this, MAPP has determined that this WWTF and its discharge quality pursuant to the draft permit does not have the potential to cause measurable change in the receiving water outside of the mixing zone.

RESPONSIVENESS SUMMARY
for
NPDES Discharge Permit #3-1289
Village of Shelburne 1, Crown Road Wastewater Treatment Facility

The above referenced permit was placed on public notice for comment from a period of **July 3, 2017** through August **17, 2017**. This is a renewal permit.

Comments on the draft permit were received during the public notice period. 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:

See letters dated August 7, 2017 from the Conservation Law Foundation and from the Town of Shelburne (both attached)

RESPONSE (CLF):

I. The law and the facts do not support CLF's comments that the phosphorus water quality-based effluent limitations (WQBELs) are not consistent with the assumptions and requirements of the Lake Champlain Total Maximum Daily Load (LCTMDL) waste load allocations (WLAs) and that to be consistent the Agency must translate the WLAs into more stringent WQBELs in the near term.

A. The phosphorus WQBELs are consistent with the assumptions and requirements of the LCTMDL WLAs and, consistent with applicable law, are more stringent than the WLAs in specific instances.

The phosphorus WQBELs in the permits are "consistent with the assumptions and requirements" of the LCTMDL WLAs. 40 C.F.R. § 122.44(d)(1)(vii)(B). The LCTMDL WLAs are reliant on implementation of nonpoint source load reductions over a period of years. *See* LCTMDL Chapter 7. Therefore, to ensure the State remains on-track to complete nonpoint source load reductions in a timely manner, the LCTMDL document includes an accountability framework with key milestones. *Id.* at p. 54-59. The WLAs in the LCTMDL are based upon the assumption that the State will implement nonpoint source load reductions in adherence with the accountability framework. *See* LCTMDL Chapter 7. If the United State Environmental Protection Agency (EPA) finds that the State has failed to make satisfactory progress under the accountability framework EPA may take various actions; for example, EPA may,

“[r]evis[e] the TMDLs to reallocate additional load reductions from nonpoint to point sources, such as wastewater treatment plants.” *Id.* at p. 57.

Just over a year has passed since EPA adopted the LCTMDL on June 17, 2016. In the case *In re Montpelier WWTF Discharge Permit*, No. 22-2-08 Vtec, *slip op.* at 6 (Vt. Env'tl. Ct. June 30, 2009), the Court noted that “a mere year and a half after the [2002] Champlain TMDL was issued ... it probably would have been meaningless to engage in further analysis as to whether more stringent permit limitations were needed.” Nonetheless, as of now, “EPA’s overall assessment is that Vermont has made excellent progress in achieving the milestones in the [LCTMDL] Accountability Framework” through December 30, 2016. Letter from Deborah A. Szaro, EPA Acting Regional Administrator, February 15, 2017; LCTMDL at p. 55-57. Therefore, the WQBELs in the permits are consistent with the assumptions and requirements of the LCTMDL WLAs.

Additionally, in *Montpelier WWTF*, the Court did not object to using a WLA as a WQBEL, but rather the Court objected to readopting the same WQBEL when *reissuing* a wastewater treatment facility (WWTF) discharge permit without analyzing whether the assumptions that the WLA was based upon still held true when the original TMDL had been adopted over six and a half years earlier.¹ *Montpelier WWTF* at 10. The Agency would also like to clarify that nowhere in the Court’s opinion in the *Montpelier WWTF* case did the Court state that the most significant assumption underlying the WLA assignments was that “point sources could increase without contributing to the ongoing water quality standards violations if and when dramatic nonpoint source reductions offset the point source increase.”²

CLF cited to several cases to support its comment that “The phrase “consistent with,” as it is used in 40 C.F.R. § 122.44(d)(1)(vii)(B), does not mean the WQBEL should be an exact duplicate of the WLA provided in the TMDL.” While the Agency agrees WQBELs do not need to be exact copies of a WLA, the cases cited to do not dictate that WQBELs must be more stringent until nonpoint source load reductions are completed. In the case *In re City of Moscow, Idaho*, 10 E.A.D. 135, *slip op.* at 6 (EPA July 27, 2001), EPA had established a WLA under a TMDL for a WWTF based upon a proposed upgrade to the facility that would change its design flow from 3.6 mgd to 4.0 mgd. When the facility reapplied for a discharge permit, the facility had not yet completed the proposed upgrade, so its design flow was still 3.6 mgd. Under 40 C.F.R. § 122.45(b)(1), effluent limitations for WWTFs must be calculated based upon “design flow.” Therefore, in order to comply with the requirements of § 122.45(b)(1), EPA established a WQBEL for the facility consistent with, but slightly more stringent than the WLA. *City of Moscow* at 6.

Additionally, in the case *American Farm Bureau Federation v. U.S. EPA*, 984 F.Supp.2d 289, 327-28 (M.D. Penn. 2013), the appellants argued that under the Chesapeake Bay TMDL, EPA created pollutant allocations that were unlawfully binding on the states in that the allocations encroached into the realm of implementation – an area reserved for the states. In defense of the Chesapeake Bay TMDL, the Court held that the Bay TMDL did not create unlawfully binding allocations because “WLAs are not permit limits *per se*; rather they still require translation into permit limits ... Accordingly, in some circumstances, a state may write a NPDES permit limit that is different from the WLA, provided that it is consistent with the operative assumptions underlying the WLA.” *Id.* (internal citations omitted).

Both the foregoing cases provide the permitting authority flexibility to be establish WQBELs more stringent than a WLA, but they do not serve to support the comment that more stringent WQBELS and a demonstration of need and assimilative capacity or “offsets” are required until nonpoint source load reductions are implemented. Furthermore, CLF cites to no cases nor provides any examples where EPA

¹ The Court stated, “40 C.F.R. § 122.44(d)(1)(vii)(B) directs agencies not blindly accept such *past assumptions* [for which WLAs are based upon], but rather analyze them at each permit issuance-or at least at each permit issuance that occurs more than five years after the issuance of the applicable TMDL-to determine whether those assumptions continue to have a basis in reliability.” *Id.*

² That quote was misattributed to the Court. The quote is actually a sentence from CLF’s brief to Supreme Court in its appeal of the *Montpelier WWTF* decision.

or any states have established more stringent WQBELs and required a demonstration of need and assimilative capacity or “offsets” in the TMDL context.

For the permits for St. Albans Northwest Correctional Facility (Permit 3-1260) and Shelburne #2 Harbor Road (Permit 3-1304), the Agency used just the approach allowed for under *City of Moscow* and *American Farm Bureau*, and established WQBELs different from, but still consistent with the WLAs for the facilities. The immediate receiving waters for both the Northwest Correctional and Shelburne #2 facilities have water quality impairments – Stevens Brook, to which the Northwest Correctional Facility discharges, is impaired for nutrients and other pollutants, and McCabes Brook, to which the Shelburne #2 facility discharges, is also impaired for nutrients; both waters are listed on the 2016 303(d) List of Impaired Surface Waters in Need of TMDL. Because Lake Champlain is not the only impaired water receiving the discharges from these facilities, the Agency established more stringent WQBELs for these facilities to ensure the discharges from these facilities do not cause or contribute to the water quality impairments in Stevens and McCabes Brooks.

B. The Agency need not translate the WLAs into more stringent WQBELs in the near term.

As stated above, CLF cites to no cases nor provides any examples where EPA or any states have established more stringent WQBELs and required a demonstration of need and assimilative capacity or “offsets” in the TMDL context until implementation of nonpoint source load reductions is complete. Additionally, EPA did not provide any comments to the Agency objecting to or taking issue with the WQBELs in these permits.

The TMDL framework does not create a one-for-one “see-saw” approach as described in the comments. A WWTF need not demonstrate one pound of phosphorus has been removed prior to the addition of one pound of phosphorus. Rather the Vermont Lake Champlain Phosphorus TMDL Phase I Implementation Plan (Phase I Plan) and the accountability framework lay out the necessary activities that must be completed as well as a schedule for completing them to achieve the overall reductions required by the LCTMDL. If EPA finds that the State has failed to make satisfactory progress in implementing its commitments under the Implementation Plan and accountability framework, EPA may: (1) reallocate load reductions from nonpoint to point sources, (2) residually designate stormwater discharges not currently regulated under the state NPDES program, and (3) increase enforcement actions. LCTMDL p. 57.

Furthermore, an approach requiring facilities to hold their current loads and demonstrate a need to access more of their WLAs as well as available assimilative capacity would penalize WWTFs that have been optimizing phosphorus reductions (i.e. facilities that have already implemented low/no cost measures to reduce phosphorus and which are using less of their WLAs) and reward facilities that have yet to undertake such optimization (i.e. facilities that have not implemented low/no cost measures to reduce phosphorus and which are currently using more of their WLAs).

C. Establishing WQBELs for WWTFs based on actual production, rather than their design flows, would violate federal regulations, which the State must comply with when establishing effluent limitations.

CLF’s comments that the draft permits “must hold phosphorus discharge levels at current amounts,” does not comply with the federal requirement to establish effluent limitations for WWTFs based on design flows, rather than actual production. Under 40 C.F.R. § 122.45(b)(1), which governs establishment of production-based limits, it requires “[i]n the case of POTWs [also referred to as WWTFs], effluent limitations, standards, or prohibitions shall be calculated based on *design flow*.”

Design flow is not defined, but based upon the context³ and its plain meaning, it means “the wastewater flow rate the plant was “built to handle.”” *In re: Town of Concord Department of Public Works*, NPDES Appeal No. 13-08, *slip op.* at 19 (E.A.B. August 28, 2014); *City of Moscow* at 6. CLF, in its brief to the First Circuit Court of Appeals in the case *Upper Blackstone Water Pollution Abatement District v. U.S. EPA*,⁴ also recognized that POTW effluent limits must be calculated based on design flow, rather than actual production. Were the Agency to establish WQBELs based on a WWTF’s actual production, rather than its design flow, as proposed by CLF, the permits would not be in compliance with 40 C.F.R. § 122.45(b).

D. Requiring WWTFs to reduce loads to a level consistent with the limit-of-technology and requiring offsets flies in the face of the entire LCTMDL framework.

In its comments, CLF suggested that “a combination of reducing WWTF load to a level consistent with limit-of-technology and requiring offsets of phosphorus discharges could be a solution to permitting WWTFs in the interim period before reductions in nonpoint source discharges take place.” This comment flies in the face of the entire LCTMDL framework by requiring “limit-of-technology” upgrades upfront.

Under the LCTMDL, EPA established larger WLAs for point sources based on the reasonable assurances provided by the State in the Phase I Plan to implement extensive nonpoint source load reductions. This tradeoff is a more economical way to achieve the same pollutant reductions since many activities and practices to address nonpoint source discharges are far cheaper and provide more “bang for the buck” than costly WWTF upgrades, which may only provide relatively minor benefits when looking at the phosphorus discharges from the various sectors overall – base load 2001-2010: agriculture (261 metric tons, 41%), stream banks (130 metric tons, 21%) developed lands (114 metric tons, 18%), silviculture (101 metric tons, 16%), and WWTFs (25 metric tons, 4%).

Were the Agency to require all WWTFs to upgrade upfront to the limit-of-technology prior to implementation of nonpoint source load reductions, as suggested in the comments, that would negate the entire purpose of proposing larger nonpoint source load reductions in exchange for larger WLAs. Rather, as stated in the LCTMDL, if EPA finds that Vermont has failed to make satisfactory progress, EPA may for example, “reduce the wasteload allocations for facilities in South Lake B, Main Lake, Shelburne Bay, Burlington Bay, St. Albans Bay, and Missisquoi Bay segments to loads equivalent to the *limit of phosphorus removal technology*.” LCTMDL p. 57 (emphasis added).

II. The law and the facts do not support CLF’s comments that the permits fail to assure attainment of water quality standards in the receiving waters.

A. The permits assure attainment of water quality standards in the receiving waters.

The permits include more stringent limitations necessary to meet water quality standards as required by CWA § 301(b)(1)(C) (33 U.S.C. § 1311(b)(1)(C)). The permits don’t just include technology-based effluent limitations (TBELs), but rather they all include WQBELs for phosphorus, as required by 40 C.F.R. § 122.44(d)(1), to control the discharges “reasonable potential to cause, or contribute to an excursion above any State water quality standard,” and which are consistent with the WLAs established by EPA in the LCTMDL, as required by 40 C.F.R. § 122.44(d)(1)(vii)(B). For many of the facilities, these limits are much lower than the phosphorus WQBELs in their previous permits and will require significant facility upgrades.

³ The subdivision immediately below requires that for all other facilities requiring production-based limits, limitations shall be based upon “a reasonable measure of *actual production* of the facility.” 40 C.F.R. § 122.45(b)(2)(i) (emphasis added).

⁴ filed September 8, 2011 (page 27).

The Agency agrees with the U.S. Supreme Court case, *Arkansas v. Oklahoma*, 503 U.S. 91, 106 (1992), cited by CLF, in which the Supreme Court stated that “§ 301(b)(1)(C) expressly identifies the achievement of state water quality standards as one of the Act’s central objectives,” and the Agency also notes that the Supreme Court made a significant holding in the case. In *Arkansas v. Oklahoma*, the state of Arkansas appealed a Court of Appeals decision that “construed the Clean Water Act to prohibit any discharge of effluent that would reach waters already in violation of existing water quality standards.” *Arkansas* at 107. The Supreme Court reversed the lower court’s finding stating:

Although the Act contains several provisions directing compliance with state water quality standards, see, *e.g.*, § 1311(b)(1)(C), the parties have pointed to nothing that mandates a complete ban on discharges into a waterway that is in violation of those standards. The statute does, however, contain provisions designed to remedy existing water quality violations and to allocate the burden of reducing undesirable discharges between existing sources and new sources. See, *e.g.*, § 1313(d). Thus, rather than establishing the categorical ban announced by the Court of Appeals—which might frustrate the construction of new plants that would improve existing conditions—the Clean Water Act vests in the EPA and the States broad authority to develop *long-range, area-wide* programs to alleviate and eliminate existing pollution. See, *e.g.*, § 1288(b)(2).

Id. at 108 (emphasis added). Thus, the Supreme Court has recognized that EPA and the states are given broad authorities under the CWA to ensure compliance with water quality standards, which may be achieved through use of “long-range, area-wide programs” like the LCTMDL and Phase I Plan.

Response (Town of Shelburne):

1. Phosphorous Optimization Plan, Condition I.B.2..

The following language has been added to the permit in response to the comment:

“The Secretary shall review the POP. The permittee shall commence implementation of the POP 60 days after submittal to the Secretary, unless the Secretary rejects the POP prior to that date for failure to meet the requirements of subsection (a) of this section.”

2. Whole Effluent Toxicity (WET) Testing, Condition I.F.1.a & b.

The Agency agrees with this comment and has changed the requirement as suggested.

3. Settleable Solids sampling, Condition I.G.2, footnote 3.

The Agency agrees with this comment and the footnote has been deleted.

4. Annual Constituent Monitoring, Condition I.G.2. and Condition I.G.3.

Ammonia has been eliminated from the Annual Constituent Monitoring section. The existing language in the Effluent Monitoring section will remain unchanged for Ammonia. The language in Condition I.G.3 has been modified for clarity.

5. Influent Sampling: Total Phosphorous, Condition I.G.4.

The Agency will be using current and historical effluent data to evaluate the efficiency of the POP. If the facility chooses to sample the influent for process control that is their choice, it is not required by the permit.

6. Monthly DMR Reporting, Condition I.H.5.

The Agency recognizes that this condition can be difficult to meet, at times, due to contract laboratory report delays and other scheduling problems. The Agency does provide a grace period of one week from the due date. The language will remain unchanged for that condition.

7. Operation, Management and Emergency Response Plans, Condition I.I.2.

Agreed, this language has been changed in the permit.

8. Fact Sheet and Reasonable Potential Analysis.

- a. The language has been changed in the “Description of Discharge” section of the Fact Sheet.
- b. Neither past Fact Sheets (April 2002 and Nov 2006) discuss or reference the results of a diffuser study. The study was not used in the 2002 Waste Management Zone determination. A search of Agency files did not reveal this study. A request was made to Chris Robinson on March 20, 2017 via email for any information regarding the outfall and specifically asking if any dilution studies have been completed. The email response on March 22, 2017 did not mention any dilution studies or additional information.



For a thriving New England

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August 7, 2017

Agency of Natural Resources
VT Dept. of Environmental Conservation
Watershed Management Division
1 National Life Drive, Main Building, 2nd Floor
Montpelier, VT 05620-3522

Sent via email to: ANR.WSMDWastewaterComments@vermont.gov

Re: CLF Comments on Draft Permit 3-1289 (Shelburne #1 Crown Rd. WWTF)

Dear Watershed Management Division:

Conservation Law Foundation (“CLF”) appreciates the opportunity to comment on the proposed draft National Pollutant Discharge Elimination Permit No. 3-1289 for the Shelburne #1 Crown Road Wastewater Treatment Facility (“WWTF”) (“draft Permit”). Founded in 1966, CLF is a member-supported environmental advocacy organization that works to solve the challenges threatening our natural resources and communities in Vermont and throughout New England. CLF is deeply engaged with finding lasting solutions to the water quality problems in Vermont’s waterways.

For the reasons set forth below, the draft Permit violates the Clean Water Act (“CWA”) in two significant ways. First, the Permit’s water-quality-based-effluent-limitation (“WQBEL”) for phosphorus violates the CWA requirement that it be “consistent with the assumptions and requirements of any available wasteload allocation (“WLA”) for the discharge prepared by the State and approved by EPA.”¹ Second, the phosphorus limit set in the Permit fails to assure attainment of water quality standards in the receiving waters.² As this comment letter addresses in further detail below, the phosphorous WQBEL in this draft Permit must be more stringent than the maximum allocation in the Total Maximum Daily Load (“TMDL”) to comply with this consistency requirement, and ANR must impose conditions in the Permit that assure compliance with water quality standards.

¹ 40 C.F.R. § 122.44(d)(1)(vii)(B).

² 33 U.S.C. §§ 1311(b)(1)(C), 1342(a)(2)(The “Administrator shall prescribe conditions for such permits to assure compliance with the requirements of paragraph (1) [incorporating § 1311]”).

Introduction

Lake Champlain is an economic engine that drives a multi-million dollar tourist economy, bolsters real estate prices, provides public drinking water, and serves as an international recreational resource. Unfortunately, total phosphorus pollution to the Lake is 34 percent higher than the maximum loading capacity established by the 2016 Lake Champlain Phosphorus TMDL. As a result, its degraded water quality consistently violates the Vermont Water Quality Standard for phosphorus.

Section 1311(b)(1)(C) of the CWA requires that National Pollutant Discharge Elimination System (“NPDES”) permits include any more stringent limitation necessary to achieve water quality standards. Accordingly, the NPDES regulations require the permitting authority to follow a process for developing WQBELs at each permit issuance, imposing limitations on discharges that would otherwise cause or contribute to a violation of water quality standards.³ In other words, the CWA compels ANR to tailor the WQBELs contained in permits such as this one to the exigencies of this pressing pollution problem in Vermont’s crown jewel water resource.⁴

I. The Draft Permit is Inconsistent with the Underlying Assumptions of the TMDL

At each issuance of a NPDES permit, ANR must engage in a specific analysis to determine whether a WQBEL that is derived from a TMDL is “consistent with the assumptions and requirements of any available wasteload allocation.”⁵ The phrase “consistent with,” as it is used in 40 C.F.R. § 122.44(d)(1)(vii)(B), does not mean the WQBEL should be an exact duplicate of the WLA provided in the TMDL. *See Am. Farm Bureau Fed’n v. U.S. E.P.A.*, 984 F. Supp. 2d 289, 328 (M.D. Pa. 2013), *aff’d*, 792 F.3d 281 (3d Cir. 2015), *cert. denied* 136 S.Ct. 1246 (2016) (citing *In re City of Moscow*, 10 E.A.D. 135, 148 (EPA July 27, 2001) (“[W]hile the governing regulations require consistency, they do not require that the permit limitations that will finally be adopted by a final NPDES permit be identical to any of the WLAs that may be provided in a TMDL.”). Rather, WLAs are a starting point, “still require[ing] translation into permit limits (i.e., WQBELs).” *Id.*; *see also*, EPA New Policies for Establishing and Implementing Total Maximum Daily Loads, (Aug. 8, 1997) (“When the State or EPA identifies a water quality impairment on a section 303(d) list and then establishes the TMDL, we begin a water quality-based process, not end one.”) (emphasis added).

Accordingly, in some circumstances, a state may need to write a NPDES WQBEL that is different from the WLA to ensure consistency with the operative assumptions underlying the WLA. *See, e.g., In re Montpelier WWTF Discharge Permit*, No. 22-2-08 Vtec (Vt. Sup. Ct.

³ 40 C.F.R. § 122.44(d)(1)(i).

⁴ 33 U.S.C. § 1311(b)(1)(C), 1313(c)(2)(A); 40 C.F.R. § 122.44(d).

⁵ 40 C.F.R. § 122.44(d)(1)(vii)(B); *see also, In re Montpelier WWTF Discharge Permit*, No. 22-2-08 Vtec, (Vt. Env’tl. Court. June 30, 2009).

Env'tl. Div. June 30, 2009) (Environmental Court required ANR to conduct a “reasoned site-specific, time-specific analysis” at every permit issuance to “determine if the permit limit should be more stringent than the WLA to meet water quality standards.”).

A. Reliance on Future Reductions from Nonpoint Sources is an Assumption of the 2016 Lake Champlain TMDL

EPA’s reliance on future, anticipated pollution reductions from nonpoint sources is an “assumption” within the meaning of 40 C.F.R. § 122.44(d)(1)(vii)(B) that EPA used to allocate more lenient WLAs to point sources in the 2016 Lake Champlain TMDL. In the case of In re Montpelier WWTF Discharge Permit, the Vermont Environmental Court noted that the 2002 Lake Champlain TMDL was “rife with assumptions that played a role in the setting of the wasteload allocation for the Montpelier WWTF.” No. 22-2-08 Vtec., slip op. at 14 (Vt. Env’tl. Court. June 30, 2009). The most significant assumption underlying the WLA assignments in that case was that “point sources could increase pollution without contributing to the ongoing water quality standards violation if and when dramatic nonpoint source reductions offset the point source increases.” Id. (emphasis added).

When issuing the 2016 Lake Champlain TMDL, after analyzing all available information, EPA determined that “there is reasonable assurance that the nonpoint source (and non-NPDES regulated point source⁶) reductions can and will be achieved and that such reductions are sufficient to enable EPA to allocate greater loadings to the WWTFs than would otherwise be required.”⁷ This assumption of future load reduction is particularly evident in the extended implementation timeframes for most of the new nonpoint source control programs contained in the TMDL Implementation Plan. For example, the new permitting schemes to control stormwater from the developed land sector (which contributes approximately 24 percent of the phosphorus load to Lake Champlain), including the three-acre permit and the Municipal Roads General Permit, will not be issued until late 2017, and permittees will have at least until 2021 to implement the latter permit⁸ (the implementation schedule of the former permit is unknown since ANR has not yet released a draft).

To control phosphorus from the agriculture sector (which contributes approximately 40 percent of the phosphorus load to Lake Champlain), the Agency of Agriculture, Food, and Markets has revised the Required Agricultural Practices, but implementation of field practices and observed phosphorus reductions will take years to occur. Furthermore, the enhanced best management

⁶ It is CLF’s view that non-NPDES regulated point sources composed entirely of stormwater that contribute to an ongoing water quality standards violation must be designated for NPDES permitting without further delay, pursuant to 40 C.F.R. § 122.26(a)(v).

⁷ Lake Champlain Phosphorus TMDL, page 50 (June 2016) (hereinafter “TMDL”) (emphasis added).

⁸ See Draft Vermont DEC Municipal Roads General Permit Framework (Jan. 12, 2017), http://dec.vermont.gov/sites/dec/files/wsm/stormwater/docs/Permitinformation/MunicipalRoads/sw_MRGP_Draft_Framework.pdf.

practices required in critical source areas in the Missisquoi Bay Watershed are not anticipated to be put in place for decades to come.⁹ As EPA noted in the TMDL Accountability Framework, “Achieving the load allocation in Missisquoi Bay is a long-term proposition.”¹⁰

Finally, to reduce streambank erosion (which contributes roughly 20 percent of the total phosphorus load to Lake Champlain), EPA is relying upon the State putting “extra resources/effort into identification of opportunities for re-establishing connections to floodplains, and working with landowners to make these reconnections happen.”¹¹ The Vermont Environmental Court has noted that depending upon the existence of willing land owners who choose to cooperate in nonpoint source management programs constitutes a risky prospect for effecting necessary change.¹² In EPA’s own words, “Reductions from streambanks are important, but are expected to take many decades to occur, as the restoration strategy depends in part on actions that will facilitate natural stream evolution processes.”¹³

There is nothing wrong with these types of long-term, cumulative control measures, but their inclusion in the TMDL is based on an inherent, legally-significant assumption that they will not yield the required pollution reductions overnight.

B. To be Consistent with the Assumption that Load Reductions will not Occur for a Long Time, ANR must Translate the WLAs for WWTFs into More Stringent WQBELs in the Near Term

As the Environmental Court observed “[i]t is perfectly acceptable” for ANR and EPA to draft a TMDL with “trade-offs” that rest on the assumption of future load reductions from nonpoint sources.¹⁴ EPA’s TMDL guidance explains that when a TMDL is developed for waters impaired by both point and nonpoint sources, the WLA may be based on an assumption that nonpoint source load reductions will occur so long as the TMDL provides “reasonable assurances” that

⁹ The CLF-AAFM Best Management Practices Settlement Agreement sets forth the following timeline:

- Feb. 2022 - Feb. 2027: Assessments
- Implementation Plan: Submitted within 180 days of Assessment
- Implementation Schedule: Must commence no later than within one year of Assessment; must be completed within 10 years of the date of the completion of the Assessment.

¹⁰ TMDL, pg. 62.

¹¹ TMDL, pg. 53.

¹² *In re Montpelier*, slip op. at 16 (“To accomplish the preservation of agricultural land, the 2002 Champlain TMDL also depended upon ‘willing land owners’—presumably referring to those noble farmers who choose to keep their land in agricultural use. The existence of such ‘willing land owners’ constitutes another underlying assumption of the 2002 TMDL. Should those landowners (or their successors-in-interest) reverse course at any time . . . , nonpoint sources of phosphorus will presumably increase, and the Champlain TMDL will be at risk of no longer meeting its goals for acceptable phosphorus levels.”) (citations omitted).

¹³ TMDL, pg. 38 (emphasis added).

¹⁴ *In re Montpelier*, slip op. at 14.

nonpoint source control measures will achieve expected load reductions.¹⁵ The trade-off of the reductions from nonpoint sources enables establishment of less stringent WLAs for point sources. 40 C.F.R. § 130.2(i) (“If nonpoint source pollution controls make more stringent load allocations practicable, then WLAs can be made less stringent.”).

EPA, in coordination with ANR, chose to engage in this trade-off when drafting the TMDL.¹⁶ However, for this trade-off to work as envisioned without eviscerating the intended purpose of a TMDL (namely, to reduce pollution discharges), the trade-off must function like a playground see-saw—in order for one side to go up, the other side must go down. By establishing a QBEL in this draft Permit that is equivalent to the maximum WLA, ANR is unlawfully raising one side of the see-saw without any demonstrated reductions of nonpoint source discharges to offset it.

Therefore, to be consistent with the assumption that load reductions will not occur for a long time, ANR must translate the WLAs for WWTFs into more stringent QBELs in the near term. As the Environmental Court noted, this translation does not deprive the TMDL of its import; rather the WLAs set in the TMDL serve as maximums, or ceilings that limit any QBEL set for phosphorus discharges.¹⁷ “As with budgetary decisions,” the Court continued, “the imposition of one maximum (such as a credit limit) does not mean that no additional limits are needed.”¹⁸

C. This Draft Permit Unlawfully Increases Phosphorus Discharges, and is Therefore in Conflict with this Clean Water Act “Consistency Requirement”

In the case of the Shelburne #1 Crown Road permit, ANR failed to engage in this required translation because the draft Permit allows for an increase of phosphorus discharges, despite the acknowledgment that nonpoint-source reductions will not occur for several years or more. ANR contends that this new, annual WLA for the Shelburne #1 WWTF represents a 65 percent reduction (-498 pounds) from the currently permitted WLA. But these are merely paper reductions in phosphorus loads, achieved by comparing current and future permitted loads of phosphorus at design capacity, rather than current *actual* loads against allowable future loads. A comparison of actual current load to future permitted load at the Shelburne #1 WWTF shows that this draft Permit would allow for an increase of up to 72 pounds of phosphorus discharges per year.

Moreover, a comparison of actual current loads against allowable future loads for all 59 permitted WWTFs shows that all of the permits combined would allow for at least an additional

¹⁵ U.S. Environmental Protection Agency. 1991. Guidance for water quality-based decisions: The TMDL Process. EPA 440/4-91-001. Washington, DC. http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/decisions_index.cfm.

¹⁶ TMDL, pg. 50 (After analyzing all available information, EPA determined that “there is reasonable assurance that the nonpoint source (and non-NPDES regulated point source) reductions can and will be achieved and that such reductions are sufficient to enable EPA to *allocate greater loadings* to the WWTFs than would otherwise be required.” (emphasis added).

¹⁷ *In re Montpelier*, slip op. at 8.

¹⁸ *Id.*

45,000 pounds of phosphorus per year (or 20.4 metric tons per year) being discharged to Lake Champlain.¹⁹ When CLF raised the concern of actual phosphorus increases based on the TMDL's WLA values in our comment letter on the draft TMDL,²⁰ EPA responded by noting that:

[A]ctual WWTF phosphorus loads from all of the 59 facilities over the last 10 years have declined from 24.67 mt/yr in 2006 to 13.62 mt/yr in 2015. The three- and five-year running averages over this ten year period show a steady decline in the load over the period. The fact that many WWTFs discharge well below their permitted limit is commendable and has been beneficial to Lake Champlain. EPA and VT have good reason to expect that this will continue.²¹

This acknowledgment of actual declines in phosphorus loads only serves to bolster CLF's position that it is ludicrous to issue permits in this first cycle of permitting after the TMDL that allow for access to such large capacity increases. In the case of the Shelburne #1 WWTF, monitoring records for 2016 indicate that the facility has been operating at less than half of its design flow.²² Other records show the facility is only at 50 percent of its WLA capacity. Clearly this facility does not need access to its entire WLA in this permit cycle.²³

ANR's failure to curb discharges from WWTFs in the interim until reductions from nonpoint sources are realized completely throws the CWA's concept of assimilative capacity out the window.

II. The Draft Permit Fails to Assure Discharges are in Compliance with Water Quality Standards

ANR has a statutory duty to impose conditions in NPDES permits that assure compliance with water quality standards. 33 U.S.C. § 1311(b)(1)(C). The Supreme Court recognized that "section 301(b)(1)(C) expressly identifies the achievement of state water quality standards as one of the [Clean Water] Act's central objectives." Arkansas v. Oklahoma, 503 U.S. 91, 106 (1992); accord Dubois v. U.S. Dep't of Agric., 102 F.3d 1273, 1301 n. 34 (1st Cir. 1996) (recognizing that EPA

¹⁹ CLF's prior comment letters on the draft NPDES permits for Hinesburg, Alburgh, and South Burlington noted that this figure was 45,573.8 pounds of phosphorus per year; this number has now been revised to 45,491 pounds per year to reflect the fact that some of the draft NPDES permits released in the past month contain phosphorus discharge limits set below the TMDL WLA.

²⁰ CLF Comment Letter to ANR on Draft TMDL dated May 9, 2016.

²¹ EPA Response to Comments on Lake Champlain Phosphorus TMDL, pg. 184 (June 17, 2016).

²² MAPP Reasonable Potential Determination for the Shelburne Crown Road Wastewater Treatment Facility, pg. 5.

²³ 40 C.F.R. § 122.45(b)(1) requires permit effluent limitations to be calculated "based on design flow" at the time of permit issuance, but this does not mean that ANR cannot choose to set a more conservative WQBEL than the maximum allocation in the TMDL based on *actual* flow rates; *see also*, In re City of Moscow, 10 E.A.D. 135, 148 (EPA July 27, 2001) (permitting authority allowed to issue more conservative permit limit based on design flow at the time of permit issuance, as opposed to higher design flow included in TMDL).

is “bound to include in the federal permit ‘any more stringent limitations . . . established pursuant to any State law or regulations’”) (citations and internal quotations omitted).

This same requirement is contained in EPA’s regulations implementing section 301(b)(1)(C). 40 C.F.R. § 122.4(a) (“No permit may be issued (a) When the conditions of the permit do not provide for compliance with the applicable requirements of CWA, or regulations promulgated under CWA.”). In fact, EPA’s regulations require that WQBELs must be set to eliminate even the “reasonable potential” that a NPDES permitted discharge will cause or contribute to violation of water quality standards.²⁴

Here, the conditions in the Shelburne #1 draft Permit allow for an increase in phosphorus discharges to an impaired water body. This is in direct conflict with the requirements stated above. ANR is failing to eliminate any “reasonable potential” that Lake Champlain is not meeting water quality standards when it permits more phosphorus discharges into an already phosphorus-impaired water body.

III. WWTFs can Access Increased Capacity in Future NPDES Permits through a Demonstration of Need and Available Assimilative Capacity

CLF is confident that the actions contained in the TMDL Implementation Plan will lead to reductions from nonpoint sources and non-NPDES regulated point sources. But it is common understanding that those reductions will take time to occur. Former Governor Peter Shumlin made the following declaration in June 2015 on the day that he signed the Vermont Clean Water Act to help implement the TMDL: “Our problem in my view will not be a lack of financial resources. Our problem will be once we have taken the actions that need to be taken, it still is going to take time to see results.”²⁵

Accordingly, ANR must incorporate more stringent phosphorus conditions into the draft Permit until we see those results. It is possible that a combination of reducing the WWTF load to a level consistent with limit-of-technology and requiring offsets of phosphorus discharges could be a solution to permitting WWTFs in the interim period before reductions in nonpoint source discharges take place.

Once phosphorus load reductions are observed from the nonpoint source and non-NPDES regulated point source sectors—that is, once the see-saw starts inching its way down, WWTFs

²⁴ 40 C.F.R. § 122.44(d)(1)(NPDES permits must include conditions that “achieve water quality standards established under section 303 of the CWA.”); *Id.* § 122.44(d)(1)(i) (requiring that when a discharge causes, has reasonable potential to cause, or contributes to a WQS violation, the NPDES permit must contain a water quality-based effluent limitation to control the pollutant of concern.).

²⁵ Wilson Ring, *New Vermont Law Means Millions to Clean Lake Champlain*, June 16, 2015, THE WASHINGTON TIMES, <http://www.washingtontimes.com/news/2015/jun/16/upcoming-vermont-law-means-millions-to-clean-lake/> (emphasis added).

may access more of their WLA capacity to discharge. ANR could disperse this incremental access to capacity through interim WQBELs contained in revised permits issued either annually, or over the five-year permit cycles. WWTFs could access additional increments of their WLA in step fashion based on two factors: (1) a demonstration of need that identifies the actual discharge (load) required to serve realistically near-term projected demand; and (2) a demonstration of available assimilative capacity achieved through verified load reductions from nonpoint sources in the same lake segment. The demonstration of need would be calculated based on a similar projection method referred to in the draft Permit section 1(A)(5). Available assimilative capacity would be measured with the assistance of ANR's BMP Tracking and Monitoring Tool.

A. This Incremental Access to Additional Capacity is the only way to Issue Permits While Maintaining the Fabric of the CWA

This stepwise access to additional capacity over time is the only way ANR can lawfully issue permits while maintaining the fabric of the CWA; the incremental allowance safeguards water quality during the time in which nonpoint source reduction programs are being developed and implemented.

ANR asserts it is setting the WQBEL for this draft Permit directly from the WLA without additional analysis “because this WLA was set by the EPA less than a year ago as the limit necessary to ensure Lake Champlain is brought into compliance with the Vermont Water Quality Standards, and undertaking further analysis to determine if more stringent effluent limitations are needed would be meaningless at this time since the State has just started to implement the Vermont Lake Champlain Phosphorus TMDL Phase I Implementation Plan.”²⁶ CLF disagrees with this reasoning. It is precisely because the State has just started to implement the TMDL that more stringent WQBELs are needed in the near term.

To be clear, CLF is not opposed to the WLAs established in the TMDL. The legal violation here rests in the manner in which ANR has uncritically adopted the WLAs as WQBELs without accounting for the clearly stated assumptions underlying the TMDL. Not only is such flagrant granting of pollution rights a perversion of the concept behind TMDLs as a means to reduce pollution, but it also violates the requirements in 40 C.F.R. § 122.44(d)(1)(vii)(B) and (1)(i) that WQBELs be consistent with the assumptions of any relevant WLA, and assure water quality standards are met.

²⁶ Draft Permit Fact Sheet, pg. 10.

B. This Incremental Increases Permitting Scheme Would Comply with Anti-Backsliding Provisions

This permitting scheme would go against the general rule that effluent limits decrease with each permit renewal cycle.²⁷ However, EPA regulations provide an exception to this general rule:

“A permit may be renewed, reissued, or modified . . . to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit . . . [i]f information is available which was not available at the time of permit issuance . . . and which would have justified the application of a less stringent effluent limitation at the time of permit issuance.”²⁸

The exception above would apply to the situation at hand. In five years (or less as the situation may be), when ANR is reissuing the WWTF permits, new information will be available pertaining to the success (or lack thereof) of the anticipated nonpoint source reduction programs. For instance, if after five years, ANR’s TMDL Tracking and Accounting Database indicates that a certain amount of load reductions have indeed occurred from nonpoint sources, then this information could be used to in part justify the issuance of a less stringent effluent limitation in the next permit iteration. It is worth noting, however, that any increase in the effluent limit must be at least equal to (or less than) parallel load reductions from the nonpoint source sector in the relevant lake segment. This minimum degree of correlation is necessary to avoid any backsliding problems.²⁹

Conclusion

The CWA embodies a national recognition that clean water is the fundamental building block of human survival and prosperity. Its purpose, therefore, is to protect and restore clean water so that it meets minimum water quality standards established by federal and state authorities to ensure that the water will fully serve all of society’s needs without delay. The CWA requires regulators to use NPDES permits in conjunction with TMDLs to achieve that purpose. Distilled to their essence, the CWA’s rules require ANR to confront the present-day pollution realities when it develops necessary discharge limits during a permit issuance or renewal. The existence of a TMDL and its WLAs facilitates this analysis; it does not supplant it.

²⁷ 40 C.F.R. § 122.44(l) (“[W]hen a permit is renewed or reissued, interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit . . .”).

²⁸ 40 C.F.R. § 122.44(l)(2)(i)(B)(1) (emphasis added).

²⁹ 40 C.F.R. § 122.44(l)(2)(ii) (“In no event may such a permit to discharge into waters be renewed, issued, or modified to contain a less stringent effluent limitation if the implementation of such limitation *would result in a violation of a water quality standard* under section 303 applicable to such waters.”) (emphasis added).

CLF has no doubt the load reductions set out in the TMDL will occur. But the operative word is “will.” Indeed, as EPA phrased it, “numerous elements combine [in the TMDL] to provide robust assurance that the necessary load reductions will occur and will achieve sufficient phosphorus reductions to meet the specified load allocations.”³⁰ In order to be consistent with this underlying assumption that load allocations will only be met in the future, the State must set more stringent permit limits on NPDES regulated point sources in the interim. To allow for increases in phosphorus discharges also plainly violates EPA’s regulations, which require that WQBELs are set to eliminate even the “reasonable potential” that a NPDES permitted discharge will cause or contribute to a violation of water quality standards.³¹

Lake Champlain cannot handle any more pollution, and this is why we have collectively spent the last decade crafting a plan (collectively, the TMDL and the Implementation Plan) that will bring the Lake back to attainment of Water Quality Standards. But this draft Permit does not embody that plan. As Judge Durkin wrote in the Montpelier decision, “A TMDL is meant to be a safety net.”³² The WQBEL in this draft Permit distorts this intended purpose and transforms the TMDL into a launching pad for continued phosphorus pollution into the Lake for decades to come.

* * *

Thank you for the opportunity to comment on this draft Permit. CLF urges ANR to make the changes suggested above in order to bring the draft Permit into alignment with CWA requirements. We welcome further discussion with you to create specific permit conditions that address our concerns.

Sincerely,



Elena Mihaly, Esq.
Staff Attorney
Conservation Law Foundation

³⁰ TMDL, pg. 49 (emphasis added).

³¹ 40 C.F.R. § 122.44(d)(1)(i).

³² In re Montpelier, slip op. at 22.



Town of Shelburne, Vermont

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August 17, 2017
2 pages

Comments: Draft Discharge Permit No. 3-1289, Fact Sheet, and Reasonable Potential Analysis

Phosphorus Optimization Plan

A requirement should be added to Condition I.B.2 which requires the Agency to review and approve the POP before it is implemented to ensure that this Plan meets the Agency's requirements. As written, the draft permit does not require the Agency to review and approve the POP before it is implemented. However, the permit authorizes the Agency to require modifications of the Plan at a later date. It is not prudent to invest the users' money to prepare and implement a POP if the Agency cannot make a positive finding, prior to implementation, that this Plan meets their requirements. Having to revise the POP at a future date after it has been prepared and implemented will cost additional monies in engineering services, will require the Town to revisit and significantly modify operations at the WWTF, and will delay the optimization of the WWTF to reduce phosphorus. Therefore, the Town is requesting a review and approval of the POP by the Agency before its implementation to avoid these problems.

Whole Effluent Toxicity (WET) Testing

WET tests are extremely costly and multiple WET tests have been conducted by the Agency and the Town on this discharge over the past years. All these previous WET tests concluded that this discharge does not cause or have the potential to contribute to toxicity in the lake. Therefore, the Town requests that the requirement to conduct WET tests in August or September 2020 and the January or February 2021 be eliminated from Condition I.F.1.a. & b. and a clause added to this condition authorizing the Agency to require these additional WET tests to be done if the WET tests conducted in the summer of 2018 or the winter of 2019 indicate that this discharge now causes or has a reasonable potential to contribute to toxicity in the lake.

Settleable Solids sampling

This WWTF utilizes SBR treatment technology and has a pumped discharge. Condition I.G.2, the Settleable Solids Sample Type references "Footnote 3" which mandates that the Settleable Solids sample be collected between 10 am and 2 pm or during periods of peak flows. Since this facility has a controlled pumped intermittent discharge due to the SBR treatment process, this footnote not applicable to this discharge and should be eliminated.

Annual Constituent Monitoring

Total Ammonia Nitrogen sampling is required once per month by Condition I.G.2. and is required to be monitored once per year in Condition I.G.3. This discrepancy should be corrected. The third sentence of the last paragraph of Condition I.G.3 is confusing and contradicts the concept of "chronological seasonal sampling" and should be removed from this Condition.

Influent Sampling: Total Phosphorus

Condition I.G.4 does not contain a requirement to sample, analyze, or report Influent Total Phosphorus. Without Influent Total Phosphorus data, how it will be possible for the Agency to evaluate the efficiency of the POP required by Condition I.B.2. and the PERP required by Condition I.B.3? This issue must be addressed and detailed information provided in the Fact Sheet regarding the process the Agency will use to assess POPs and PERPs without Influent Total Phosphorus data.

Monthly WR-43/DMR Reporting

Condition I.H.5 requires monthly reports to be submitted electronically by the 15th day of the following month. This requirement has been difficult to comply with due to turn-around time for lab analysis. It is very common for contract labs to take fourteen days to report the results to clients. This is problematic due to sampling the last week of the month, especially if the sample day is the last day of the month. The Town is requesting that reports are due on the last day of the following month.

This may be an EPA requirement; however, this condition should be addressed. Previous correspondence with veteran Agency staff indicated that the condition is antiquated. Veteran staff had stated that the condition was created in the 1970s when most facilities were sampling monthly (not weekly) and effluent monitoring did not include the expansive parameters required in current permits. It was also stated that in the “earlier” days Agency staff would review operational data and call facilities to recommend operational changes. This no longer is the case.

Operation, Management, and Emergency Response Plans

Condition I.I.2 requires that by no later than December 31, 2018, the Town submit an Operation, Management, and Emergency Response Plan for the sewage collection system to the Agency and requires that the Town immediately implement this Plan upon submittal. The Town fully intends to prepare and submit this Plan by that date. However, 10 V.S.A. 1278.d.3, requires Agency approval prior to the Town implementing the inspection portion of the Plan. Therefore this Condition should be reworded with language such as “this Plan shall be immediately implemented upon approval by the Agency” to comply with the statute.

Fact Sheet & Reasonable Potential Analysis

Page 2 of the Fact Sheet, “Description of Discharge” indicates that this facility is a “lagoon”. This WWTF is not an aerated lagoon. The WWTF is a sequencing batch reactor system (SBR).

Neither the Fact Sheet nor Reasonable Potential Analysis referenced and summarized the results of the diffuser and mixing zone study conducted on this discharge as part of the facility upgrade in the early 2000s. This Study is critical to assessing the impacts of this discharge in Shelburne Bay and is an underlying assumption for effluent limitations in the permit such as chlorine and the sizing of the waste management zone. This Study must be specifically referenced and thoroughly discussed to properly assess the impacts of this discharge.