

**AGENCY OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
1 NATIONAL LIFE DRIVE
MONTPELIER, VERMONT 05620-3521**

INDIRECT DISCHARGE PERMIT

File Code: LCT-9-0273

Permit No.: ID-9-0273
PIN: NS77-0005.01

SECTION A "ADMINISTRATION"

In compliance with provisions of 10 V.S.A. §1263, and in accordance with the following conditions, the permittee:

"Vernon Green Nursing Home"
Vernon Advent Christian Home, Inc.
61 Greenway Drive
Vernon, Vermont 05354

is authorized to discharge treated domestic sewage from an 8,100 gallon per day design capacity subsurface disposal system serving the Vernon Green Nursing Home, located on Greenway Drive in Vernon, Vermont, to the groundwater and indirectly to the Connecticut River. **This is a permit renewal.**

A1. Permit Summary:

Expiration Date	June 30, 2021
Type of Waste	Domestic Sewage
Treatment System	Septic Tanks
Disposal System	Leachfield Trenches
Town	Vernon
Drainage Basin	Lower Connecticut River
Receiving Water	Connecticut River
Drainage Area	Approximately 6,270 square miles
Stream Flow:	
Low Median Monthly (LMM)	1,971,129,600 gpd (est)
7Q10 Stream Flow	984,918,500 gpd (est)
Design Capacity	8,100 gpd
Dilution Ratio	243,350 : 1 @ LMMF
(stream flow to wastewater)	121,595 : 1 @ 7Q10

A2. Compliance Schedule:

The following schedule summarizes the actions and requirements necessary for compliance with the conditions of this permit. The permittee shall complete the requirements in accordance with the dates indicated. See the designated section for specific details.

<u>Condition # & Description</u>	<u>Schedule Date</u>
A3. Apply for renewal of Indirect Discharge Permit	March 31, 2021
A13. Submit operating fees	As specified
D2(A). Have a Vermont Registered Professional Engineer complete an inspection of the sewage collection, treatment, and disposal system	Annually during April
D2(B). Submit Annual Inspection Report	Annually prior to July 1 st
D2(C). Submit schedule for required repairs and maintenance	Annually prior to July 1 st
D3. Notify Department of pumping of tanks and septage disposal	As specified
E1. Record elapse time meter and event counter readings	Weekly
E1. Submit results of readings	By the 15 th of the month following the recording period
E2. Measure ponding in observation wells	Monthly
E2. Submit results of measurements	By the 15 th of the month following the date of measurement
E3. Measure and record the depths to groundwater in the monitor wells	During the system's annual inspection
E4. Collect and analyze effluent samples	Annually in June
E4. Submit results of effluent sampling	Annually by August 15 th

A3. Expiration Date:

This permit, unless revoked or amended, shall be valid until June 30, 2021 despite any intervening change in Water Quality Standards or the classification of receiving waters. Renewal of this Indirect Discharge Permit will be subject to all rules applicable at the time of renewal, including biological standards to determine alteration of aquatic biota.

The permittee shall apply for an Indirect Discharge Permit renewal by March 31, 2021. For the purposes of Title 3, an application for renewal of this indirect discharge permit will be considered timely if a complete application is received by the expiration date.

A4. Effective Date:

This permit becomes effective on July 1, 2016.

A5. Revocation:

The Secretary may revoke this permit in accordance with 10 V.S.A. §1267.

A6. Transfer of Permit:

This permit is not transferable without prior written approval of the Secretary. The permittee shall notify the Secretary immediately, in writing, before any sale, lease, or other transfer of ownership of the property from which the discharge originates. The proposed transferee shall make application for a permit to be reissued in their name. Failure to apply shall be considered a violation of this permit. Responsibility for compliance with the conditions of this permit shall be the burden of the permittee until such time as transfer of the permit to the transferee is complete. All application and operating fees must be paid in full prior to transfer of this permit.

This permit shall be transferred only upon showing by the permittee or proposed transferee of compliance with the following conditions:

- a. The transferee shall be a legal entity, financially and technically competent to operate, inspect, maintain and replace the system.
- b. The transferee shall demonstrate that they have the legal authority to raise revenues for the proper operation, inspection, and maintenance of the system.
- c. The transferee shall provide a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee(s) to the Secretary.

A7. Minor Modifications of Permits:

The Secretary may modify this permit without requiring a permit application, a public notice, or a public hearing to correct typographical errors, or increase the monitoring frequency in accordance with Condition E(4) of this permit.

A8. Indirect Discharge Rules:

This permit authorizes an existing indirect discharge.

This indirect discharge was originally reviewed and qualified for an Indirect Discharge Permit in accordance with Section 14-604 (f) of the Indirect Discharge Rules for correction of system failures involving existing indirect discharges of sewage. This permit renewal application has qualified for an Indirect Discharge Permit in accordance with Section 14-603(b) of the Indirect Discharge Rules, effective April 30, 2003. No increase in sewage volume is allowed without the written approval of the Secretary.

A9. Right of the Agency to Inspect:

The permittee shall allow the Secretary or the Secretary's authorized representative upon the presentation of their credentials and at reasonable times:

- a. To enter upon permittee's premises in which any effluent source, treatment or disposal system is located or in which any records are required to be kept under the conditions of the permit;
- b. To have access to and copy any records required to be kept under conditions of this permit;
- c. To inspect any monitoring equipment or method required in this permit;
- d. To sample any discharge of waste, groundwater, or surface water; and
- e. To inspect any collection, treatment, pollution management, and disposal facilities required by this permit.

A10. Permit Availability:

A copy of this permit shall remain at the office of the permittee and, upon request, shall be made available for inspection by Secretary.

A11. Minor Modifications To System:

Minor modifications of the engineering design that do not reduce the treatment effectiveness or increase the capacity of the system may be approved in writing by the Secretary without a permit amendment.

Before making modifications to the treatment and/or disposal system, the permittee shall submit plans to the Secretary for review and approval. These plans must be approved before any of the modifications or additions are made.

A12. Correction of Failed Systems:

The Secretary may, upon discretion, issue an Administrative Amendment to the Indirect Discharge Permit for the design and reconstruction of a failed wastewater disposal system where the replacement system design was not previously approved.

Before reconstruction of the failed system the permittee shall submit plans to the Secretary for review and approval. These plans must be approved before any reconstruction occurs. Due to the urgency of the need to correct failed disposal systems, the Secretary will process these Amendments as soon as possible.

A13. Operating Fees:

This indirect discharge is subject to operating fees. The permittees shall submit the operating fees in accordance with procedures provided by the Secretary.

SECTION B "INDIRECT DISCHARGE"

B1. Location of Indirect Discharge:

This existing indirect discharge is located in the Lower Connecticut River drainage basin in the Town of Vernon, Windham County, Vermont. The indirect discharge can be located on the USGS Brattleboro, VT 7.5' x 15' quadrangle map at Latitude N 42°45'53" and Longitude W 72°30'22".

B2. Nature of Indirect Discharge:

Due to extensive grease and oil loadings from the kitchen and the kitchen's use of emulsifiers, the two constructed leachfields slowly began to clog. Observation well monitoring indicated that effluent could not percolate through the leachfield as designed. No surfacing of sewage occurred, but evidence suggested that this would occur within a short timeframe. To prevent this from happening, the

B2. Nature of Indirect Discharge (continued):

design of the system was modified to include the installation of a 6000-gallon dual compartment grease tank and a third leachfield. The grease tank ties into the 6000-gallon septic tank. Only kitchen waste will enter the grease tank. The excessive storage volume and the dual compartments will provide adequate detention time to allow the hot, grease-laden effluent to cool, congeal, and decompose within the tank. The third leachfield is virtually identical in design to the other two. Differences include a reduction in orifice size from 5/16" to 1/4" diameter and an orifice spacing reduction from 8 feet to 6 feet to accommodate the Indirect Discharge Rule's requirement of one orifice per 25 square feet of disposal area. The leachfield became operational in late 2003. Only two leachfields are operational in any given year and alternation of leachfields will occur during the annual inspection.

The volume of effluent authorized by this permit is limited to the volume generated by the existing use of the Vernon Green Nursing Home. All connections must be approved through the issuance of a Wastewater System and Potable Water Supply Permit. No increase in sewage volume is authorized by this permit.

SECTION C "SYSTEM APPROVALS"

C1. Previous Approved Plans:

The sewage treatment and disposal system improvements serving the Vernon Green Nursing Home were approved for construction in accordance with the following plans by Bell Engineering:

Sheet 1, entitled "Site Plan for the Vernon Green Nursing Home Replacement Septic System", dated 10-20-2003, last revised 11-05-03;

Sheet 2, entitled "Septic System Disposal Field Plan", dated 10-20-2003, last revised 11-05-03;

Sheet 3, entitled "Septic Design Detail Sheet For Field #3", dated 10-20-2003, last revised 11-05-03;

Sheet 4, entitled "Septic Design Detail Sheet & Specifications", dated 10-20-2003, last revised 11-05-03;

and which have been stamped APPROVED by the Department of Environmental Conservation. No changes shall be made to the approved plans without the permission of the Secretary.

C2. Previously Granted Variances:

Waivers were required for the first two leachfields from the 25-foot minimum required horizontal isolation distance to the top of an embankment or a slope greater than 20% (required under 14-C-701 of the Indirect Discharge Rules, effective February 29, 1996. Soil and site conditions exist which justify the requested waivers. No groundwater seeps were observed on the embankments nor were any confining layers noted in the soil profiles. This waiver was granted under the permit issued in 2001.

A waiver was also granted from the requirements of Section 14-C-106 (A)(1) of the Indirect Discharge Rules, effective February 29, 1996, that states that all disposal system designs shall provide for 100% dual alternating fields. The design provides for alternating fields with 50% of the flow going to each field. This waiver was necessitated by the lack of suitable area available for sewage disposal. This waiver was initially granted under the Indirect Discharge Permit issued in 2001.

SECTION D "SYSTEM OPERATION"

D1. General:

The sewage treatment and disposal system shall be operated at all times in a manner that will (1) not permit the discharge of sewage onto the surface of the ground; (2) not result in the surfacing of sewage; (3) not result in the direct discharge of sewage into the waters of the State; and (4) not result in a violation of the Vermont Water Quality Standards.

In accordance with accepted design practices, the effluent disposal rate to the disposal fields shall not exceed 8,100 gallons per day except as may occur on an occasional basis during normal operation.

D2. Annual Inspection, Report and Implementation Schedule:

(A) Annual Inspection:

Annually during the month of April, the permittee shall engage a Vermont Registered Professional Engineer to make a thorough inspection, evaluation, and report of the complete sewage collection, treatment, and disposal system. The engineer's inspection shall include, but not be limited to the following:

1. verification that the disposal fields are functioning properly;
2. verifying the proper operation of system components, including but not limited to the pump station pumps, alarms, and controls, and the switching valves;

D2. Annual Inspection, Report and Implementation Schedule (continued):

3. evaluating the accumulation of solids and scum in the septic tanks and grease tank and determining if the grease and septic tanks should be pumped out that year;
4. evaluating the depth to ground water beneath the system as evidenced by the depth to groundwater in the monitoring wells;
5. checking the in-field observation wells for evidence of ponding;
6. verification of the accuracy of the method to determine the wastewater volume applied to the disposal fields; and
7. noting any necessary repairs or maintenance that needs to be performed on the sewage collection, treatment, and disposal system.

(B) Annual Inspection Report:

By July 1st each year the permittee shall have a Professional Engineer submit an annual report including the following items:

1. a complete list of the items inspected and the results of the inspection;
2. the measured depths of sludge and scum in each septic tank and grease trap;
3. the measurement of groundwater in each of the groundwater monitoring wells;
4. verification that the leachfields have been rotated in accordance with the schedule from the last annual inspection report;
5. a schedule for rotating the leachfields until the next annual inspection;
6. the depth of ponding in each in-field observation well; and
7. a discussion of the recommended repairs and maintenance required.

(C) Implementation Schedule:

Before July 1st each year the permittee shall notify the Secretary in writing stating how the engineer's recommendations are to be implemented and including a schedule for the required repairs, maintenance, and septic tank and grease trap pumping as necessary.

D3. Septage Disposal:

During the system's annual inspection the depth of sludge and scum shall be measured in all septic tanks. The septic tanks shall be pumped if: 1) the sludge is closer than twelve (12) inches to the outlet baffle or; 2) the scum layer is closer than three (3) inches to the septic tank outlet baffle or; 3) if otherwise recommended by the inspecting engineer. Before pumping the tanks, the permittee shall notify the Secretary in writing of the name and address of the pumper and the municipal sewage treatment facility where the septage is to be disposed or other facility approved by the Secretary.

D4. System Operation and Maintenance:

The wastewater collection, treatment, and disposal system shall be operated and maintained at all times in a manner satisfactory to the Secretary and in a manner that will not pose a risk to public health and safety, or cause contamination of drinking water supplies, groundwater and/or surface water.

D5. Reporting of Failures:

The permittee shall immediately report any failure of the wastewater collection, treatment, or disposal system to the Secretary, first by telephone within 24 hours of the failure and then in writing within 5 days of the failure. The written notice shall include a discussion of the actions taken or to be taken to correct the failure.

D6. Discharge Restrictions:

The permittee shall not allow any person to discharge or cause to be discharged anything other than sanitary sewage to this collection, treatment and disposal system.

D7. Operation of Leachfields

Three leachfields designated as Field 1, Field 2, and Field 3 are regulated under this permit. Two of the three leachfields must be in operation at all times with the third out of service and resting.

SECTION E "MONITORING"**E1. Sewage Volume Measurement:**

The elapsed time meter and event counter readings shall be recorded weekly and calculations of daily average sewage flows shall be submitted monthly to the Secretary by the 15th of the month following the recording period on forms provided by the Secretary.

E2. In-Field Observation Wells:

The depth of ponding in each leachfield observation well shall be measured and recorded monthly, and the results submitted to the Secretary by the 15th of the month following the month of measurement.

E3. Groundwater Monitoring:

The system construction plans include the location of 3 groundwater monitors (one upgradient and two downgradient) to be installed around the third disposal field to monitor the level of the groundwater table. Six groundwater monitors were previously installed around first two disposal fields. The depth to groundwater (below ground surface) shall be measured and recorded during the system's annual inspection. See Condition D2 for reporting requirements.

The results of these measurements shall be submitted to the Secretary as part of the system's annual inspection report.

E4. Sewage Effluent Monitoring:

A. Chemical

Effluent shall be sampled at the grease tank outlet and pump station and analyzed as follows:

<u>Parameter</u>	<u>Measurement Units</u>	<u>Sample Type</u>	<u>Sample Frequency</u>
BOD ₅	mg/L	grab	Annually in June
Total Suspended	mg/L	grab	Annually in June
Oil & Grease	mg/L	grab	Annually in June

The results of the effluent analyses shall be submitted to the Secretary prior to the August 15th, annually.

The Secretary reserves the right to require increased monitoring of the system should operation of the system fail to meet the requirements of Sections D(1) and D(4).

SECTION F "PUBLIC HEALTH PROTECTION"

For future information it is noted that while this indirect discharge is not located within any current Well Head Protection Area, the original failed septic system was located within the current Well Head Protection Area for the following water supply source, as designated by the Commissioner of Health in accordance with EPR Chapter 12 Groundwater Protection Rule and Strategy:

1. Bedrock well serving the Vernon Green Nursing Home, WSID #5532.

This does not imply that this water supply is adversely affected by the existing septic system.

SECTION G "COMPLIANCE REVIEW"

If the results of any inspection or monitoring indicate that a violation of the effluent disposal rate, or a violation of the Vermont Water Quality Standards, is occurring, or is likely to occur, the Secretary may require the permittee to take appropriate corrective actions to eliminate or reduce the possibility of a violation.

The issuance of this permit, ID-9-0273, issued to Vernon Advent Christian Home, Inc., by the Secretary relies upon the data, designs, judgment, and other information supplied by the applicant, the applicant's consultants, and other experts who have participated in the preparation of the application. The Secretary makes no assurance that this system will meet the performance objectives of the applicant and no warranties or guarantees are given or implied.

SECTION H "EFFECTIVE DATE"

This Indirect Discharge Permit ID-9-0273, issued to Vernon Advent Christian Home, Inc., for the discharge of wastewater from the Vernon Green Nursing Home located in Vernon, Vermont is effective on July 1, 2016.

Alyssa B. Schuren, Commissioner
Department of Environmental Conservation

By: 
George Desch, Acting Director
Drinking Water and Groundwater Protection Division

Date: May 5, 2016