

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

**DRAFT INDIRECT
DISCHARGE PERMIT AMENDMENT**

Permit No.: ID-9-0061-2
PIN: EJ95-0364

SECTION A - ADMINISTRATION

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

Vermont Department of Forests, Parks and Recreation
"Lake Carmi State Park"
1 National Life Drive, Davis 2
Montpelier, Vermont 05620-3801

is authorized to discharge treated domestic sewage from an existing spray disposal system serving several buildings at Lake Carmi State Park in Franklin, Vermont, to the groundwater and indirectly into Lake Carmi. **This permit amendment authorizes the construction and operation of a constructed wetlands for additional treatment of wastewater and dispersal of the treated wastewater by evapotranspiration.**

A1. Permit Summary:

Expiration Date	March 31, 2021
Type of Waste	Domestic Sewage
Treatment System	Septic Tanks/Recirculating Textile Filter/ Storage Lagoon/Constructed Wetlands
Disposal System	Evapotranspiration/Spray Disposal
Town	Franklin
Drainage Basin	Upper Lake Champlain
Receiving Water	Lake Carmi
Design Capacity	15,500 gpd - Disposal Capacity 9,000 gpd - Treatment Capacity

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	December 31, 2020
C3. Have a Vermont Registered Professional Engineer perform construction inspection	As specified
C4. Submit inspecting Engineer's Certification of Construction	Within 30 days following completion of construction
D3(A). Have a Vermont Registered Professional Engineer complete an inspection of sewage collection, treatment and storage system	Annually, during the first month of operation for each summer camping season
D3(B). Submit Annual Inspection Report	Annually, by August 1st
D3(C). Submit Schedule for implementing Engineer's recommendations	Annually, by August 15th
D4. Notify Secretary of pumping of tanks and septage disposal	As specified
D7. Notify Secretary of the name(s) of the operator(s) employed to operate the wastewater treatment and disposal system	Annually, by April 30th
D10. Submit Operation and Maintenance Manual	Before operation of constructed wetlands
E1. Analyze effluent samples	Monthly, when spray
E1. Record volume of effluent sprayed	Daily, when spraying

A2. Compliance Schedule (continued):

<u>Condition # & Description</u>	<u>Schedule Date</u>
E2(A). Collect and analyze ground water monitor samples	Monthly, June – September, when spraying
E2(B). Measure and record the depths to groundwater in the monitoring wells	Weekly, when spraying
E3. Collect and analyze discharge from the pond and textile filter system underdrains	Monthly, June - September
E4. Collect and analyze influent and textile filter effluent samples	Monthly, June - September
E1, E2(A), E2(B), E3, E4. Submit monitoring results	By the 15th day of the second month following the date of sampling or measurement.

A3. Expiration Date:

This permit, unless revoked or amended, shall be valid until March 31, 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 significant alteration of aquatic biota.

The permittee should apply for an Indirect Discharge Permit renewal by December 31, 2020. 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 amendment becomes effective on the date of signature.

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 permitted 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; and
- 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 Permit:

The Secretary may modify this permit without requiring a permit application, a public notice, or a public hearing to correct typographical errors, or to increase monitoring frequency in accordance with Condition E(7) of this permit.

A8. Indirect Discharge Rules:

This permit authorizes an existing indirect discharge.

This indirect discharge was reviewed and qualified for an Indirect Discharge Permit in accordance with Section 14-603(b) of the Indirect Discharge Rules for existing indirect discharges of sewage. 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 the Secretary.

A11. Minor Modifications to System:

Minor modifications of the engineering design which 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 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 Upper Lake Champlain drainage basin in the Town of Franklin, Franklin County, Vermont. The location of the indirect discharge can be found on the USGS Enosburg Falls, Vermont 7.5' quadrangle map at Latitude N 44°57'12" and Longitude W 72°52'13".

B2. Nature of Indirect Discharge:

The wastewater is treated first in septic tanks and pumped to a new textile filter system for further treatment before flowing by gravity to a facultative lagoon for storage and further treatment before being chlorinated and discharged to the spray disposal system with an approved disposal capacity of 15,500 gallons per day. The textile filter system has a treatment design flow of 9,000 gallons per day which represents the 94th percentile daily wastewater flow volume for the park. Based on the design calculations provided, the filter system, as designed, will be able to handle the infrequent peak flow of 15,000+ gallons per day.

The volume of effluent authorized by this permit is limited to the volume generated by toilet buildings #1 through #7, the park manager's quarters, the park assistant's quarters and sanitary dumping station. There are other buildings at Lake Carmi State Park served by subsurface disposal systems that are not regulated under this permit including the contact station and the sign shop. These facilities are served by separate disposal systems, each of which has a design capacity less than 6,500 gallons per day.

This amendment authorizes the construction and operation of a constructed wetlands adjacent to the existing lagoon for further treatment of the effluent and dispersal of the effluent by evapotranspiration, significantly reducing or eliminating the need for spray disposal. Effluent from the existing lagoon will be circulated to the constructed wetlands contained in a second lined lagoon where it will be dispersed across the black liner material to promote evaporation. The effluent will then be aerated in the constructed wetlands to enhance evaporation, control odors, minimize algae growth and support beneficial microorganisms. Emergent and submerged wetland vegetation will remove nutrients from the effluent. The constructed wetlands will require the permittee to circulate effluent year-round instead of emptying the existing lagoon each fall.

SECTION C - SYSTEM APPROVALS

C1. Previous Approvals:

The sewage treatment and disposal system was previously permitted under Water Supply and Wastewater Disposal Permit WW-6-0085 dated July 10, 1990, for the upgrade of the sewage treatment and disposal facility in two stages, and Indirect Discharge Permit ID-9-0061.

A. Stage I:

The project was constructed in accordance with the following as built plans and specifications prepared by Russell Snow, P.E. of the Facilities Division of the Department of Environmental Conservation:

- i. Sheet 1 of 9, entitled "Wastewater Improvement", dated 1/90, last revised 6/90;
- ii. Sheet 2 of 9, entitled "Storage Lagoon", dated 1/90, last revised 6/90;
- iii. Sheet 3 of 9, entitled "Details", dated 1/90, last revised 6/90;
- iv. Sheet 4 of 9, entitled "Details", dated 1/90, last revised 6/90;
- v. Sheet 5 of 9, entitled "Lagoon Cross Sections 9+00-11+00", dated 1/90, last revised 6/90;
- vi. Sheet 6 of 9, entitled "Lagoon Cross Sections 11+50-13+00", dated 1/90, last revised 6/90;
- vii. Sheet 7 of 9, entitled "Septic Tanks & Pump Pits", dated 1/90, last revised 6/90;
- viii. Sheet 8 of 9, entitled "Septic Tanks & Pump Pits", dated 1/90, last revised 6/90;
- ix. Sheet 9 of 9, entitled "Sprayfield Upgrading", dated 1/90, last revised 6/90; and
- x. The Stage I Technical Specifications, revised June 1990.

C1. Previous Approvals (continued):

B. Stage I Construction:

Stage I of the upgrade was approved by the Secretary on February 2, 1994. Stage I of the upgrade has been completed and consists of the following improvements:

- i. Construction of an effluent holding pond with a 30-day storage volume, complete with a synthetic liner, gas venting system, and underdrain system;
- ii. Installation of flow metering equipment to enable the daily flow to the holding pond to be determined;
- iii. Installation of a chlorination system in the spray system pump house;
- iv. Installation of additional pipe volume (100 feet of 18 inch diameter pipe) between the spray system pump house and the sprayfield to provide a 20 minute detention time for disinfection of the spray effluent;
- v. Re-laying and leveling the laterals in the spray field; and
- vi. Upgrading seven existing sewage lift stations and replacing nine existing septic tanks which serve the various buildings in the park.

C. Stage II (This section has been removed due to installation of the recirculating textile filter treatment units).

D. Improvements to the existing sewage collection, treatment, and disposal system were reported to be constructed in accordance with the following plans and specifications stamped by Stephen P. Bushman, P.E., of the State of Vermont Agency of Natural Resources, Department of Environmental Conservation, Facilities Engineering Division:

- i. Sheet 1 of 5 entitled "Overall Site Plan", dated 2001;
- ii. Sheet 2 of 5 entitled "Filter and Tank Layout", dated 2001;
- iii. Sheet 3 of 5 entitled "Profile Views from Tank", dated 2001;
- iv. Sheet 4 of 5 entitled "Profile Views from Filters", dated 2001;
- v. Sheet 5 of 5 entitled "Underdrain Layout and Details", dated 2001;

C1. Previous Approvals (continued):

- vi. the document entitled "Lake Carmi State Park, Franklin, Vermont, Wastewater Treatment System Improvements, Technical Specifications" dated October, 2001; and
- vii. the document entitled "Lake Carmi State Park AdvanTex AX20 Treatment System Additional Information" dated January 15, 2002; which were stamped "APPROVED" by the Department of Environmental Conservation.

The permittee submitted a Certification of Construction for these improvements to the system on February 10, 2003.

C2. Approved Plans for Wastewater System:**A. Wastewater System Improvements:**

The wastewater system improvements shall be completed in accordance with the following plans titled "Lake Carmi State Park Wastewater System Improvements" stamped by David Webb, P.E. of the Facilities Engineering Division of the Agency of Natural Resources on July 28, 2016, which have been stamped "APPROVED" by the Secretary:

<u>SHEET</u>	<u>TITLE</u>	<u>LATEST REVISION</u>
1 of 12	Legend and Construction Notes	-
2 of 12	Existing Site Plan	-
3 of 12	Proposed Site Plan	10/5/16
4 of 12	Pump Station & RV Sanitary Station Site Plan	-
5 of 12	Pump Station Details	-
6 of 12	RV Sanitary Station Details	-
7 of 12	Road Profile & Section Views	-
8 of 12	Toilet Bldg. 4 Force Main Profile Station 0+00 to 6+20	-
9 of 12	Toilet Bldg. 4 Force Main Profile Station 6+20 to 11+25	-
10 of 12	Pump Station Force Main Profile	10/5/16
11 of 12	Site Details	-
12 of 12	Erosion Prevention Details	-

No changes shall be made to the plans and specifications without prior written approval from the Secretary.

C2. Approved Plans for Wastewater System (continued):**B. Constructed Wetlands:**

The wastewater constructed wetlands shall be completed in accordance with the following plans titled "Lake Carmi Wastewater Treatment System Retrofit" dated October 12, 2017 and stamped by David Whitney, P.E. of EcoSolutions, LLC. which have been stamped "APPROVED" by the Secretary:

<u>SHEET</u>	<u>TITLE</u>	<u>LAST REVISION</u>
ECO 1	Existing Conditions	-
ECO 2	Overall Site Plan	-
ECO 3	Detailed Site Plan	-
ECO 4	Detailed Site Plan	-
ECO 5	Process Flow Diagram	-
ECO 6	Profile A - A	-
ECO 7	Profile B - B	-
ECO 8	Proposed Wastewater Wetland Section	-
ECO 9	Existing Wastewater Lagoon Proposed Section	-
ECO 10	Details 1	-
ECO 11	Details 2	-
ECO 12	Details 3	-
ECO 13	Control Wiring	-
ECO 14	Planting Plan	-

No changes shall be made to the plans and specifications without prior written approval from the Secretary.

C3. Construction Inspection:

The construction of the wastewater system improvements and constructed wetlands shall be completed in accordance with the approved plans and under the inspection of a Vermont Registered Professional Engineer. The engineer shall perform the following:

- a. The location of new tankage and force mains shall be staked out by the engineer or surveyor in accordance with the approved plans.
- b. The engineer shall provide general inspection of the work at reasonable intervals to assure that construction is done in accordance with the approved plans and specifications.
- c. The engineer or designated representative shall be present for the leakage testing of all tankage and force mains.
- d. The engineer or designated representative shall verify the proper operation of all pumps, valves, floats and controls.

C3. Construction Inspection (continued):

- e. The engineer shall maintain written reports of all inspections performed including dates, items inspected and comments.

C4. Construction Certification:

Within 30 days following completion of construction of the wastewater system improvements or constructed wetlands, the engineer shall certify in writing to the Secretary that the construction was completed in accordance with approved plans and specifications, and shall submit As-Built drawings of the systems. The numerical results of the leakage tests on the sewer force mains and tankage shall be submitted as part of the inspecting engineer's certification of construction. The engineer's certification of construction shall be subject to the review and acceptance of the Secretary.

SECTION D - SYSTEM OPERATION

D1. General Operating Requirements:

The wastewater disposal system shall be operated at all times in a manner that will (1) not permit the discharge of untreated sewage onto the surface of the ground; (2) not result in the resurfacing of spray effluent outside of the sprayfield area after disposal into the ground; (3) not result in the direct discharge of sewage into the waters of the State; and (4) not result in a violation of Water Quality Standards.

In accordance with accepted design practices, the effluent spray disposal rate to the sprayfield shall not exceed 15,500 gallons per day except as may occur on an occasional basis during normal operation.

The spray disposal field shall be operated at all times in accordance with the following limits:

- a. The groundwater table shall not rise closer than one foot to the ground surface in the disposal area as evidenced by the groundwater level in field monitors;
- b. No spraying shall be conducted when air temperatures are below 10 degrees Fahrenheit;
- c. The total wastewater applied to the disposal field shall not exceed 0.50 inches on the wetted area of the field in any seven (7) day period or dispose of more than 108,500 gallons in any seven (7) day period;
- d. The actual maximum hourly rate of wastewater application shall not exceed 0.0625 inches per hour;

D1. General Operating Requirements (continued):

- e. There shall be a minimum of a 24-hour rest period between spray applications for any spray line; and
- f. The effluent shall have a minimum of 4.0 ppm total chlorine residual (or 1.0 ppm free) at the spray nozzle at all times unless the permittee chooses to utilize disinfection prior to effluent storage as allowed under §14-1705(a)(2) of the Indirect Discharge Rules, effective April 30, 2003.

The permittee shall make the continued operation of the facilities available for inspection by the Agency of Natural Resources personnel at all reasonable times.

D2. Effluent Limits:

The sewage treatment and disposal system shall be operated at all times to comply with the following limits:

SPRAY EFFLUENT⁽¹⁾

<u>Parameter</u>	<u>Maximum in any 7 Day Period</u>	<u>Daily Maximum</u>
Flow	108,500 gallons	N/A
BOD ₅	N/A	30 mg/L
TSS	N/A	30 mg/L
Total Chlorine Residual ⁽²⁾	N/A	4 mg/L (minimum)
<u>Escherichia coli</u>	N/A	77 colonies/100 mL

Notes:

1. Spraying is allowed only between June 1st and October 31st each year. The storage pond shall be emptied by November 1st for each year of operation. Once the constructed wetlands are constructed and operational, the storage pond does not need to be emptied by November 1st.
2. The permittee may maintain a minimum of 1.0 mg/L free chlorine residual. In either case, measurement must be made at the spray nozzle. The permittee may choose to utilize disinfection prior to effluent storage as allowed under §14-1705(a)(2) of the Indirect Discharge Rules, effective April 30, 2003.

D3. Annual Inspection, Report and Implementation Schedule:

A) Annual Inspection

Annually, during the first month of operation of each summer camping season, the permittee shall have a Vermont Registered Professional Engineer make a thorough inspection, evaluation and report of the complete sewage collection, treatment and disposal system. The Drinking Water and Groundwater Protection Division of the Agency of Natural Resources should be notified of the engineer's inspection date at least one (1) week in advance so that Division personnel may accompany the engineer if time permits.

The engineer's inspection shall include, but not be limited to the following:

1. inspecting the entire collection system, removing manhole covers to observe the condition of the sewers and manholes, and noting any signs of inflow or excess infiltration;
2. verifying the proper operation of the pump station pumps, alarms, and controls;
3. evaluating the accumulation of solids and scum in the septic tanks and determining if the septic tanks should be pumped out that year;
4. noting any necessary repairs or maintenance that needs to be performed on the sewage collection, treatment and disposal system;
5. verifying the proper operation of the recirculation tank, automatic distributing valve, recirculating textile filters, recirculating splitter valve, the air system and of all effluent pumps, alarms and controls;
6. checking the calibration of the flow meter;
7. walking each spray lateral in the spray field and checking for the proper operation of the spray system, noting any repairs needed;
8. examining the sprayfield area and noting any areas of erosion or concentrated surface runoff;
9. walking the perimeter of the existing lagoon and constructed wetlands, noting any deficiencies in the liner material; and
10. verifying the proper operation of all components of the constructed wetlands.

D3. Annual Inspection, Report and Implementation Schedule (continued):

B) Annual Inspection Report

By August 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 inspections;
2. tabulation of the measured depths of sludge and scum in each septic tank;
3. a discussion of the recommended repairs and maintenance required and the permittee's schedule to perform any repairs; and
4. an evaluation of compliance with the effluent limits during the camping season for the previous year, and propose any changes required to assure continued compliance.

C) Implementation Schedule

By August 15th each year, the permittee shall notify the Secretary in writing indicating how the engineer's recommendations are to be implemented, including a schedule for the completion of any recommended repair or maintenance items which have not yet been completed.

D4. 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.

D5. System Operation and Maintenance:

The sewage 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 the public health and safety, or cause contamination of drinking water supplies, groundwater and/or surface water.

D6. Reporting of Failures:

The permittee shall immediately report any failure of the sewage 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.

D7. Operator Certification:

The permittee is required to employ a wastewater treatment plant operator with a minimum Grade I operator certificate from the Department of Environmental Conservation's Water Pollution Control Operator Certification Program to operate the treatment and disposal system. Annually, before April 30th, the permittee shall notify the Secretary in writing of the name(s) of the operator(s) employed to operate the treatment facility for the subsequent camping season.

D8. Lagoon Freeboard:

A three (3) foot freeboard between the top of berm and the water surface shall be maintained in the treatment and effluent storage pond at all times. A minimum of two (2) feet shall be maintained in the constructed wetland lagoon with the installation of a water level transducer.

D9. 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.

D10. Operation and Maintenance Manual:

Prior to operation of the constructed wetlands, the permittee shall submit an Operation and Maintenance Manual to the Secretary for review and approval.

SECTION E - MONITORING REQUIREMENTS

E1. Influent and Effluent Monitoring:

A. Chemical and Bacteriological Parameters:

The permittee shall sample, analyze, and report on the performance of the sewage treatment and disposal system as follows:

<u>PARAMETER</u>	<u>LOCATION</u>	<u>FREQUENCY</u> ⁽¹⁾	<u>SAMPLE TYPE</u>
Flow Volume	Influent Flow Meter	Daily	Continuous
Spray Volume	Spray Pump	Daily (when spraying)	Continuous
Total or Free Chlorine Residual	At Spray Nozzle	Daily (when spraying)	Grab ⁽³⁾
<u>Escherichia coli</u>	At Spray Nozzle	Monthly ⁽²⁾	Grab ⁽³⁾
BOD ₅	Spray Effluent	Monthly ⁽²⁾	Grab
Total Suspended Solids (TSS)	Spray Effluent	Monthly ⁽²⁾	Grab
pH	Spray Effluent	Monthly ⁽²⁾	Grab
Total Kjeldahl Nitrogen	Spray Effluent	Monthly ⁽²⁾	Grab
Ammonia Nitrogen (NH ₃)	Spray Effluent	Monthly ⁽²⁾	Grab
Nitrate Nitrogen (NO ₃)	Spray Effluent	Monthly ⁽²⁾	Grab
Nitrite Nitrogen (NO ₂)	Spray Effluent	Monthly ⁽²⁾	Grab
Total Phosphorus (TP)	Spray Effluent	Monthly ⁽²⁾	Grab
Total Dissolved Phosphorus	Spray Effluent	Monthly ⁽²⁾	Grab
Chloride (Cl ⁻)	Spray Effluent	Monthly ⁽²⁾	Grab
Pond Level	Staff Gage	Weekly	

Notes:

- (1) The frequency of sampling for all parameters, unless otherwise indicated, shall be when the treatment facility is in operation. Monthly sampling shall be performed during the months of June through October.

E1. Influent and Effluent Monitoring (continued):

- (2) Not required if spray disposal does not occur at any time during the month.
- (3) On the day that the E. coli grab sample is collected, the daily total chlorine residual sample for that day shall be collected at the same time and location as the E. coli sample. Both shall be collected after the spray system has been operating that day for a minimum of 30 minutes. Sampling frequency may be modified if the permittee chooses to utilize disinfection prior to effluent storage as allowed under §14-1705(a)(2) of the Indirect Discharge Rules, effective April 30, 2003.

These results shall be submitted to the Secretary by the 15th day of the second month following the date of sampling.

E2. Groundwater Monitoring:

A. Chemical & Bacteriological Parameters:

When the treatment and disposal facility is in operation, the permittee shall collect a sample from groundwater monitoring wells #5 and #6 located downgradient of the sprayfield and have the samples analyzed for the following:

<u>Parameter</u>	<u>Measurement Units</u>	<u>Sample Type</u>	<u>Sample Frequency</u>
Chloride (Cl-)	mg/L	grab	Monthly, June - Oct. ⁽¹⁾
Total Dissolved Phosphorus (TDP)	mg/L	grab	Monthly, June - Oct. ⁽¹⁾
pH	S.U.	grab	Monthly, June - Oct. ⁽¹⁾
Nitrate Nitrogen (NO ₃ as N)	mg/L	grab	Monthly, June - Oct. ⁽¹⁾
Depth to groundwater (below ground surface)	inches	N/A	At time of sampling
<u>Escherichia coli</u>	Colonies/100 ml	grab	As Required ^{(1) (2)}

E2. Groundwater Monitoring (continued):

Notes:

- (1) Not required if spray disposal has not occurred at any time in the camping season prior to the sample date.
- (2) If the effluent analysis of E. coli exceeds the limit of 77 colonies/100 ml, the Secretary may require sampling for E. coli in the groundwater.

Because of the changing water table conditions, the samples from the groundwater monitoring wells may not be collected on the same day or in the same week. If a monitoring well has water at any time during the month, then a sample is required to be collected and analyzed.

These results shall be submitted to the Secretary by the 15th day of the second month following the date of sampling.

B. Groundwater Levels:

The permittee shall measure and record the depth to groundwater below grade in each of the six groundwater monitoring wells in and around the spray disposal field weekly and submit the result to the Secretary once per month by the 15th day of the second month following the date of measurement. Dry wells may be recorded as "no water to depth of well".

The frequency of groundwater levels measurements may be reduced to monthly if spray disposal has not occurred at any time during the month.

E3. Underdrain Monitoring:

Monthly, from June through October, the discharges from both lagoon underdrains and the new textile filter system underdrain shall be sampled and analyzed for the following:

- a. Chlorides (Cl⁻)
- b. Total Dissolved Phosphorus (TDP)
- c. Nitrate Nitrogen (NO₃)

The results of the sampling shall be submitted to the Secretary by the 15th day of the second month following the date of sampling.

E4. Textile Filter System Monitoring:

The permittee shall sample, analyze, and report on the performance of the textile filter system as follows:

<u>PARAMETER</u>	<u>LOCATION</u>	<u>FREQUENCY</u>	<u>SAMPLE TYPE</u>
BOD ₅	Influent ⁽¹⁾	Monthly, June - Oct.	Composite Grab
	Textile Filter Effluent	Monthly, June - Oct.	
Total Suspended Solids (TSS)	Influent ⁽¹⁾	Monthly, June - Oct.	Composite Grab
	Textile Filter Effluent	Monthly, June - Oct.	

Notes:

- (1) A composite sample shall be collected from the pump station at Toilet Building #4 and the pump station near the sanitary dump.

The results of the sampling shall be submitted to the Secretary by the 15th day of the second month following the date of sampling.

E5. Sampling and Testing Procedures:

All wastewater and groundwater sampling, preservation, handling and test procedures used to comply with the monitoring requirements herein shall conform to procedures specified in the most current edition of Standard Methods for the Examination of Water and Wastewater APHA-AWWA-WPCF, and Vermont Water Quality Standards unless written approval of an alternate method is received from the Agency.

E6. Reporting and Maintenance of Records/Information:

- A. On or before the 15th day of the second month following the date of sampling, the permittee shall report all information monthly on Form WR-43 and submit the completed form, signed by the Operator and permittee, to the following address:

Indirect Discharge Program
Drinking Water and Groundwater Protection Division
Department of Environmental Conservation
1 National Life Drive – Main 2
Montpelier, Vermont 05620-3521

Alternatively, the permittee may submit reports via e-mail to the following address: ANR.DWGWPIndirectPermits@vermont.gov or another address if one is established by the Secretary.

E6. Reporting and Maintenance of Records/Information (continued):

- B. If the permittee monitors any parameter more frequently than required by this permit, the results of such monitoring shall be included on the monthly monitoring report form (WR-43).
- C. All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Secretary. Records shall include laboratory bench sheets showing exact location, time, composites of sample as well as analytical procedures used, interim results obtained, and all calculations supporting the reported test results.

E7. Additional Monitoring Requirements:

No surface water quality monitoring of the system is required under this permit. However, the Secretary reserves the right to require additional monitoring of the system in accordance with Condition A(7) should operation of the system fail to meet the requirements of Conditions D(1), D(2) and D(5).

SECTION F - 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 indirect discharge permit amendment, ID-9-0061-2, to the Vermont Department of Forest, Parks and Recreation 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 G - EFFECTIVE DATE

This Indirect Discharge Permit Amendment, ID-9-0061-2, issued to Vermont Department of Forest, Parks and Recreation for the discharge of treated domestic sewage from Lake Carmi State Park located in the Town of Franklin, Vermont, is effective on this _____ day of November 2017.

Emily Boedecker, Commissioner
Department of Environmental Conservation

By: _____ **DRAFT** _____
Mary Clark, Program Manager
Indirect Discharge Program