

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

INDIRECT DISCHARGE PERMIT

File No. OQE-9-0087

Permit No.: ID-9-0087

PIN: RU97-0404

SECTION A - "ADMINISTRATION"

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

Sunrise Homeowners Association, Inc.
P.O. Box 335
Killington, Vermont 05751
and
Killington Pico Ski Resort Partners LLC
4763 Killington Road
Killington, Vermont 05751

are authorized to indirectly discharge treated domestic sewage from the Sunrise Mountain Wastewater Treatment Facility serving Sunrise Village to groundwater and indirectly into an unnamed tributary of the Ottauquechee River in the Town of Killington, Vermont. **This is a permit renewal.**

A1. Permit Summary:

| | |
|---------------------------------------|--|
| Expiration Date | June 30, 2021 |
| Type of Waste | Domestic Sewage |
| Treatment System | 3-Cell Aerated Lagoon |
| Disposal System | Sprayfield |
| Drainage Basin | Ottauquechee River |
| Treatment Volume | 162,000 gpd |
| 305 Day Disposal Capacity | 69,170 gpd |
| 365 Day Connected Capacity | 57,800 gpd |
| Receiving Stream | Unnamed tributary of the Ottauquechee River |
| Drainage Area (at compliance pt.) | 0.47 sq. mi. |
| Low Median Monthly Stream Flow (LMMF) | 155,100 gpd (est.) |
| 7Q10 Stream Flow | 45,900 gpd (est.) |
| Dilution Ratio (at LMMF) | |
| Stream Flow : Effluent | 2.2 : 1 |
| Dilution Ratio (at 7Q10) | |
| Stream Flow : Effluent | 0.7 : 1 |

A2. Compliance Schedule Summary:

The following schedule summarizes the actions and requirements necessary for compliance with the conditions of this permit. The permittees 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 |
| D5. Have a Vermont Registered Professional Engineer complete an inspection of sewage collection, treatment and disposal system. | Annually in April or May |
| D5. Submit Annual Inspection Report | Annually prior to July 1 st |
| D5. Submit Schedule for Implementing engineer's recommendations | Annually prior to July 1 st |
| E2. Collect and analyze effluent samples | Monthly |
| E3(A) Collect and analyze groundwater monitor samples | As specified |
| E3(B) Measure and record the depths to groundwater in the monitor wells | Weekly |
| E3(C) Collect and analyze underdrain samples | As Specified |
| E4(A) Collect and analyze receiving stream samples | As specified |
| E4(B) Start biological sampling of receiving waters | August - September, 2020 |
| E2, E3(A), E3(B), E3(C), E4(A) Submit results of monitoring and analyses to the State | By the 15 th of the second month following the date of sampling. |

A2. Compliance Schedule Summary (continued):

| <u>Condition # & Description</u> | <u>Schedule Date</u> |
|---|----------------------|
| E5. Submit evaluation by a water quality specialist of all ground and surface water quality data and biological monitoring data | March 31, 2021 |

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 significant alteration of aquatic biota.

The permittees 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 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 permittees 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 permittees until such time as transfer of the permit to the transferee is complete.

A6. Transfer of Permit (continued):

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 permittees 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 systems.
- 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 permittees 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 to increase the monitoring frequency in accordance with Condition E(8) of this permit.

A8. Wastewater System and Potable Water Supply Permits:

Wastewater System and Potable Water Supply Permits are required before construction of all buildings to be connected to the system.

A9. 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 14-403 (C) 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.

A10. Right of the Agency to Inspect:

The permittees 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.

A11. Permit Availability:

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

A12. 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 permit amendment.

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

A13. Uncommitted Reserve Connection Capacity:

Reserve connection capacity for this system will be determined using the "Procedure For Using Metered Sewage Flows To Determine The Uncommitted Reserve Capacity For Indirect Discharge Systems With Design Flows Greater Than 6,500 GPD" dated 9/9/91.

A14. 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 Discharges:

The indirect discharge is located on an unnamed tributary of the Ottauquechee River in the Town of Killington, Vermont. The unnamed tributary has a drainage area of 0.47 square miles at the point of compliance. This indirect discharge can be located on the USGS Killington Peak 7.5' quadrangle map at Latitude N 43°36' 54" and Longitude W 72°45' 08". The spray disposal laterals are located between elevations 1100' and 1570'.

B2. Nature of Indirect Discharge:

The wastewater is treated in a 9 million gallon three-cell aerated lagoon. The lagoon provides the required 45 days of storage capacity for metered spring flows. Following chlorination, the effluent is pumped to an 11 acre sprayfield with a wetted area of approximately 8.9 acres. The approved loading rate for the sprayfield is 2" per consecutive 7-day period.

SECTION C "SYSTEM CONSTRUCTION"

C1. Previous Approvals:

The sewage collection, treatment, and disposal system was originally permitted under Certification of Compliance #1R0501-6, issued on August 3, 1984 for a 305-day sprayfield discharge of 69,170 gpd and an application rate of 2 inches/consecutive 7-day period.

The Sunrise Village Wastewater Treatment Facility consists of a 3-cell treatment/storage lagoon with a capacity of 4.5 million gallons for treatment and 4.5 million gallons for effluent storage. Following chlorination, the effluent is sprayed in an 11-acre sprayfield with a wetted area of 8.9 acres. The spray disposal area was approved for use without an isolation fence based on a September 1, 1983 letter from the Vermont Secretary of Health.

SECTION D "SYSTEM OPERATION"

D1. General Operating Requirements:

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; (4) not result in a violation of the Vermont Water Quality Standards; and (5) not cause a significant alteration of the aquatic biota in the receiving stream.

The wastewater collection, treatment, and disposal system shall be operated and maintained at all times in a manner satisfactory to the Secretary so as not to cause health hazards or contamination of drinking water supplies, ground water, or surface water.

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

1. The groundwater table shall not rise closer than one foot to the ground surface in the disposal area as a result of spraying.
2. No spraying shall be conducted when air temperature is below 10°F or when groundwater is within one foot of ground surface, or when surface runoff is occurring.
3. The total wastewater applied to the sprayfields shall not exceed 2.0 inches in any consecutive seven (7) day period. In any consecutive seven (7) day period, the permittees shall not dispose of more than 484,190 gallons in the sprayfield.
4. The actual maximum hourly rate of wastewater application shall not exceed 0.25 inches per hour.
5. There shall be a minimum of a 12-hour rest period between spray applications for any spray line.
6. Spraying in winter shall be conducted during daylight hours only.
7. The effluent shall have a minimum of 4.0 mg/L total chlorine residual (or 1.0 mg/L free chlorine residual) at the spray nozzle at all times unless the permittees choose to utilize disinfection prior to effluent storage as allowed under §14-1705(a)(2) of the Indirect Discharge Rules, effective April 30, 2003.

D2. Effluent Limits:

SPRAY EFFLUENT

The treated effluent to be sprayed on the disposal field shall comply with the following limits at all times:

| <u>Parameter</u> | <u>Maximum in 7-Day Period</u> | <u>Maximum at Anytime</u> |
|-------------------------------------|--------------------------------|--|
| Flow | 484,190 gallons | N/A |
| BOD ₅ | N/A | 30 mg/L |
| TSS | N/A | 30 mg/L |
| <u>Escherichia coli</u> | N/A | 77 col/100 mL |
| Chlorine Residual (at spray nozzle) | N/A | 4 mg/L (minimum - total) or 1 mg/L (minimum - free) ¹ |

¹ Unless the permittees 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. Lagoon Freeboard Requirements:

A minimum two feet of freeboard shall be maintained in the aerated lagoon at all times.

D4. Availability of Lagoon Storage Volume:

The permittees shall ensure that there is sufficient available storage volume in the 3-cell lagoon for the peak 45 days of metered sewage flow which occurs during the period March 15 - May 15 each year. This storage volume shall be available below the required 2 feet of freeboard. Calculations demonstrating adequate storage capacity for the 45-day period shall be submitted in the engineer's annual inspection report each year.

D5. Annual Inspection, Report and Implementation Schedule:

(A) Annual Inspection:

Annually during the month of April or May, the permittees shall engage a professional engineer registered in the State of Vermont to supervise a thorough inspection, evaluation, and report of the complete treatment and spray disposal system. The engineer's inspection shall include, but not be limited to the following:

1. Inspecting at least one-third of the entire collection system, removing manhole covers to observe the condition of the sewers and manholes; this inspection may be performed by a qualified person and the results incorporated into the engineer's report (the entire collection system shall be inspected once every three years);
2. Verifying the proper operation of the blowers and aeration systems;
3. Walking each spray lateral in the spray fields and checking for the proper operation of the spray system, noting any repairs needed and any areas of erosion or concentrated surface runoff;
4. Verifying the required 100 foot isolation distance from the perimeter of any wetted area to surface waters;
5. Verifying the proper operation of the chlorinator;
6. Evaluating the accumulation of sludge in the 3-cell treatment/storage lagoon and the need to remove the sludge; and
7. Noting any additional repairs, or maintenance that needs to be performed.

(B) Annual Inspection Report:

Before July 1st each year the permittees 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. a discussion of the recommended repairs and maintenance required; and
3. an evaluation of the past year's influent flow records, effluent quality, spray disposal records and the groundwater levels in the spray fields to verify compliance with the permit requirements as well as the calculations required under Condition D(4).

D5. Annual Inspection, Report and Implementation Schedule (continued):

(C) Implementation Schedule:

Before July 1st each year the permittees shall notify the Secretary in writing stating how the engineer's recommendations are to be implemented and including a schedule for the required repairs and maintenance.

D6. Wastewater Treatment Plant Operator Qualifications:

The permittees are required at all times to employ or contract a wastewater treatment plant operator with a minimum Grade II operator certificate (Chief Operator) and an assistant operator, with a minimum Grade I operator certificate from the Secretary Water Pollution Control Operator Certification Program to operate the treatment and disposal system. The permittees shall notify the Agency in writing of any change in the operator and/or assistant operator employed to operate the treatment facility and shall submit their names to the Secretary in writing. No effluent disposal shall occur in the absence of the Chief Operator.

D7. Sludge Disposal:

All sludge removed from the sewage treatment facility shall be disposed of at locations approved by the Residual Management Section of the Department of Environmental Conservation. The permittees shall comply with the reporting procedures specified in the Certification from the Residuals Management Section or approved Sludge Management Plan.

D8. Reporting of Failures:

The permittees 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.

D9. Discharge Restrictions:

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

SECTION E "MONITORING"

E1. Quality Assurance/Quality Control Plan:

The Quality Assurance/Quality Control plan of all required monitoring was reviewed and approved by the Secretary on November 8, 1991.

The permittees filed an addendum to the QA/QC Plan on February 23, 2007.

The laboratory identified in the Quality Assurance/Quality Control Plan shall demonstrate successful performance for U.S. EPA check samples for all parameters and shall analyze any check samples provided by the Secretary. Failure to obtain an acceptable result for either the Secretary or EPA check samples may be a basis for requiring an alternate analytical laboratory.

E2. Sewage Treatment and Disposal System Monitoring:

Chemical and Bacteriological:

Starting on the effective date of this permit, the influent to and effluent from the treatment system shall be sampled and analyzed as follows:

| Parameter | Measurement Location | Sample Frequency | Sample Type |
|---------------------------------|--|--|---|
| Flow Volume | influent and spray effluent ⁽¹⁾ | continuous | Daily Total Maximum/Minimum |
| BOD ₅ | influent spray effluent | monthly monthly | 8 hour composite ⁽²⁾ Grab |
| Total Suspended Solids (TSS) | influent spray effluent | monthly monthly | 8 hour composite ⁽²⁾ Grab |
| pH | influent spray effluent | daily monthly | Grab Grab |
| <u>Escherichia coli</u> | spray effluent | monthly | Grab ⁽³⁾ |
| Total or Free Chlorine Residual | at spray nozzle | 2 x daily when spraying ⁽⁴⁾ | Grab ⁽³⁾ |

E2. Sewage Treatment and Disposal System Monitoring (continued):

| Parameter | Measurement Location | Sample Frequency | Sample Type |
|----------------------------|----------------------|----------------------------------|-------------|
| Total Kjeldahl Nitrogen | spray effluent | monthly | Grab |
| Ammonia (as N) | spray effluent | monthly | Grab |
| Nitrite (as N) | spray effluent | monthly | Grab |
| Nitrate (as N) | spray effluent | monthly | Grab |
| Total Phosphorus | spray effluent | monthly | Grab |
| Total Dissolved Phosphorus | spray effluent | monthly | Grab |
| Chloride (Cl-) | spray effluent | monthly | Grab |
| Lagoon Level | staff gauge | daily | Measurement |
| Air Temperature | In spray field | At start and end of spray period | Measurement |

(1) Continuous influent metering and effluent metering when spraying.

(2) Composite samples shall be taken during the hours 6:00 am and 6:00 pm, unless otherwise specified.

(3) On the day that the E. coli grab sample is collected, the daily residual chlorine 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.

(4) Sampling frequency may be modified if the permittees choose to utilize disinfection prior to effluent storage as allowed under §14-1705(a)(2) of the Indirect Discharge Rules, effective April 30, 2003.

The results of the effluent analysis and measurements shall be submitted to the Secretary prior to the 15th day of the second month following the date of sampling.

E3. Groundwater Monitoring:

A. Chemical & Bacteriological Monitoring:

Starting on the effective date of this permit, groundwater monitoring wells #8, #9, #10 and #11 shall be sampled and analyzed for the following parameters:

| Parameter | Measurement Units | Sample Type | Sample Frequency |
|---|-------------------------|-------------|------------------------|
| Nitrate (as N) | mg/L | Grab | Monthly ⁽¹⁾ |
| Total Dissolved Phosphorus (TDP) | mg/L | Grab | Monthly ⁽¹⁾ |
| Chloride (Cl-) | mg/L | Grab | Monthly ⁽¹⁾ |
| pH | mg/L | Grab | Monthly ⁽¹⁾ |
| Depth to Groundwater (Below Ground Surface) | Feet and Tenths of Feet | Measurement | Weekly |
| ⁽¹⁾ Monthly means June, July, August, September, and October | | | |
| Because of changing water table conditions, the samples from the groundwater monitors might not be collected on the same day or in the same week. If a monitor has water at any time during the month then the single sample from that well for the month is required to be collected and analyzed. | | | |
| The results of all these analyses and measurements shall be submitted to the Secretary prior to the 15 th day of the second month following the date of sampling. | | | |

B. Groundwater Levels:

The depth to ground water (below ground surface) in all monitoring wells shall be measured and recorded weekly. Dry wells shall be recorded as "no water to depth of well".

C. Underdrain Monitoring:

During the months of June, August, and October the discharge from the underdrains beneath the lagoons shall be sampled and analyzed for nitrate-nitrite (as N), total dissolved phosphorus, chloride, and pH.

The results of all these analyses and measurements shall be submitted to the Secretary prior to the 15th day of the second month following the date of sampling.

E4. Receiving Stream Monitoring:

A. Chemical:

Starting on the effective date of this permit, the receiving stream shall be sampled at locations approved by the Secretary in the QA/QC Plan for required monitoring. Samples shall be collected from these locations and analyzed for the following:

| Parameter | Measurement Units | Sample Type | Sample Frequency |
|----------------------------------|-------------------|-------------|---|
| Nitrate (as N) | mg/L | Grab | Monthly ⁽¹⁾ |
| Total Phosphorus (TP) | mg/L | Grab | Monthly ⁽¹⁾ See Note⁽²⁾ |
| Total Dissolved Phosphorus (TDP) | mg/L | Grab | Monthly ⁽¹⁾ See Note⁽²⁾ |
| Chloride (Cl-) | mg/L | Grab | Monthly ⁽¹⁾ |
| pH | mg/L | Grab | Monthly ⁽¹⁾ |
| Temperature | Degrees C | Grab | Monthly ⁽¹⁾ |
| <u>Escherichia coli</u> | Col/100 mL | Grab | Monthly ⁽¹⁾ |
| Dissolved Oxygen | mg/L | Grab | Monthly ⁽¹⁾ |
| Turbidity | NTU | Grab | Monthly ⁽¹⁾ |

⁽¹⁾ Monthly means June, July, August, September, and October

⁽²⁾ Two independent samples shall be taken and analyzed on each sampling date.

The permittees shall not sample the receiving stream within 24 hours of any storm event affecting the watershed of that stream.

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

E4. Receiving Stream Monitoring (continued):

B. Biological Monitoring:

During August - September, 2020, the permittees shall conduct biological sampling in the receiving waters in accordance with procedures approved by the Secretary.

E5. Summary Water Quality Evaluation:

By March 31, 2021, the permittees shall have a qualified water quality specialist submit an evaluation to the Secretary of all the past ground and surface water quality data and determine what, if any, short or long term impacts there have been on ground or surface water quality. The biological monitoring data shall also be included. The biological data shall be subjected to analysis by the Secretary.

E6. Sampling and Testing Procedures:

All wastewater, groundwater and surface water 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 the Vermont Water Quality Standards unless written approval of an alternate method is received from the Agency.

E7. Miscellaneous:

If the permittees monitor any required parameter set forth in this permit for this treatment and disposal system more frequently or at additional locations outside the treatment facility than required by this permit, the results of such monitoring shall also be provided in the appropriate monthly reports, and analyzed in the engineer's annual inspection report.

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 and composites of sample as well as analytical procedures used, interim results obtained and all calculations supporting the reported test results.

E8. Additional Monitoring Requirements:

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

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 permittees to take appropriate corrective actions to eliminate or reduce the possibility of a violation.

The issuance of this Indirect Discharge Permit ID-9-0087 to the Sunrise Homeowners Association, Inc. and Killington Pico Ski Resort Partners LLC, Ltd. by the Secretary relies upon the data, designs, judgement and other information supplied by the applicant, their 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 ID-9-0087, issued to the Sunrise Homeowners Association and Killington Pico Ski Resort Partners LLC, for the discharge of wastewater from the Sunrise Homeowners Association spray disposal system in Killington, Vermont is effective on this 7th day of July, 2016.

Alyssa B. Schuren, Commissioner
Department of Environmental Conservation

By: Bryan J. Redmond
Bryan Redmond, Director
Drinking Water and Groundwater Protection Division