



STATE OF VERMONT
WATER RESOURCES BOARD
MONTPELIER, VERMONT 05602
(802) 828-2871

September '26, 1985

To the Friends of Lake **St. Catherine**

Enclosed is the Water' **Resources** Board's decision regarding the appeal of the Lake.St. Catherine Inn's Discharge **Permit**. This appeal, in conjunction with the earlier informational meeting on August 8th and the classification hearing in June, **represents** perhaps the most extensive **consideration** of an individual discharge and its impact (actual **and potential**) on **water** quality in Vermont's history.

In the final analysis the Board in 1985 **reached** essentially the same conclusions **it did** in 1977:

- (1) At present there is no reasonable alternative method of waste disposal for the Inn, however, the effort to continue looking for such an alternative must **continue**.
- (2) The Inn's discharge has been consistently maintained at a sufficiently high level of quality to be compatible with other uses of the Lake.
- (3) Because it existed prior to current environmental restrictions and **has** not had any **significant impact** on water quality, the Inn's discharge is an example of a pre-existing activity for which a "variance" or "grandfathering" from standard policy is **warranted**.
- (4) The key consideration in 1985 as it was in 1977 is not the time of year at which the Inn operates, but rather the impact of its discharge on water quality.
- (5) The Board's 1977 classification order "grandfathered" the level of water quality impact resulting from the Inn's **discharge, not** any specific mode of the Inn's: operation,

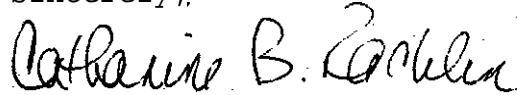
The enclosed decision reflects these conclusions and will hopefully provide all concerned **with a** clearer understanding of the constraints, within which the Inn's continued discharge will be allowed. Under the Discharge Permit as amended by the enclosed decision the Inn continues to, **have approval to operate** on a year round basis (Just as it could have under any of the previously issued Discharge Permits.), **but it** is limited to a specific annual phosphorus loading of 15 pounds. This limit represents less than 1% of the

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Lake's annual loading. The amended permit significantly increases the frequency of **sampling** for phosphorus and now **prohibits** the potential of a significantly **increased phosphorus** loading from the Inn's discharge. In addition, copies of the monitoring reports must now be filed with the **Poultney** Health Officer in order to facilitate access to this information by local officials and residents.

In conclusion, the Board would like **to express** its, sincere appreciation **to the** many individuals who took the time to participate **in these** proceedings and to write letters. your comments and suggestions were given careful consideration and many have been **incorporated into** the Board's decision. The Board is pleased to see the **high** level of concern regarding the protection of Lake St. Catherine's water quality:

Sincerely,,



Catharine B. Rachlin
Chairman

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State of Vermont
Water Resources Board

Appeal of Lake St. Catherine
Association from Discharge
//Permit #1-348

10 V.S.A. §1269
Findings of Fact,
Conclusions of Law and
Order

Introduction

On October 22, 1984 the Lake St. Catherine Association filed an appeal with the Vermont Water Resources Board under the provisions of 10 V.S.A. §1269. This appeal was taken from the October 4, 1984 decision of the Commissioner of the Department of Water Resources and Environmental Engineering on, behalf of the Secretary of the Agency of Environmental Conservation to issue Discharge Permit #1-348 to the Winmac Corporation, d/b/a Lake St. Catherine Inn, authorizing the discharge of treated sanitary wastes into Lake St. Catherine in the Town of Poultney, Vermont.

On December, 26, 1984, the Association requested that the Board delay holding a hearing on its appeal until after the Board first considered the Association's petition to reclassify that portion of Lake St. Catherine in which the discharge occurs from Class C to Class B. On July 26, 1985, the Water Resources Board issued its decision denying the Association's reclassification petition.

On July 30, 1985, the Water Resources Board gave notice of a hearing on the Association's appeal scheduled for August 29, 1985, at Poultney, Vermont. On August 5, 1985, the Board gave notice of a change in the time at which the hearing would begin.

On August 29, 1985, the Water Resources Board conducted a public hearing in accordance with its notice with the following members present: Catherine B. Rachlin, Chairman; William Boyd /Davies; William D. Countryman.

Appearances at this hearing were entered by the following parties:

- (a) Winmac Corporation
- (b) Department of Water Resources and Environmental Engineering (Department)
- (c) Lake St. Catherine Association (Association)
- (d) Kinni-Kinnic Association
- (e) Marie Vanderminden

During the course of this proceeding the following documents were entered into the record:

Winmac Exhibit #1: An undated schematic drawing prepared by the Department of Water Resources and Environmental Engineering, showing the components of the Inn's wastewater treatment facility.

Winmac Exhibit #2: A letter dated August 20, 1985, addressed to the Commissioner of the Department of Water Resources and Environmental Engineering from Patricia Marks and Raymond Endlich on behalf of Winmac Corporation.

Association Exhibit #1: An undated schematic drawing entitled "Lake St. Catherine Inn Property sketch"! author not stated.

Association Exhibit #2: A document entitled "Application for permit to discharge wastes for Lake St. Catherine Inn" dated May 2, 1973 prepared by the Gratiot Engineering Company.

Association Exhibit #3: A letter dated July 14, 1975 addressed, to Prince, Incorporated from Willard Farnham on behalf of the Department of Water Resources.

Association Exhibit #4: Two undated documents entitled "Lake St., Catherine Association Incorporated - Comments on the Lash Memo to the Board dated August 23, 1985" and "Lake St. Catherine Association, Incorporated Position Paper - Permit Hearing, August 29, 1985."

Association Exhibit #5: A memorandum dated August 23, 1985 addressed to the Water Resources Board from Jonathan Lash, Commissioner, Department of Water Resources and Environmental Engineering entitled "Appeal of Lake St. Catherine Inn Discharge Permit" enclosing a copy of the Vermont Municipal Pollution Abatement Strategy dated August 3, 1984.

Association Exhibit #7: Department of Water Resources and Environmental Engineering file #11-17-001.

Findings of Fact and Conclusions of Law

1. The Winmac Corporation owns and operates the Lake St. Catherine Inn (hereinafter Inn) including a motel and a residence used by the owners/managers of the Inn all of which are located on property adjacent to Lake St. Catherine in the Town of Poultney. (Association Exhibit #1)
2. Wastewater from the Inn, which includes sanitary wastes, are treated on-site prior to their discharge to Lake St.

Catherine. The discharge occurs in a portion of the Lake designated as Class C waters by the Water Resources Board in an order dated January 25, 1977.

3. The Inn's discharge into Lake St. Catherine has existed for many years and has been regulated under the Vermont Water Pollution Control Act since the 1970's. The Department has issued Discharge Permits to the Inn in 1977, 1982 and 1984. The issuance of the 1984 Discharge Permit has been appealed by the Association.
4. The Inn's present treatment facility was installed in 1961 and consists of a 5,000 gallon septic tank, followed by a duplex pumping station, two sand filter beds, a chlorine contact chamber and 320 feet of discharge pipe. The use of the sand filter beds can be alternated in order to "rest" or provide maintenance to the filter bed not in use.
5. The Inn uses Lake St. Catherine as its water supply. The water intake line is metered with the volume of water used recorded in a daily log.
6. The volume of the Inn's discharge is assumed to be the same as the volume of water used by the Inn. For the period of May through October of 1983 (the last full operating season prior to the renewal of the Discharge Permit under appeal) the volume of the Inn's discharge averaged 2370 gallons per day (gpd). The flow data from 1983 shows that occasionally the daily volume of the Inn's discharge exceeded 5,000 gallons. In 1983 daily flows as high as 11,200 gallons had been recorded due in part to a malfunctioning toilet.
7. Since 1961 and continuing to the present, the volume of wastes discharged from the Inn's treatment facility has varied seasonally with approximately 90% of the discharge occurring between May and October. Historically the treatment facility has been used on a very limited basis during November through April. Usage during this period has been primarily associated with the use of the manager/owner's residence and the occasional use of the Inn by guests or for special social occasions such as high school proms, a local winter festival, etc.
8. Because it was built prior to the development of current design standards and because it was intended to abate an existing source of pollution, the design of the Inn's treatment facility is atypical of discharging sanitary waste treatment facilities generally and does not conform to contemporary design standards for on-land (i.e. nondischarging) sanitary waste disposal facilities.

9. The Inn's treatment facility has a long record of compliance with the Vermont Water Quality Standards and the terms of its Discharge Permits. Its consistently good performance indicates its capacity to adequately and reliably **treat** the volume of wastes associated with the use that has been historically made of **the Inn** including occasional daily flows in excess of 5,000 gallons.
 10. The water quality characteristic most likely to determine the clarity of the Lake and the amount of algae present is phosphorus.
 11. Discharge Permit **#1-348** authorizes the Inn to discharge 5,000 gpd (monthly average) with a phosphorus concentration of 10 my/l on a **year 'round** basis.
 12. During the period of May through October of **1983** the effluent from the Inn's treatment facility had an average phosphorus concentration of 4.3 milligrams per liter (my/l). Accordingly, the **Inn's** contribution to the annual phosphorus loading of Lake, **St. Catherine** in **1983** is estimated to be 15 pounds or approximately 1% of the annual phosphorus loading to the Lake from all sources.
 13. Based on modeling analysis conducted by the Department the Inn's discharge as monitored in 1983 is having no significant impact on the Lake's clarity or its water quality.
 14. If the **Inn were** to discharge at the maximum levels allowed by Discharge Permit **#1-348** in terms of volume and phosphorus concentration for either 6 months per year, or on a year round basis, the percentage of the Inn's contribution to the Lake's annual phosphorus loading would increase from 1% to 8% or 17% respectively. Such an increase would significantly affect the Lake's water quality.
 15. In its January 25, 1977 Order reclassifying a portion of Lake St. Catherine from Class B to Class C in order to make the Inn **eligible to** apply for a Discharge Permit, the **Board** imposed 5 conditions (a through e).
 16. Conditions a through c of the 1977 Classification Order provided that:
 - a) The **area so** reclassified shall have a radius of 50 feet around the submerged outfall and shall extend from **the bottom** of the lake to the surface.
 - b) The effluent quality from the treatment plant shall be maintained at a level so that the **surface** water quality within the Class C zone meets the technical criteria for Class B waters.
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- c) Except for receipt of the foregoing discharge, these waters shall be managed in all respects as if they were classified as Class B.
17. **There is** no evidence to show than the Inn's discharge would **not comply** with conditions a through c of the Board's 1977 Classification Order.
18. Condition d of **the 1977** Classification Order provides that:
- d) This temporary reclassification shall automatically revert to a **Class B** upon the occurrence of any one of the following events:
- 1) the cessation of operations at the Lake St. Catherine Inn for continuous period of twenty-four months.
 - 2) the availability of any economically feasible 'system or device for the disposal of the effluent other than by discharge into Lake St. Catherine.
 - 3) the **change in the nature or the** character of the operation such that the discharge would be substantially degraded.
19. With regard to **condition d(1)**, there is no **evidence** to show that the Inn has ceased to operate for a, continuous 24 month period.
20. With regard to condition d(2), the report dated **March 20, 1985** prepared by Michael Roberts, **P.E.** shows that the on-land disposal of **the Inn's** wastewater is not presently, economically feasible in the sense of being either practicable or logical.
21. With regard to condition **d(3)** the Inn **has changed** its operation to a limited extent since 1977 by increasing the length of its operating season. However, these changes have **not resulted** in any adverse impact on the Lake's water **quality**. Condition d(3) does not prohibit changes in the Inn's method of operation or in the volume of their discharge per se, but rather prohibits any change in the nature or character of the operation which 'would result in a substantial increase in any adverse water quality impacts associated with the discharge.
22. Condition e of the 1977 Classification Order provides that:
- e) **The Lake St. Catherine Inn shall**, as required by the Department of Water Resources, and in any event at **least** 'once every six months, report in writing to the

Department of Water Resources such efforts it is making to assess a condition whereby the **classification** can revert to Class B, such report to include discussion of any new methods of effluent disposal, any improvements **in the** previously-investigated methods of effluent disposal, and any relevant economic considerations. If at any time **the Commissioner** of Water Resources believes that the Lake St. Catherine Inn is not in good faith making such efforts, such fact will be reported to the Water Resources Board which **shall, there** upon hold a Public Hearing to determine if the Classification should be returned to Class B.

23. Condition (e) has not been fully complied with in the past. Discharge Permit #1-348 establishes a specific schedule by which the required report is to be submitted. The March 20, 1985 report prepared by Michael Roberts, P.E. on behalf of the Inn referred in #20 above was submitted in compliance with this condition.
24. The continuation of the Inn's discharge to Lake St. Catherine is in compliance with the conditions of the Board's 1977 Classification Order and the Vermont Water Quality Standards.,

Order

Based on the above findings of fact and conclusions of law, the Water Resources Hoard under the authority of 10 V.S.A. §1269, hereby amends Discharge, Permit #1-348 as follows:

1. That portion of Condition 7 "Wastes Permitted" which establishes effluent limits for Total Phosphorus shall be amended to read as follows:

Total Phosphorus	Concentration not to exceed 10 mg/l (monthly maximum)
	Total pounds of phosphorus not to exceed 15 pounds in any calendar year
2. Condition 13 "Monitoring and Reporting Requirements" shall be amended to read as follows:

#13 Monitoring and Report Requirements: The treated effluent shall be sampled for the following parameters according to the monitoring schedule below from the period June 1st though October 31st. For any month during the "off season" period between November 1st and May 30th in which the Inn is open one or more days, it shall notify the Department. During off season operation, the Inn shall comply with the daily

monitoring requirements and such additional *monitoring* requirements established in the monitoring schedule ~~belc~~ as the Department may require.

a. Monitoring Schedule

<u>Parameter</u>	<u>Sampling Frequency</u>	<u>Sample Type</u>
Flow	Daily	Total Daily Flow
BOD₅	1 x monthly	8 hr composite (1)
Total Suspended Solids (TSS)	1 x monthly	8 hr composite (1)
Fecal Coliform	1 x monthly	grab (2)
Total Residual Chlorine	1 x daily	grab (2)
pH	1 x monthly	grab (1)
Total Phosphorus	1st of the month and every 3rd day for balance of the month	grab

- b. Monthly testing for **BOD₅** and TSS are to be 8 hour composite samples taken during the twelve hour period between 6:00 a.m. and 6:00 p.m.
- c. Sampling for phosphorus shall occur on the 1st day of each month for which monitoring is required and on every third day for the balance of that month. The **time** of day at which such samples are collected shall be recorded and must be varied. The individual grab samples, for phosphorus shall be composited and stored, in a **single** container until the end of the month with a **single composite** sample submitted for testing.
- d. On the day that the monthly coliform grab sample is collected, the daily total residual chlorine grab sample for **that** day shall be collected at the same time and location as the coliform sample.
- e. Results of monthly tests shall be submitted to the Department of Water Resources and Environmental Engineering, c/o Virginia Little, Permits and Compliance

Section **with** an informational copy to the Town of
Poultney Health Officer prior to the tenth day of the
succeeding month.

- f. A daily log shall be maintained for total daily flow and total residual chlorine. This daily log shall be maintained June '1 through **October 31st** and for any other days that the Inn is in operation.

3. Condition 14 is amended, to read as **follows**:

#14 Miscellaneous Requirements:

- (a) The permittee shall use nonphosphorus soaps and detergents in connection with the operation of the Inn order to reduce the discharge of the nutrient phosphorus.
- (b) In compliance with condition e of the Water Resources Board Classification Order dated January 25, 1977 the permittee shall submit a written report updating the report dated **March 20, 1985** prepared by Michael Roberts. This report shall include the following information:
- (1) Any changes in the operation of the Inn which have the potential to affect either the volume or nature of the wastes from the Inn.
 - (2) Any changes in technology which **may be** pertinent to the Inn's discharge.
 - (3) Any changes in the availability of land suitable for the construction of an economically feasible on-site waste disposal facility.
 - (4) A preliminary estimate for constructing an on-site waste disposal **which complies** with the applicable state and local regulations on any land identified in accordance with **#3** above.

This report shall be submitted by March 30th and September 30th for each calendar year to the Department of Water Resources; c/o Virginia Little, Permits and Compliance Section with an informational copy provided to the Town of Poultney Health Officer. The testimony submitted by the Inn at the August 29, 1985 hearing-in conjunction **with the** appeal **of** this permit shall satisfy the September 30, 1985 reporting requirement. The next report is due March 30, 1986.

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All terms and conditions of Discharge Permit No. #1-348 as issued by the Department of Water Resources on October 4, 1984, which are not specifically amended by this order shall remain in effect.

Done this 26th day of September, 1985, at Burlington, Vermont.

For the Vermont Water
Resources Board


Catharine B. Rachlin
Chairman

kgr

later Resources Board
members in favor of
his decision:

Catharine B. Rachlin
William Boyd Davies
William D. Countryman

later Resources Board
member not participating
in this proceeding:

Mathleen A. Scheele

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