

## **Appendix B: Certificate of Approval**



Ontario

Ministry of Environment and Energy

Min. ère de l'Environnement et de l'Énergie

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JUL 24 1996

TOTTEN, SIMS, HUBICKI ASSOCIATES  
WHITBY, ONTARIO

CERTIFICATE OF APPROVAL

SEWAGE

NUMBER 3-1337-81-968

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TOWNSHIP OF RAMARA  
Box 130, (Hwy. 12)  
Breachin, Ontario  
L0K 1B0

*You have applied in accordance with Section 53 of the Ontario Water Resources Act for approval of:*

upgrading of the existing sanitary sewage treatment and disposal system serving the community of Bayshore Village in the Township of Ramara, located on Lot 21, Concession 7 in the Mara part of the Township of Ramara, consisting of a two-cell sewage lagoon and a spray irrigation field (the South Field), originally constructed under the Certificate of Approval No. 3-0304-77-006, dated June 1, 1977, and subsequently upgraded under the Certificate of Approval No. 3-1337-61-827 dated November 25, 1982, as amended by Notices dated June 6, 1985, July 7, 1992, April 18, 1994, and November 1, 1995, involving establishment of an additional spray irrigation field (the North Field) on Lot 22, Concession 8 in the Mara part of the Township of Ramara, with the existing and proposed facilities consisting of the following:

Sewage Lagoon

a sewage stabilization and storage lagoon system consisting of two (2) cells operated in series, as follows:

- a clay lined settling cell (Cell "B"), receiving sewage from the Village via an existing forcemain in Sideroad 20, having a total area of 1.6 ha, a total depth of 3.1 m (including a 0.3 m sludge storage bottom dead zone and a 0.66 m freeboard), and an effective storage capacity of 21,600 m<sup>3</sup>, including a cell bottom forcemain inlet structure with a 200 mm diameter valved connection (valve normally open) to the forcemain in Sideroad 20, a 250 mm diameter valved cell outlet pipe to the below described storage cell (Cell "A"), and a 300 mm diameter cell overflow pipe to Cell "A" with a rip-rap berm protection at both (Cell "B" and Cell "A") ends of the pipe;
- a clay lined storage cell (Cell "A"), receiving settled sewage from the above-described Cell "B", having a total area of 6.2 ha, a total depth of 3.1 m (including a 0.3 m sludge storage bottom dead zone and a 0.66 m freeboard), and an effective storage capacity of 109,925 m<sup>3</sup>, including a cell bottom forcemain inlet structure with a 200 mm diameter valved connection (valve normally closed) to the forcemain in Sideroad 20, and a 1.5 m deep reinforced concrete lagoon effluent intake sump in the bottom of the cell, having walls extending 0.3 m above the bottom of the cell with stop log guides for extension of the walls up to 0.6 m above the bottom of the cell;



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Effluent Spray Irrigation System

a lagoon effluent pumping station consisting of a 3.0 x 3.6 m wood frame building located adjacent to the lagoon, housing one (1) 75 hp electric motor driven centrifugal sewage pump rated at 132 L/s at a TDH of 38. m with a 250 mm diameter suction pipe to the above-described lagoon effluent intake sump in Cell "A" with a self-cleaning rotating intake strainer, and a 300 mm diameter discharge pipe to the below-described South Field effluent distribution system, equipped with a magnetic flowmeter;

a 23.0 ha effluent spray irrigation field (South Field), located immediately to the north and east of the above described sewage lagoon, consisting of four (4) spray irrigation sites equipped with independently operated systems of sprinkler heads serviced by dedicated systems of distribution mains and laterals with valved connections to the above-described pumping station's discharge pipe, with the individual spray irrigation sites sized as follows:

- Site A1: 65,293 m<sup>2</sup>
- Site B2: 26,855 m<sup>2</sup>
- Site C2: 36,506 m<sup>2</sup>
- Site C3: 11,382 m<sup>2</sup>

an 18.6 ha effluent spray irrigation field (North Field), located northwest of the above-described South Field, consisting of three (3) spray irrigation sites equipped with independently operated systems of sprinkler heads serviced by dedicated systems of distribution mains and laterals with valved connections to an approximately 630 m long 250 mm diameter transmission forcemain from the above-described pumping station's discharge pipe at the north end of the South Field, with the individual spray irrigation sites sized as follows:

- Site B1: 37,643 m<sup>2</sup>
- Site C1: 65,564 m<sup>2</sup>
- Site D1: 16,312 m<sup>2</sup>

all in accordance with application for approval dated April 10, 1996, and supporting documentation prepared by Totten Sims Hubicki Associates, Consulting Engineers.

DEFINITIONS

For the purpose of this Certificate of Approval and the terms and conditions specified below, the following definitions apply:

- (1) "certificate" means this entire certificate of approval document, issued in accordance with Section 53 of the Ontario Water Resources Act, and includes any schedules;
- (2) "Director" means any Ministry employee appointed by the Minister pursuant to section 5 of the Ontario Water Resources Act.



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- (3) "Ministry" means the Ontario Ministry of Environment and Energy;
- (4) "Regional Director" means the Regional Director of the Mid-Ontario Region of the Ministry;
- (5) "District Manager" means the District Manager of the Barrie District Office of the Ministry's Mid-Ontario Region;
- (6) "Owner" means the Corporation of the Township of Ramara;
- (7) "works" means the sewage works described in the Owner's application to this certificate and in the supporting documentation referred to herein to the extent approved by this certificate;
- (8) "sewage treatment plant" means the entire sewage treatment system including the effluent disposal facilities;
- (9) "grab sample" means an individual sample of at least 1000 millilitre collected in the appropriate container at a randomly selected time over a period of time not exceeding 15 minutes;
- (10) "average daily flow" means the cumulative total sewage flow to the sewage works during a particular calendar year divided by the number of days within that year during which sewage was flowing to the sewage works;
- (11) "average effluent application rate" means the total volume of effluent applied to a spray irrigation field during a particular spray irrigation season divided by the number of days within that season during which effluent was actually applied to that field;
- (12) "spray irrigation season" means the period of time starting on the first and ending on the last day of application of effluent to the spray irrigation field(s) during a particular calendar year;
- (13) "BOD<sub>5</sub>" means five day carbonaceous biochemical oxygen demand measured on an unfiltered sample;

#### TERMS AND CONDITIONS

*You are hereby notified that this approval is issued subject to the following terms and conditions outlined below:*

##### 1. PERFORMANCE

- 1.1 The Owner shall ensure that the flow of sewage into the sewage treatment plant does not exceed the average daily flow of 399 m<sup>3</sup>/d for any period of time greater than one (1) calendar year.



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- 1.2 The owner shall ensure that the effluent spray irrigation system is operated in such a manner that the average rate of effluent application to any of the approved spray irrigation fields does not exceed the average effluent application rate of 55 m<sup>3</sup>/ha/day.
- 1.3 The Owner shall ensure that the effluent spray irrigation system is only operated during frost free periods between May 18 and September 28. Should it be necessary to operate the system prior to May 18 or after September 28 of any year, the Owner shall obtain a prior written approval for such an extended operation from the District Manager on a case-by-case basis.
- 1.4 The Owner shall ensure that the effluent spray irrigation system is operated in a manner that precludes the sprayed effluent ponding, run-off, and aerosol drift beyond the limits of the approved spray irrigation fields at all times.
- 1.5 Any diversion of sewage from any portion of the sewage works is prohibited, except where it is unavoidable in preventing loss of life, danger to public health, personal injury or severe property damage.

2. MONITORING AND RECORDING

- 2.1 The Owner shall ensure that the following monitoring program is carried out upon commencement of operation of the works:
  - (a) Daily quantities of sewage being conveyed to the sewage treatment plant and the lagoon effluent being disposed of by spray irrigation onto individual spray irrigation fields shall be measured or estimated, and recorded.
  - (b) Samples of raw sewage, lagoon effluent ahead of the spray irrigation system, groundwater in monitoring wells within and around the spray irrigation fields, surface water in the Wainmans Creek up-stream and down-stream of the spray irrigation fields, and the soil within the spray irrigation fields shall be collected at locations satisfactory to the District Manager and analyzed for at least the following parameters at the indicated minimum frequencies:

<u>Raw Sewage Parameter</u>	<u>Type of Sample</u>	<u>Minimum Frequency</u>
BOD <sub>5</sub>	grab	monthly
Suspended Solids	grab	monthly
Total Phosphorus	grab	monthly
Total Kjeldahl Nitrogen	grab	monthly



<u>Lagoon Effluent Parameter</u>	<u>Type of Sample</u>	<u>Minimum Frequency</u>
BOD <sub>5</sub>	grab	annually*
Suspended Solids	grab	annually*
Total Phosphorus	grab	annually*
Total Kjeldahl Nitrogen	grab	annually*
(Ammonia + Ammonium) Nitrogen	grab	annually*

\* The annual sampling of the lagoon effluent shall take place at the beginning of each spray irrigation season.

<u>Surface Water Parameter</u>	<u>Type of Sample</u>	<u>Minimum Frequency</u>
BOD <sub>5</sub>	grab	3 per season**
Suspended Solids	grab	3 per season**
Total Phosphorus	grab	3 per season**
Total Kjeldahl Nitrogen	grab	3 per season**
(Ammonia + Ammonium) Nitrogen	grab	3 per season**
Nitrates	grab	3 per season**
Nitrites	grab	3 per season**
pH	grab	3 per season**
Temperature	grab	3 per season**

\*\* The surface water sampling shall take place prior to, in the middle, and after each spray irrigation season, provided that there is flow in the stream.

<u>Soil Parameter</u>	<u>Type of Sample</u>	<u>Minimum Frequency</u>
Total Organic Carbon	core	annually***
Total Phosphorus	core	annually***
Total Kjeldahl Nitrogen	core	annually***
Ammonia + Ammonium Nitrogen	core	annually***
Nitrite + Nitrate Nitrogen	core	annually***
Chlorides	core	annually***
Sodium	core	annually***
Conductivity	core	annually***
pH	core	annually***

\*\*\* The annual soil sampling shall take place prior to each spray irrigation season.

(c) The sampling and analyses required by clause (b) above shall be performed in accordance with the Ministry's Policy No. 08-06; "Protocol for the Sampling and Analysis of Industrial - Municipal Wastewater", Ministry of Environment, July 1993; or as described in "Standard Methods for Examination of Water and Wastewater", 17th Edition, 1990, as amended from time to time by more recently published editions.



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2.2 The Owner shall retain for a minimum of three years from the date of their creation, all records and information related to or resulting from the monitoring activities required by this certificate.

2.3 Following review of any of the analytical results required by Condition 2.1 or any of the reports required by Condition 4.1 of this certificate, the District Manager may alter the frequencies and locations of sampling and parameters for analysis required by Condition 2.1 if, he/she considers it necessary for proper assessment of the operation of the sewage treatment plant and its impact on the environment or if he/she is requested to do so by the Owner and considers it acceptable by the evidence of information submitted in support of the request.

### 3. OPERATION AND MAINTENANCE

3.1 The Owner should ensure that the application of effluent to individual irrigation sites within the approved spray irrigation field(s) and rotation of the irrigation sites is carried out in a manner that maximizes evapotranspiration and allows the soil to dry out periodically.

3.2 The Owner should ensure that whenever ponding or run-off of sprayed effluent occurs, the application of effluent to the affected area of the spray irrigation field is immediately terminated, and adequate time is allowed before resumption of the application of effluent to that area for the area to dry to a degree that would preclude immediate recurrence of ponding or run-off.

3.3 The Owner should ensure that no effluent application to the spray irrigation fields takes place during rainfall, when the ground is saturated, and when the wind velocity exceeds 15 km/hr.

3.4 The Owner shall provide and maintain:

- a) permanent fences around the entire spray irrigation fields, and
- b) suitably posted signs at all points of access to all spray irrigation fields, indicating that treated sewage effluent is being used to irrigate the field and that trespassing is prohibited.

3.5 Based on the performance requirements and operational objectives stipulated above in Conditions 1.1 through 1.4 and 3.1 through 3.3, the Owner shall prepare an operations manual within six (6) months of commissioning of the sewage works and keep it up to date. Upon request, the Owner shall make the manual available for inspection by the Ministry personnel and furnish a copy to the Ministry.



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- 3.6 The Owner shall prepare and make available for inspection by Ministry personnel upon request, a complete set of drawings within one (1) year of substantial completion of the sewage works. The drawings shall show the sewage works as constructed at that time.
- 3.7 A complete set of the record drawings, incorporating any amendments made from time to time, shall be kept by the Owner at the site of the sewage works for as long as the sewage works are kept in operation.
- 3.8 In order to prevent or minimize any unacceptable liquid discharges and gas and odour emissions into the natural environment, the Owner shall ensure that contingency plans and procedures are established and adequate equipment and material are available for dealing with emergency and upset conditions including equipment breakdowns at the sewage works, flooding, overflows of raw and partly treated sewage and spills of sludge into or out of the sewage works. The Owner shall establish notification procedures to be used to contact the District Manager and other relevant authorities in the case of an emergency and upset conditions.
- 3.9 The Owner shall establish procedures for receiving and responding to complaints including a reporting system which records what steps were taken to determine the cause of complaint and the corrective measures taken to alleviate the cause and prevent its reoccurrence.
- 3.10 The Owner shall provide for the overall operation of the sewage treatment plant with an operator who holds a licence that is applicable to that type of facility and that is of the same class as or higher than the class of the facility in accordance with Ontario Regulation 435/93.

#### 4. REPORTING

- 4.1 One week prior to the start up of the operation of the works, the Owner shall notify the District Manager (in writing) of the pending start up date.
- 4.2 The Owner shall prepare, and upon request, submit to the District Manager annual performance reports for the sewage treatment plant. The first such report shall cover the period from the commencement of operation of the sewage works to the end of the calendar year and shall be prepared within the following ninety (90) calendar days. Each subsequent annual report shall be prepared within ninety (90) calendar days following the completion of the calendar year being reported upon. The reports shall contain the following information in a format acceptable to the District Manager:
- (a) a summary of all monitoring data, including an overview of the success and adequacy of the sewage treatment program;





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- (b) a tabulation of all monitoring and analytical results obtained during the reporting period, including sampling/monitoring location and date;
- (c) a record of the operation of the spray irrigation system, including dates and hours of operation, irrigation areas utilized, rates of effluent application, and volumes of effluent applied;
- (d) an account of any environmental and operating problems encountered at the site and the mitigative measures taken during the reporting period.

*The reasons for the imposition of these terms and conditions are as follows:*

1. Conditions 1.1 through 1.4 are included to ensure that the flow of sewage to the treatment plant, and the times, manner and rates of effluent application to the spray irrigation fields are within the approved treatment capacity of the works.
2. Conditions 2.1 through 2.2 relating to monitoring and recording the quality and quantity of the effluent from the sewage treatment plant on a continual basis are required to enable the Owner to evaluate the performance of the works and to ensure that it is operated and maintained at a level which is consistent with the design objectives and other requirements of this certificate.
3. Conditions 3.1 through 3.10 are included to ensure that the works will be operated, maintained, funded, staffed and equipped in a manner enabling compliance with the terms and conditions of this certificate, such that the environment is protected and deterioration, loss, injury or damage to any person or property is prevented.
4. Conditions 4.1 through 4.2 are included to ensure that all pertinent information is available for the evaluation of the performance of the sewage works.

This Certificate revokes and supersedes Certificate of Approval No. 3-1337-81-827 dated November 25, 1982, as amended by Notices dated June 6, 1985, July 7, 1992, April 18, 1994, and November 1, 1995.

*In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, Chapter O.40, as amended, you may by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, require a hearing by the Board. Section 101 of the Ontario Water Resources Act, provides that the Notice requiring the hearing shall state:*

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.



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The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the sewage works are located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary,  
Environmental Appeal Board,  
112 St. Clair Avenue West,  
Suite 502,  
Toronto, Ontario.  
M4V 1N3

AND

The Director,  
Section 53, Ontario Water Resources Act,  
Ministry of Environment and Energy,  
250 Davisville Avenue, 3rd Floor,  
Toronto, Ontario.  
M4S 1H2

The above noted sewage works are approved under Section 53 of the Ontario Water Resources Act.

DATED AT TORONTO this 17th day of July, 1996.

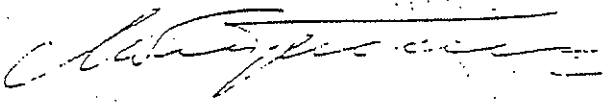
THIS IS A TRUE COPY OF THE  
ORIGINAL CERTIFICATE MAILED

ON July 19, 1996

(Signed)

MT/nk

Attn: -F.B. Mangan, Clerk, Township of Ramara  
cc: -District Manager, MOEE Barrie District Office  
-S. Blakey, P. Eng., Totten Sims Hubicki Associates

  
\_\_\_\_\_  
D.F. Carr, P. Eng.,  
Director,  
Section 53,  
Ontario Water Resources Act.