



Ministry
of the
Environment

Ministère
de
l'Environnement

AMENDED CERTIFICATE OF APPROVAL
MUNICIPAL AND PRIVATE SEWAGE WORKS
NUMBER 8724-52CNGC

Azurix North America (Canada) Corp.
100 King Street West, No. 2200
Hamilton, Ontario
L8P 1A2

Site Location: Horseshoe Valley
Part 1, Plan 51R-9977
Township of Oro-Medonte, County of Simcoe
L4M 4Y8

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

An upgrade of the Horseshoe Valley Sewage Treatment Plant with the installation of remaining sewage works components previously approved under Certificate of Approval No. 3-0845-95-966 and four Notices of Amendments to achieve its rated sewage treatment capacity of 810 cubic meters to service the Horseshoe Valley Resort (including 50 cubic meters allocated to Copeland Forest Lands) in the Township of Oro-Medonte, consisting of the following:

PRE-TREATMENT FACILITY

! One (1) stainless steel screen with screen opening of 6 mm in a 0.5 m wide channel, equipped with a by-pass channel, installed in a screen building located upstream of the grit removal channel described below;

! Two (2) grit removal channels each 8.0 m long x 0.5 m wide and 0.9 m deep located upstream of the sequencing batch reactors;

SEQUENCING BATCH REACTOR

! One (1) sequencing batch reactor (SBR) for biological sewage treatment with nitrification consisting of a basin of 14.0 metres long by 4.57 metres wide with top water level of 5.0 metres and equipped with a fine bubble diffuser system, one (1) sludge transfer pump capable of delivering 7.3 litres per second @ 6.5 metres TDH and a motorized supernatant decanting arm;

AIR SUPPLY SYSTEM

! Two (2) air blowers, located in the Equipment Building, each rated at 130 cfm @ 7.5 psig with air supply lines to sequencing batch reactor basins and the sludge storage tank;

SLUDGE STORAGE FACILITY

! One (1) sludge storage lagoon with a holding capacity of 130 m³ and an operating depth of 1.5 meters, constructed with a geosynthetic clay liner, and located north of the ex-filtration lagoons and west of the sequencing batch reactors;

TERTIARY FILTRATION FACILITY

! One (1) submersible filtration effluent pump with a rated capacity of 19.0 L/s @ 10.0 TDH serving the filtration units;

! One (1) new upflow continuous backwash dynamic deep-bed granular-media filter unit with a rated capacity of 1200 m³/day with a surface area of 4.6 m²;

CHEMICAL STORAGE SYSTEM

! One (1) 7,570 litres chemical storage tank, located in the Equipment Building.

This approval consolidates and incorporates the following existing sewage works which were constructed under the approval dated February 19, 1996 and subsequent amendments:

SEQUENCING BATCH REACTORS

! Two (2) sequencing batch reactors (SBR) for biological sewage treatment with nitrification each SBR basin being 14.0 metres long by 4.57 metres wide with top water level of 5.0 metres and equipped with a fine bubble diffuser system, one (1) sludge transfer pump capable of delivering 7.3 litres per second @ 6.5 metres TDH and a motorized supernatant decanting arm.

CHEMICAL FEED SYSTEM

! Two (2) chemical feed pumps (one on standby) each capable of delivering 4.0 L/hour @ 896 kPa into the sequencing batch reactor basins and the tertiary filters;

AIR SUPPLY SYSTEM

! Three (3) air blowers, located in the Equipment Building, each rated at 130 cfm @ 7.5 psig with air supply lines to sequencing batch reactor basins and the sludge storage tank;

SLUDGE STORAGE FACILITY

! One (1) aerated sludge storage tank with a storage capacity of 120 m³ and equipped with one (1) sludge pump with a rated capacity of 5.0 L/s @ 13.0 m TDH and a supernatant decant pump with a rated capacity of 5.0 L/s @ 5.0 m TDH discharging into the sequencing batch reactors;

TERTIARY FILTRATION FACILITY

! One (1) effluent storage tank with a storage capacity of 186 m³ equipped with two (2) filtration effluent submersible pumps (one on standby) each with a rated capacity of 19.0 L/s @ 10.0 TDH, serving the filtration units;

! Two (2) downflow continuous backwash dynamic deep-bed granular-media filter units each with a rated capacity of 600 m³/day with a surface area of 1.8 m².

TREATED EFFLUENT DISPOSAL FACILITY

! Three (3) treated effluent ex-filtration lagoons, located just south of the sewage treatment plant, each having a surface area of 350 m², an operating depth of one metre, and equipped with a 100 mm perforated pipe distribution network.

including all related piping, valves, flowmeters, appurtenances, instrumentation, mechanical and electrical equipment.

All in accordance with the following documentation and submissions:

1. Prepurchase Documents for Supplying, Delivering, Checking the Installation, and Commissioning of Sequencing Batch Reactors dated May, 1996, Contract Documents and Specifications dated July 1996, Engineering Plans revised July 1996, as well as engineering details in correspondence dated July 17, 1996, July 19, 1996, July 24, 1996, August 1, 1996 and August 28, 1996 altogether as submitted by THORBURN PENNY, Consulting Engineers;
2. Owner's letter dated September 24, 1996 to the Township of Oro-Medonte stating the service areas as shown in "Proposed Servicing Plan Drawing No. G3 revised February 17, 1997;
3. Application for Approval of Municipal and Private Sewage Works submitted by Azurix North America (Canada) Corp. dated June 15, 2001 for the upgrade of the existing sewage treatment system;
4. "Supporting Document for Amendment to Certificate of Approval No. 3-0845-95-966 - Horseshoe Valley Resort,

CONTENT COPY OF ORIGINAL

Sewage Treatment Upgrades - June 2001, prepared Azurix, An Enron Company;

5. "Municipal Responsibility Agreement between the Township of Oro-Medonte and Azurix North America (Canada) Corp." date September 30, 2001.

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*;
- (3) "Ministry" means the Ontario Ministry of the Environment;
- (4) "Regional Director" means the Regional Director of the Southwestern Region of the Ministry;
- (5) "District Manager" means the District Manager of the Barrie District Office of the Ministry's Southwestern Region;
- (6) "Owner" means Azurix North America (Canada) Corp.;
- (7) "works" means the sewage works described in the Owner's application, 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 discharge facilities;
- (9) "grab sample" means an individual sample of at least 1000 millilitres collected in an appropriate container at a randomly selected time over a period of time not exceeding 15 minutes;
- (10) "annual average concentration" means the arithmetic mean of the monthly average concentrations of a contaminant in the effluent calculated for any particular calendar year;
- (11) "average daily flow" means the cumulative total sewage flow to the sewage works during a particular calendar year divided by the number of days during which sewage was flowing to the sewage works that year;
- (12) "annual average loading" means the value obtained by multiplying the annual average concentration of a contaminant by the average daily flow over the same calendar year.
- (13) "CBOD5" means five day carbonaceous (nitrification inhibited) biochemical oxygen demand measured in an unfiltered sample;
- (14) "Environmental Appeal Board" means the Environmental Review Tribunal established pursuant to the *Environmental Review Tribunal Act*;

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

TERMS AND CONDITIONS

1. PERFORMANCE

1.1 The Owner shall ensure that the rate of sewage flow into the sewage treatment plant does not exceed the peak flow rate of 2,795 m³/day at any time.

1.2 The Owner shall ensure that the average daily flow of sewage into the sewage treatment plant does not exceed 810 m³/day for any period of time greater than one (1) calendar year.

1.3 Any diversion of sewage flow from any portion of the sewage works is prohibited, except:

- (a) where it is unavoidable in preventing loss of life, danger to public health, personal injury or severe property damage; or
- (b) where it is necessary for the purpose of essential maintenance of the sewage works to assure their efficient operation, provided that the effluent quality requirements set out in Condition 1.4 will not be exceeded and the District Manager has given a prior written approval for the bypass; or
- (c) where the Regional Director has specifically approved it in writing.

1.4 The Owner shall design, construct and operate the sewage treatment plant such that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent from the plant, as determined in accordance with Condition 1.5:

<u>Effluent Parameter</u>	<u>Concentration</u>	<u>Loading</u>
CBOD5	10.0 mg/L	8.1 kg/d
Suspended Solids	10.0 mg/L	8.1 kg/d
Total Phosphorus	0.3 mg/L	0.24 kg/d
(Ammonia + Ammonium) Nitrogen	3.0 mg/L	2.4 kg/d
Total Nitrogen	10.0 mg/L	8.1 kg/d

Note: Total Nitrogen means the combined values, as nitrogen, for **Total Kjeldahl Nitrogen, Total Nitrite, and Total Nitrates.**

1.5 For the purpose of determining compliance with and enforcing Condition 1.4:

(a) Non-compliance with respect to concentrations of **CBOD5, Suspended Solids, Total Phosphorus, (Ammonia + Ammonium) Nitrogen, and Total Nitrogen** in the effluent is deemed to have occurred when the annual average concentration of any of the parameters, as defined in this certificate, based on all samples taken in accordance with Condition 2.1, supplemented by spot sampling by the Ministry's staff as necessary, during any calendar year, exceeds its corresponding concentration in effluent specified above in Condition 1.4.

(b) Non-compliance with respect to loadings of **CBOD5, Suspended Solids, Total Phosphorus, (Ammonia + Ammonium) Nitrogen, and Total Nitrogen** in the effluent is deemed to have occurred when the annual average loading of any of the parameters, as defined in this certificate, based on all samples taken in accordance with Condition 2.1, supplemented by spot sampling by the Ministry's staff as necessary, during any calendar year, exceeds its corresponding loading from effluent specified above in Condition 1.4.

(c) Data generated in accordance with the monitoring program and the flow measurement requirements outlined in Condition 2.1 and utilized in accordance with clauses (a) and (b) above shall be deemed to be conclusive of the minimum actual concentrations of the contaminants in the effluent from the works and minimum loadings of the contaminants to the receiving waters from the effluent.

1.6 The Owner shall maintain the pH of the effluent from the sewage treatment plant within the range of 6.0 to 9.5, inclusive, at all times. Non-compliance with respect to this requirement is deemed to have occurred when any single measurement is outside of this range.

1.7 The performance criteria set out in Conditions 1.1 through 1.6 shall come into effect one month from the date of issuance of this Certificate of Approval.

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) A sufficient number of flow measuring devices, calibrated at regular intervals not exceeding one year to ensure their accuracy to within plus or minus 5% of actual rate of flow within the range of 10% to 100% of the full scale reading of the measuring devices, shall be installed, maintained and operated in order to measure and record:

CONTENT COPY OF ORIGINAL

- (i) the quantity of sewage being conveyed to and through the sewage treatment plant;
- (ii) the quantity of sewage being bypassed without treatment.

(b) For each by-pass event, the time, location, duration and the reasons for the occurrence shall be recorded along with the quantity of bypass.

(b) Samples of raw sewage and final effluent from the sewage treatment plant shall be collected 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>
CBOD5	grab	monthly
Suspended Solids	grab	monthly
Total Phosphorus	grab	monthly
Total Kjeldahl Nitrogen	grab	monthly
<u>Final Effluent Parameter</u>	<u>Type of Sample</u>	<u>Minimum Frequency</u>
CBOD5	grab	monthly
Suspended Solids	grab	monthly
Total Phosphorus	grab	monthly
(Ammonia + Ammonium) Nitrogen	grab	monthly
Total Kheldahl Nitrogen	grab	monthly
Total Nitrite	grab	monthly
Total Nitrate	grab	monthly
E. Coli	grab	monthly

In addition to the above routine sampling program, on site testing should be performed at least three (3) times a week, Monday to Friday, and results recorded for the following final effluent parameters:

pH, Temperature.

(c) The sampling and analyses required by clauses (b) and (c) above shall be performed in accordance with the Ministry's "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater", Ministry of the Environment, Revised January 1999; or as described in the American Public Health Association's publication "Standard Methods for Examination of Water and Wastewater", 20th Edition, 1998, or more recently published editions.

2.2 If the Owner monitors any of the effluent parameters required by Condition 2.1, at the designated locations and in accordance with Condition 2.1, more frequently than it is required by that condition, the analytical results of all such samples, both required and additional, shall be included in the calculating and reporting of the values required by this certificate, and the increased frequency, or all dates of sampling, shall also be specified in the reports.

2.3 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.

3. OPERATION AND MAINTENANCE

3.1 In order to ensure continuous compliance with the performance criteria stipulated in Conditions 1.1 through 1.6 the Owner shall use best effort to operate the sewage treatment plant with the objective that the concentrations and total loadings of the materials named below as effluent parameters are not exceeded in the effluent from the plant, as determined in accordance with Conditions 1.5 through 1.6:

<u>Effluent Parameter</u>	<u>Concentration</u>	<u>Loading</u>
CBOD5	5.0 mg/L	4.05 kg/d
Suspended Solids	5.0 mg/L	4.05 kg/d
Total Phosphorus	0.2 mg/L	0.16 kg/d
(Ammonia + Ammonium) Nitrogen	2.0 mg/L	1.62 kg/d
pH	6.0 - 8.5	-

3.2. The Owner shall endeavour to operate the sewage treatment plant such that the effluent will not contain any oil or other substance in amounts sufficient to create a visible film or sheen on the surface of the receiving waters and shall be essentially free of any floating material.

3.3 Based on the operational objectives stipulated above in Conditions 3.1 and 3.2, the Owner shall prepare an operations manual within six (6) months of introducing sewage to 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.

3.4 Within one (1) year of substantial completion of the sewage works, the Owner shall prepare a set of record drawings which shall show the sewage works as constructed at that time, and keep the drawings up-to-date, incorporating all modifications made to the works throughout its operational life.

3.5 The Owner shall keep a complete set of the up-to-date record drawings required to be prepared by Condition 3.4 at the site of the sewage works throughout the operational life of the sewage works, and upon request, shall make the drawings available for inspection by Ministry staff.

3.6 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 or chemicals 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.

3.7 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.

3.8 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 report to the District Manager any loading, concentration or other result that exceeds an effluent limit stipulated in Conditions 1.1 through 1.6 orally, as soon as is reasonably possible, and in writing within seven (7) days of becoming aware of the exceedance.

4.3 The Owner shall notify the District Manager:

(a) of anticipated bypasses at least (10) days prior to the date of the bypass or otherwise on the earliest date possible;

(b) of unanticipated bypasses forthwith; and

(c) the notice in either case shall include information with respect to the anticipated adverse effects on the natural environment and the duration of the bypass.

4.4 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;

- (b) a comprehensive interpretation of all monitoring and analytical data obtained during the reporting period, and a comparison to the effluent quality and quantity criteria stipulated in Conditions 1.1 through 1.6;
- (c) a summary of any effluent quality assurance or control measures undertaken during the reporting period;
- (d) a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming a part of the works;
- (e) an account of any environmental and operating problems encountered at the site of the sewage treatment plant and the mitigative measures taken during the reporting period;
- (f) a summary of any alterations, extensions or replacements in the process or operation of the works which are considered for implementation over the next reporting period, especially those which may require approval under the *Ontario Water Resources Act*;
- (g) a tabulation of the volume of sludge generated in the reporting period and an outline of anticipated volumes to be generated in the next reporting period;
- (h) an outline of the proposed sludge handling methods and disposal areas to be utilized over the next reporting period;
- (i) a summary of the calibration and maintenance procedures conducted on all monitoring equipment;

5. MUNICIPAL RESPONSIBILITY AGREEMENT

5.1 The Owner and the Township of Oro-Medonte have entered into a "Municipal Responsibility Agreement" dated September 30th, 2001 to ensure that the sewage works is operated and maintained in compliance with the terms and conditions stipulated in this certificate.

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

1. Conditions 1.1 and 1.2 are included to ensure that the average daily flow and the rate of flow of sewage through the works are within the approved treatment capacity of the works.
2. Condition 1.3 is included to indicate that bypasses of untreated sewage to the receiving watercourse is prohibited, save in certain limited circumstances where the failure to bypass could result in greater injury to the public interest than the bypass itself, where a bypass will not violate the approved effluent requirements, or where the bypass can be limited or otherwise mitigated by handling it in accordance with an approved contingency plan. The notification and documentation requirements allow the Ministry to take timely abatement and enforcement action in an informed manner and will allow the Owner to be aware of the extent and frequency of bypass events.
3. Conditions 1.4 through 1.7 are imposed to set out the maximum concentrations and related loadings of materials which are allowed in the discharge of effluent from the works to the receiving water body. These limits are established to minimize the environmental impact to the receiver and to protect water quality, fish and other aquatic life in the receiving water body. They are based on the Ministry's publication entitled "Water Management, Policies, Guidelines Provincial Water Quality Objectives of the Ministry of Environment and Energy - July 1994", and recommendations of the International Joint Commission on the Great Lakes.
4. Conditions 2.1 through 2.4 relating to monitoring and recording the quality and quantity of the effluent from the sewage treatment plant on the 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.
5. Conditions 3.1 and 3.2, are included to set out non-enforceable effluent quality objectives which the Owner is obligated to use best efforts to strive towards on an ongoing basis. It is the Ministry's experience that setting of such objectives

coupled with the bona fide efforts of the operating authority to achieve them tends to assist the operating authority in complying with the generally less stringent effluent requirements specified in Condition 1.4 thereby serving the environmental goals set out in the reason for the latter.

6. Conditions 3.3 through 3.8 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.

7. Conditions 4.1 thorough 4.4 are included to ensure that all pertinent information is available for the evaluation of the performance of the sewage works, and that disposal of sludge generated at the sewage works is in accordance with the Guidelines for the Utilization of Biosolids and Other Wastes on Agricultural Land and consistent with requirements of Part V of the *Environmental Protection Act*.

8. Condition 5.1 is included to ensure that the Township of Oro-Medonte will assume the responsibility for operating and maintainig the sewage works in the event of default by the Owner to implement environmental measures which are necessary in the public interest to prevent the deterioration, loss, injury or damage to any person, property or the natural environmental, all as mandated by Part XII of the *Environmental Protection Act*.

Reason for the Amendment

The reason for issuing a consolidated amended certificate is that final plans, drawings, and design specifications to upgrade the existing wastewater treatment plant to achieve its rated capacity were submitted by Azurix North America (Canada) Corp.

This Certificate of Approval revokes and replaces Certificate(s) of Approval No. 3-0845-95-966 issued on February 19, 1996, Notice of Amendment to C of A No. 3-0845-95-966 issued on September 12, 1996, Notice of Amendment to C of A No. 3-0845-95-966 issued on December 27, 1996, Notice of Amendment to C of A No. 3-0845-95-966 issued on April 1, 1997, and Notice of Amendment to C of A No. 3-0845-95-966 issued on April 16, 1999.

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, 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, R.S.O. 1990, Chapter 0.40, 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.

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 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
2300 Yonge St., 12th Floor
P.O. Box 2382
Toronto, Ontario
M4P 1E4

AND

The Director
Section 53, *Ontario Water Resources Act*
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

CONTENT COPY OF ORIGINAL

* Further information on the Environmental Appeal Board's requirements for an appeal can be obtained directly from the Board at: Tel: (416) 314-4600, Fax: (416) 314-4506 or www.ert.gov.on.ca

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

DATED AT TORONTO this 15th day of November, 2001

Mohamed Dhalla, P.Eng.
Director
Section 53, *Ontario Water Resources Act*

SH/
c: District Manager, MOE Barrie
Jim Lunn, Azurix North America Corp.