



Ministry
of the
Environment

Ministère
de
l'Environnement

AMENDED CERTIFICATE OF APPROVAL
MUNICIPAL AND PRIVATE SEWAGE WORKS
NUMBER 0062-6VJT5C
Issue Date: December 5, 2006

Ontario

The Corporation of the City of Cornwall
1125 Ontario Street
Cornwall, Ontario
K6H 5T9

Site Location: Cornwall Wastewater Treatment Plant
2800 Montreal Rd
Cornwall City, United Counties of Stormont, Dundas and Glengarry

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

Modifications and upgrades to the existing sanitary collection system and primary sewage treatment plant, Cornwall Wastewater Treatment Plant, located at 2800 Montreal Road East, City of Cornwall, to achieve a *Rated Capacity* of 54,432 m³/day, as follows:

SEWAGE WORKS APPROVED AS PER APPLICATION DATED JANUARY 6, 2006:

Construct a shallow perforated subdrain to collect approximately 28.8 m³/day of potentially contaminated groundwater from the closed landfill site located under Optimistic Park, East of St. Michael Avenue and North of Lemay Street, City of Cornwall, consisting of the following:

- a subdrain consisting of approximately 220 m long 200 mm diameter perforated pipe, wrapped in geotextile, placed at a depth of 1.0 m below the ditch invert (elevation of 57.0 m amsl), enclosed in a 1.0 m deep x 300 mm wide 10 mm diameter clear crushed stone wrapped in geotextile, equipped with three (3) clean-out port, running along the west side of Optimist Park through manhole MH1, discharging to an existing 1050 mm diameter sanitary sewer on the south side of Lemay Street to the Cornwall Sewage Treatment Plant; and
- including all associated controls and appurtenances.

all in accordance with the Application for Approval of Municipal and Private Sewage Works submitted by The City of Cornwall dated January 6, 2006 and design specifications and drawings prepared by Thompson Rosemount Group, Cornwall, Ontario, and the following documents:

1. "Optimist Park, 2005 Groundwater Quality Investigation Report" dated December 2005, prepared by Thompson Rosemount Group, Cornwall, Ontario.
2. Memorandum on "Optimist Park, Cornwall, 2005 Groundwater Investigation and Workplan" from Bruce Metcalfe, MOE Surface Water Technical Support Section, to Lisa Chalmers, MOE Senior Environmental Officer, dated February 6, 2006.
3. Memorandum on "Optimist Park, Cornwall, 2005 Groundwater Investigation and Workplan" from Bob Putzlocher, Hydrogeologist, MOE Technical Support Section, to Lisa Chalmers, MOE Senior Environmental Officer, dated April 21, 2006.
4. Letter from John St. Marseille, P. Eng., Thompson Rosemount Group, to Lisa Chalmers, MOE Senior Environmental Officer, MOE, dated June 2, 2006 which provides results of a surface water impact assessment of Fly Creek.
5. Memorandum on "Optimist Park, Cornwall, Sub-drain Surface Water Assessment" from Bob Putzlocher, Hydrogeologist, MOE Technical Support Section, to Lisa Chalmers, MOE Senior Environmental Officer, dated July 20, 2006.
6. Memorandum on "Optimist Park, Proposed Sub-drain Construction" from Bruce Metcalfe, MOE Surface Water Technical Support Section, to Lisa Chalmers, MOE Senior Environmental Officer, dated October 4, 2006, includes a recommendation not to allow discharge of potentially leachate contaminated groundwater to Fly Creek.
7. Letter from Norm Levac, P. Eng., City of Cornwall to Stefanos Habtom, P. Eng., MOE, providing a response to a request for additional information dated November 6, 2006 regarding the current performance of the Cornwall Wastewater Treatment Plant.

8. Drawing No. 1 titled " Optimist Park Sub-drain" dated October 3, 2006 showing the layout of the proposed subdrain and connection to the existing 1050 mm diameter sanitary sewer.

SEWAGE WORKS APPROVED ON DECEMBER 19, 2002:

- Installation of two (2) new positive displacement raw sludge pumps each rated at 2.46 L/rev and equipped with a variable speed drive (speed range from 0 to 1575 RPM) to replace two (2) similar aging raw sludge pumps serving Primary Clarifiers No. 1 and No. 2.
- Installation of one (1) new grit tank dewatering pump having a rated capacity of 62 L/sec @ 7.6 m TDH to be used as required for pumping water accumulated in the grit tanks back to the primary clarifier influent chamber;
- Installation of one (1) new boiler with a rated capacity of 2.51 MMBtu to replace an existing aging boiler; and
- Including all associated controls and appurtenances.

All in accordance with the Application for Approval of Municipal and Private Sewage Works submitted by the City of Cornwall dated August 21, 2002 and supporting information and documentation prepared by HSP Engineering and Environmental Services, South Stormont Township, Ontario.

SEWAGE WORKS APPROVED IN 1995 (Certificate of Approval No. 3-1487-95-006):

Modification of the existing centrate holding and discharge system at the Cornwall Pollution Control Plant, as follows:

- One (1) 5.0 m by 3.5 m centrate holding tank constructed at the existing sludge holding tank by partitioning the south-west portion of the existing sludge holding tank to receive centrate from the existing sludge centrifuges;
- Two (2) screw centrifugal pumps installed in a 4.3 m by 4.3 m centrate pump room to discharge centrate from the centrate holding tank into an existing 150 mm diameter centrate line to the grit tank channel, each pump having a rate capacity of 18.0 L/s at a TDH of 8.0 m with a 3.75 kW variable speed electric drive, the centrate pump room is constructed by partitioning the north-west portion of the existing sludge holding tank;

Together with piping and associated appurtenances, electrical and control systems, all in accordance with design brief, final plans and specifications prepared by Gore & Storrie Limited, Consulting Engineers.

SEWAGE WORKS APPROVED IN 1985 (CERTIFICATE OF APPROVAL No. 3-0294-81-857):

Modifications to the existing sanitary collection system and expansion of the sewage treatment facilities at the Cornwall Water Pollution Control Plant, as follows:

Modifications to Existing Intercepting Chambers and Overflows

Modifications to the Riverfront Interceptor Sewer between Brookdale Avenue and Leonis Street to increase intercepting capacity and to minimize the amount of raw sewage overflow as follows:

- Installation of a 600 mm diameter intercepting sewer with a 530 mm diameter orifice plate between the Pitt Street overflow chamber and the Riverfront Interceptor Sewer;
- Provision of a 900 mm diameter intercepting sewer connection between the Amelia Street overflow chamber and the Riverfront Interceptor Sewer, including a 710 mm diameter orifice plate and weir plate with an overflow elevation of 48.295 m in the Amelia Street overflow chamber;
- Modifications to the Brookdale Avenue overflow chamber to install a new overflow weir plate with an overflow elevation of 47.975 m.

Expansion of the Sewage Treatment Facilities

Upgrading and modifications to the existing primary sewage treatment plant by increasing its nominal capacity to 54,432 m³/day and hydraulic capacity to 108,864 m³/day as follows:

- **Main Pumping Station** - replacement of the existing bar rack with a new mechanically cleaned bar screen with a

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maximum flow capacity of 110,000 m³/day, installation of a new emergency overflow weir with an overflow elevation of 47.090 m including associated structural changes;

- **Inlet Works** - construction of a new inlet chamber equipped with a new parshall flume flow measuring system to monitor flows up to 120,000 m³/day;
- **Aeration Equipment** - installation of an additional centrifugal air blower with a rated capacity of 31 m³/min equipped with an air intake filter and silencer, including new air header, piping and air diffuser piping;
- **Primary Treatment Units** - construction of two (2) rectangular clarifiers each with a surface area of 645 m² providing a rise rate of 42 m³/m²/day (at peak flow), complete with sludge collectors, scum skimmers and effluent troughs, a new centrifugal clarifier dewatering pump with a rated capacity of 114 L/sec at a 8.0 TDH, including associated equipment relocations, piping, access tunnels, hand railing, etc.;
- **Chlorine Contact Tank** - construction of an additional chlorine contact tank with a volume of 824 m³ to provide a total detention time of 30 minutes at the design flow rate of 54,432 m³/day, including the provision of a third rotameter on the existing chlorinators;
- **Sludge Digestion Facilities** - modifications and conversion of the existing 19.81 m diameter secondary anaerobic digester to a primary digester to include new gas mixing equipment for both digesters, provision of two (2) new gas compressors rated at 90 L/sec. against a differential pressure of 76 kPa, associated valves, piping, etc., a new sludge recirculation pump rated at 15.6 L/sec. at a 27 m TDH, an additional hot water recirculation pump and an additional heat exchanger;
- **Sludge Dewatering Facilities** - installation of two (2) solid bowl centrifuges and associated equipment each rated at 9.0 L/sec., including two (2) sludge screen conveyors rated at 12,600 kg/hr at 40 rpm, two (2) positive displacement sludge feed pumps rated at 9.4 L/sec at a 10 m TDH, polymer feed equipment consisting of two (2) feed pumps each rated at 2.3 L/sec. with a 10 m TDH, including chemical storage and mixing tanks with mixers;
- **Administrative Building** - construction of extensions to the existing building to provide a garage and workshop, including other associated renovations to the existing building; and
- including all associated controls and appurtenances.

all in accordance with the design report, final engineering plans and specifications, prepared by Gore and Storrie Ltd., Consulting Engineers.

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

“*Act*” means the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, as amended;

"*Annual Average Concentration*" means the arithmetic mean of the *Monthly Average Concentrations* of a contaminant in the effluent calculated for any particular calendar year;

"*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;

"*Average Daily Flow*" means the cumulative total sewage flow to the sewage works during a calendar year divided by the number of days during which sewage was flowing to the sewage works that year;

"*By-pass*" means any discharge from the *Works* that does not undergo any treatment before it is discharged to the environment;

"*CBOD5*" means five day carbonaceous (nitrification inhibited) biochemical oxygen demand measured in an unfiltered sample;

"*Certificate*" means this entire certificate of approval document, issued in accordance with Section 53 of the *Act*, and includes any schedules;

"*Daily Concentration*" means the concentration of a contaminant in the effluent discharged over any single day, as measured by a composite or grab sample, whichever is required;

"*Director*" means any *Ministry* employee appointed by the Minister pursuant to section 5 of the *Act*;

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"*District Manager*" means the District Manager of the Cornwall District Office of the Ministry;

"*E. Coli*" refers to the thermally tolerant forms of *Escherichia* that can survive at 44.5 degrees Celsius;

"*Geometric Mean Density*" is the *n*th root of the product of multiplication of the results of *n* number of samples over the period specified;

"*Ministry*" means the Ontario Ministry of the Environment;

"*Monthly Average Concentration*" means the arithmetic mean of all *Daily Concentrations* of a contaminant in the effluent sampled or measured, or both, during a calendar month;

"*Monthly Average Loading*" means the value obtained by multiplying the monthly average concentration of a contaminant by the *Average Daily Flow* over the same calendar month.

"*Owner*" means the City of Cornwall and includes its successors and assignees;

"*Peak Flow Rate*" means the maximum rate of sewage flow for which the plant or process unit was designed;

"*Previous Works*" means those portions of the sewage works previously constructed and approved under a certificate of approval;

"*Proposed 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*;

"*Rated Capacity*" means the *Average Daily Flow* for which the *Works* are approved to handle;

"*Regional Director*" means the Regional Director of the Eastern Region of the Ministry;

"*Substantial Completion*" has the same meaning as "*substantial performance*" in the Construction Lien Act; and

"*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* and includes both *Previous Works* and *Proposed Works*.

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

TERMS AND CONDITIONS

1. GENERAL PROVISIONS

(1) The *Owner* shall ensure that any person authorized to carry out work on or operate any aspect of the *Works* is notified of this *Certificate* and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.

(2) Except as otherwise provided by these Conditions, the *Owner* shall design, build, install, operate and maintain the *Works* in accordance with the description given in this *Certificate*, the application for approval of the works and the submitted supporting documents and plans and specifications as listed in this *Certificate*.

(3) Where there is a conflict between a provision of any submitted document referred to in this *Certificate* and the Conditions of this *Certificate*, the Conditions in this *Certificate* shall take precedence, and where there is a conflict between the listed submitted documents, the document bearing the most recent date shall prevail.

(4) Where there is a conflict between the listed submitted documents, and the application, the application shall take precedence unless it is clear that the purpose of the document was to amend the application.

(5) The requirements of this *Certificate* are severable. If any requirement of this *Certificate*, or the application of any requirement of this *Certificate* to any circumstance, is held invalid or unenforceable, the application of such requirement to

other circumstances and the remainder of this certificate shall not be affected thereby.

2. EXPIRY OF APPROVAL

The approval issued by this *Certificate* will cease to apply to those parts of the *Works* which have not been constructed within five (5) years of the date of this *Certificate*.

3. CHANGE OF OWNER

(1) The *Owner* shall notify the *District Manager* and the *Director*, in writing, of any of the following changes within 30 days of the change occurring:

- (a) change of *Owner*;
- (b) change of address of the *Owner*;
- (c) change of partners where the *Owner* is or at any time becomes a partnership, and a copy of the most recent declaration filed under the Business Names Act, R.S.O. 1990, c.B17 shall be included in the notification to the *District Manager*;
- (d) change of name of the corporation where the *Owner* is or at any time becomes a corporation, and a copy of the most current information filed under the Corporations Information Act, R.S.O. 1990, c. C39 shall be included in the notification to the *District Manager*;

(2) In the event of any change in ownership of the *Works*, other than a change to a successor municipality, the *Owner* shall notify in writing the succeeding owner of the existence of this *Certificate*, and a copy of such notice shall be forwarded to the *District Manager* and the *Director*.

4. UPON THE SUBSTANTIAL COMPLETION OF THE WORKS

(1) Upon the *Substantial Completion* of the *Proposed Works*, the *Owner* shall prepare a statement, certified by a Professional Engineer, that the works are constructed in accordance with this *Certificate*, and upon request, shall make the written statement available for inspection by Ministry personnel.

(2) Within one year of the issuance date of this *Certificate*, a set of as-built drawings showing the works “as constructed” shall be prepared. These drawings shall be kept up to date through revisions undertaken from time to time and a copy shall be retained at the *Works* for the operational life of the *Works*.

5. BY-PASSES

(1) Any *By-pass* of sewage from any portion of the *Works* is prohibited, except where:

- (a) it is necessary to avoid loss of life, personal injury, danger to public health or severe property damage;
- (b) the *District Manager* agrees that it is necessary for the purpose of carrying out essential maintenance and the *District Manager* has given prior written acknowledgment of the *by-pass*; or
- (c) the *Regional Director* has given prior written acknowledgment of the *By-pass*.

(2) The *Owner* shall collect at least one (1) grab sample of the *By-pass* and have it analyzed for the parameters outlined in Condition 7 using the protocols in Condition 9.

(3) The *Owner* shall maintain a logbook of all *By-pass* events which shall include, at a minimum, the time, location, duration, quantity of *By-pass*, the authority for *By-pass* pursuant to subsection (1), and the reasons for the occurrence.

(4) The *Owner* shall, in the event of a *By-pass* event pursuant to subsection (1), disinfect the by-passed effluent prior to it reaching the receiver such that the receiver is not negatively impacted.

6. EFFLUENT OBJECTIVES

(1) The *Owner* shall use best efforts to design, construct and operate the *Works* with the objective that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent from the *Works*.

Table 1 - Effluent Objectives	
Effluent Parameter	Concentration Objective (milligrams per litre unless otherwise indicated)
CBOD5	40.0
Total Suspended Solids	30.0
Total Phosphorus	1.0
E-Coli	200 organisms/100 mL

(2) The *Owner* shall use best efforts to:

- (a) maintain the pH of the effluent from the *Works* within the range of 6.5 to 8.5, inclusive, at all times;
- (b) operate the works within the *Rated Capacity* of the *Works* (54,432 m³/day);
- (c) ensure that the effluent from the *Works* is essentially free of floating and settleable solids and does not contain oil or any other substance in amounts sufficient to create a visible film or sheen or foam or discolouration on the receiving waters.

7. EFFLUENT LIMITS

(1) The *Owner* shall operate and maintain the *Works* such that the concentrations and waste loadings of the materials named below as effluent parameters are not exceeded in the effluent from the *Works*.

Table 2 - Effluent Limits				
Effluent Parameter	Monthly Average Concentration (milligrams per litre unless otherwise indicated)	Annual Average Concentration (milligrams per litre unless otherwise indicated)	Monthly Average Waste Loading (kilograms per day unless otherwise indicated)	Annual Average Waste Loading (kilograms per day unless otherwise indicated)
Column 1	Column 2	Column 3	Column 4	Column 5
CBOD5	-	50.0	-	2,722
Total Suspended Solids	-	45.0	-	2,449
Total Phosphorus	1.0	-	54.4	-
Total Residual Chlorine	-	1.0	-	54.4

(2) For the purposes of determining compliance with and enforcing subsection (1):

- (a) The *Monthly Average Concentration* of a parameter named in Column 1 of subsection (1) shall not exceed the corresponding maximum concentration set out in Column 2 of subsection (1).
- (b) The *Annual Average Concentration* of a parameter named in Column 1 of subsection (1) shall not exceed the corresponding maximum concentration set out in Column 3 of subsection (1).
- (c) The *Monthly Average Waste Loading* of a parameter named in Column 1 of subsection (1) shall not exceed the corresponding maximum waste loading as set out in Column 4 of subsection (1).

(d) The *Annual Average Loading* of a parameter named in Column 1 of subsection (1) shall not exceed the corresponding maximum waste loading set out in Column 5 of subsection (1).

(3) The Owner shall maintain the pH of the effluent from the *Works* within the range of 6.0 to 9.5, inclusive, at all times.

(4) The effluent limit set out in subsection (1) shall apply upon the issuance of this *Certificate*.

(5) Only those monitoring results collected during the corresponding time period shall be used in calculating the *Annual Average Concentration/Monthly Average Concentration/Monthly Average Waste Loading/Annual Average Waste Loading* for this *Certificate*.

8. OPERATION AND MAINTENANCE

(1) The *Owner* shall exercise due diligence in ensuring that, at all times, the *Works* and the related equipment and appurtenances used to achieve compliance with this *Certificate* are properly operated and maintained. Proper operation and maintenance shall include effective performance, adequate funding, adequate operator staffing and training, including training in all procedures and other requirements of this *Certificate* and the *Act* and regulations, adequate laboratory facilities, process controls and alarms and the use of process chemicals and other substances used in the *Works*.

(2) The *Owner* shall prepare an operations manual within six (6) months of the issuance date of this *Certificate*, that includes, but not necessarily limited to, the following information:

(a) operating procedures for routine operation of the *Works*;

(b) inspection programs, including frequency of inspection, for the *Works* and the methods or tests employed to detect when maintenance is necessary;

(c) repair and maintenance programs, including the frequency of repair and maintenance for the *Works*;

(d) procedures for the inspection and calibration of monitoring equipment;

(e) a spill prevention control and countermeasures plan, consisting of contingency plans and procedures for dealing with equipment breakdowns, potential spills and any other abnormal situations, including notification of the *District Manager*; and

(f) procedures for receiving, responding and recording public complaints, including recording any follow-up actions taken.

(3) The *Owner* shall maintain the operations manual current and retain a copy at the location of the *Works* for the operational life of the *Works*. Upon request, the *Owner* shall make the manual available to *Ministry* staff.

(4) The *Owner* shall provide for the overall operation of the *Works* 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.

9. EFFLUENT MONITORING AND RECORDING

The *Owner* shall, upon commencement of operation of the *Works*, carry out the following monitoring program:

(1) All samples and measurements taken for the purposes of this *Certificate* are to be taken at a time and in a location characteristic of the quality and quantity of the effluent stream over the time period being monitored.

(2) For the purposes of this condition, the following definitions apply:

(a) Daily means once each day;

(b) Weekly means once each week; and

(c) Monthly means once every month.

(3) Samples shall be collected at the following sampling points, at the frequency specified, by means of the specified sample type and analyzed for each parameter listed and all results recorded:

Table 3 - Influent Monitoring - (Designated Sampling Point)	
Frequency	Monthly
Sample Type	Composite
Parameters	CBOD5, Total Suspended Solids, Total Phosphorus, Total Kjeldhal Nitrogen

Table 4 - Effluent Monitoring - (Designated Sampling Point)		
Parameters	Sample Type	Frequency
CBOD5	Composite	Monthly
Total Suspended Solids	Composite	Monthly
Total Phosphorus	Composite	Weekly
Total Residual Chlorine	Composite	Monthly
(Ammonia+Ammonium)Nitrogen	Composite	Monthly
<i>E. Coli</i>	Grab	Monthly
pH	Grab	Monthly
Temperature	Grab	Monthly

(4) The methods and protocols for sampling, analysis and recording shall conform, in order of precedence, to the methods and protocols specified in the following:

- (a) the Ministry's Procedure F-10-1, "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only), as amended from time to time by more recently published editions;
- (b) the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" (January 1999), ISBN 0-7778-1880-9, as amended from time to time by more recently published editions;
- (c) the publication "Standard Methods for the Examination of Water and Wastewater" (20th edition), as amended from time to time by more recently published editions; and
- (d) for any parameters not mentioned in (a) and (b), the written approval of the *District Manager* shall be obtained prior to sampling.

(5) The *Owner* shall install and maintain (a) continuous flow measuring device(s), to measure the flowrate of the effluent from the *Works* with an accuracy to within plus or minus 15 per cent (+/- 15%) of the actual flowrate for the entire design range of the flow measuring device, and record the flowrate at a daily frequency.

(6) All data generated in accordance with this monitoring program shall be deemed to be conclusive of the minimum concentrations of the contaminants in the effluent from the *Works*.

(7) The *Owner* shall retain for a minimum of three (3) years from the date of their creation, all records and information related to or resulting from the monitoring activities required by this *Certificate*.

10. LEACHATE MONITORING AND RECORDING

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The *Owner* shall, upon commencement of operation of the *Works*, carry out the following monitoring program:

(1) All samples and measurements taken for the purposes of this *Certificate* are to be taken at a time and in a location characteristic of the quality and quantity of the effluent stream over the time period being monitored.

(2) For the purposes of this condition, the following definitions apply:

- (a) Semi-Annually means once every six months; and
- (b) Annually means once every twelve months;

(3) The *Owner* shall collect grab samples of leachate and groundwater from each sampling location at the denoted frequency and analyze for the parameters listed in Table 5. The **Semi-Annual** samples shall be collected during spring and fall and the **Annual** samples shall be collected during fall.

Table 5			
Leachate and Groundwater Monitoring			
Leachate Location: Manhole MH1 - Located North of Lemay Street			
Groundwater Locations: MW-4, MW-8, MW-17			
Parameter	Frequency	Parameter	Frequency
pH	Semi-Annually	Total Phosphorus	Semi-Annually
Conductivity	Semi-Annually	Phosphate	Semi-Annually
Temperature	Semi-Annually	Total Kjeldahl Nitrogen	Semi-Annually
Alkalinity	Semi-Annually	Dissolved Organic Carbon	Semi-Annually
Hardness	Semi-Annually	Biological Oxygen Demand	Semi-Annually
Total Dissolved Solids	Semi-Annually	Chemical Oxygen Demand	Semi-Annually
Nitrate	Semi-Annually	Phenols	Semi-Annually
Nitrite	Semi-Annually	Major Ions*	Semi-Annually
Ammonia	Semi-Annually	Metals*	Semi-Annually
Ammonia (Un-ionized)	Semi-Annually	Semi-VOC*	Annually

NOTE*:

Metals Arsenic, Barium, Boron, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Zinc.

Major Ions Calcium, Chloride, Iron, Magnesium, Potassium, Sodium, Sulphate.

Semi-VOC Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(b+k)fluoranthene, Benzo(g,h,i)perylene, 1,1-Biphenyl, Bis(2-chloroethyl)ether, Bis(2-chloroisopropyl)ether, Bis(2-ethylhexyl)phthalate, 4-Chloroaniline, p-Chloroaniline, 2-Chloroaniline, 2-Chlorophenol, Chrysene, Dibenzo(a,h)anthracene, Di-n-butyl Phthalate, 3,3'-Dichlorobenzidine, 2,4-Dichlorophenol, Diethyl Phthalate, Dimethyl Phthalate, 2,4-Dimethylphenol, 2,4-Dinitrotoluene, Fluoranthene, Fluorene, Hexachlorobenzene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, 1-Methylnaphthalene, 2-(1-)Methylnaphthalene, Naphthalene, Pentachlorophenol, Phenanthrene, Phenol, Pyrene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol.

(4) The methods and protocols for sampling, analysis and recording shall conform, in order of precedence, to the methods and protocols specified in the following:

- (a) the Ministry's Procedure F-10-1, "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only), as amended from time to time by more recently published editions;
- (b) the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater"

(January 1999), ISBN 0-7778-1880-9, as amended from time to time by more recently published editions;
(c) the publication "Standard Methods for the Examination of Water and Wastewater" (20th edition), as amended from time to time by more recently published editions;

(5) The temperature and pH of the grab samples from the *Works* shall be determined in the field at the time of sampling for Total Ammonia Nitrogen. The concentration of un-ionized ammonia shall be calculated using the total ammonia concentration, pH and temperature using the methodology stipulated in "Ontario's Provincial Water Quality Objectives" dated July 1994, as amended, for ammonia (un-ionized).

(6) The *Owner* shall provide a means of estimating the total annual volume of leachate discharging from the *Works* to the sanitary sewer and report it as an annual average daily flow rate.

(7) The measurement frequencies specified in subsection (2) in respect to any parameter are minimum requirements which may after two (2) years of monitoring in accordance with this Condition be modified by the *District Manager* in writing from time to time.

(8) The *Owner* shall establish a method to estimate on a semi-annual basis the daily flow rate of potentially contaminated groundwater being discharged from the *Works* to the sanitary sewer.

(9) The *Owner* shall retain for a minimum of three (3) years from the date of their creation, all records and information related to or resulting from the monitoring activities required by this *Certificate*.

11. REPORTING

(1) Ten (10) days prior to the date of a planned *By-pass* being conducted pursuant to Condition 5 and as soon as possible for an unplanned *By-pass*, the *Owner* shall notify the *District Manager* (in writing) of the pending start date, in addition to an assessment of the potential adverse effects on the environment and the duration of the *By-pass*.

(2) The *Owner* shall report to the *District Manager* or designate, any exceedence of any parameter specified in Condition 7 orally, as soon as reasonably possible, and in writing within seven (7) days of the exceedence.

(3) In addition to the obligations under Part X of the Environmental Protection Act, the *Owner* shall, within 10 working days of the occurrence of any reportable spill as defined in Ontario Regulation 675/98, bypass or loss of any product, by product, intermediate product, oils, solvents, waste material or any other polluting substance into the environment, submit a full written report of the occurrence to the *District Manager* describing the cause and discovery of the spill or loss, clean-up and recovery measures taken, preventative measures to be taken and schedule of implementation.

(4) The *Owner* shall, upon request, make all manuals, plans, records, data, procedures and supporting documentation available to *Ministry* staff.

(5) The *Owner* shall prepare, and submit to the District Manager upon request, a performance report, on an annual basis, within ninety (90) days following the end of the period being reported upon. The first such report shall cover the first annual period following the commencement of operation of the *Works* and subsequent reports shall be submitted to cover successive annual periods following thereafter. The reports shall contain, but shall not be limited to, the following information:

(a) a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 7, including an overview of the success and adequacy of the *Works*;

(b) a description of any operating problems encountered and corrective actions taken;

(c) a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the *Works*;

(d) a summary of any effluent quality assurance or control measures undertaken in the reporting period;

(e) a summary of the calibration and maintenance carried out on all effluent monitoring equipment; and

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- (f) a description of efforts made and results achieved in meeting the Effluent Objectives of Condition 6.
- (g) a tabulation of the volume of sludge generated in the reporting period, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed;
- (h) a summary of any complaints received during the reporting period and any steps taken to address the complaints;
- (i) a summary of all *By-pass*, spill or abnormal discharge events;
- (j) a tabulation of the monthly average daily flow of leachate discharged from Optimist Park to the sanitary sewer and monitoring results obtained under Condition 10; and
- (k) any other information the *District Manager* requires from time to time.

(6) The *Owner* shall submit to the *District Manager* on or before May 15, August 14, November 14 and February 14, monitoring data for : raw sewage; treated effluent from the sewage treatment plant; and bypasses, for the three calendar month period ending 45 days prior to the submission date. The sampling shall be done in accordance with Procedure F-10 "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only)" and submitted on forms or in such electronic format as directed in writing by the *District Manager*.

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

1. Condition 1 is imposed to ensure that the *Works* are built and operated in the manner in which they were described for review and upon which approval was granted. This condition is also included to emphasize the precedence of Conditions in the *Certificate* and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review. The condition also advises the Owners their responsibility to notify any person they authorized to carry out work pursuant to this *Certificate* the existence of this *Certificate*.
2. Condition 2 is included to ensure that, when the *Works* are constructed, the *Works* will meet the standards that apply at the time of construction to ensure the ongoing protection of the environment.
3. Condition 3 is included to ensure that the *Ministry* records are kept accurate and current with respect to the approved works and to ensure that subsequent owners of the *Works* are made aware of the *Certificate* and continue to operate the *Works* in compliance with it.
4. Condition 4 is included to ensure that the *Works* are constructed in accordance with the approval and that record drawings of the *Works* "as constructed" are maintained for future references.
5. Condition 5 is included to indicate that by-passes of untreated sewage to the receiving watercourse is prohibited, save in certain limited circumstances where the failure to *By-pass* could result in greater injury to the public interest than the *By-pass* itself where a *By-pass* will not violate the approved effluent requirements, or where the *By-pass* 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 action in an informed manner and will ensure the *Owner* is aware of the extent and frequency of *By-pass* events.
6. Condition 6 is imposed to establish non-enforceable effluent quality objectives which the *Owner* is obligated to use best efforts to strive towards on an ongoing basis. These objectives are to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs and before the compliance limits of Condition 6 are exceeded..
7. Condition 7 is imposed to ensure that the effluent discharged from the *Works* to the St. Lawrence River meets the *Ministry's* effluent quality requirements thus minimizing environmental impact on the receiver and to protect water quality, fish and other aquatic life in the receiving water body.
8. Condition 8 is included to require that the *Works* be properly operated, maintained, funded, staffed and equipped such that the environment is protected and deterioration, loss, injury or damage to any person or property is prevented. As well,

the inclusion of a comprehensive operations manual governing all significant areas of operation, maintenance and repair is prepared, implemented and kept up-to-date by the owner and made available to the *Ministry*. Such a manual is an integral part of the operation of the *Works*. Its compilation and use should assist the *Owner* in staff training, in proper plant operation and in identifying and planning for contingencies during possible abnormal conditions. The manual will also act as a benchmark for *Ministry* staff when reviewing the *Owner's* operation of the work.

9. Condition 9 is included to enable the *Owner* to evaluate and demonstrate the performance of the *Works*, on a continual basis, so that the *Works* are properly operated and maintained at a level which is consistent with the effluent limits specified in the *Certificate* and that the *Works* does not cause any impairment to the receiving watercourse.

10. Condition 10 is included to enable the *Owner* to evaluate and demonstrate the performance of the *Works*, on a continual basis, so that the *Works* are properly operated and maintained at a level which is consistent with the design objectives specified in the *Certificate* and that the *Works* does not cause any impairment to the receiving watercourse.

11. Condition 11 is included to provide a performance record for future references, to ensure that the *Ministry* is made aware of problems as they arise, and to provide a compliance record for all the terms and conditions outlined in this *Certificate*, so that the *Ministry* can work with the *Owner* in resolving any problems in a timely manner.

This Certificate of Approval revokes and replaces Certificate(s) of Approval No. 1837-5FFQZJ issued on December 19, 2002

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 Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. 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 Review Tribunal
2300 Yonge St., Suite 1700
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

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal 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.

CONTENT COPY OF ORIGINAL

DATED AT TORONTO this 5th day of December, 2006

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

SH/

c: District Manager, MOE Cornwall
John St. Marseille, P. Eng., P. Geo., Thompson Rosemount Group