


**AMENDED CERTIFICATE OF APPROVAL
 MUNICIPAL AND PRIVATE SEWAGE WORKS**

NUMBER 5922-85UNNJ

Issue Date: June 21, 2010

The Corporation of the Township of Lucan Biddulph
 Post Office Box, No. 190
 Lucan, Ontario, N0M 2J0

Site Location: 6242 Fallon Drive
 Lot 25, Concession 4
 Lucan Biddulph Township, County of Middlesex

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

Upgrade to the Lucan Sewage Treatment plant (STP) located at Lot 25, Conc. 4, Biddulph Township, County of Middlesex, rated at an average flow of 1,100 cubic metres and a peak flow of 3,600 cubic metres per day, discharging to Heenan Drain which drains to Little Ausable River and modifications to the existing sewage lagoon servicing the village of Lucan, consisting of:

PROPOSED WORKS
Rotating Disc Filter

- Replacement of existing deep sand filters by two (2) rotating disk filters with a total area per filter of 5.8 square metres, pore size of 5-25 micron, average loading rate of 3.0 L/m²/s and peak loading rate of 10 L/m²/s, supplied in stand-alone stainless steel tanks and capable of handling a flow rate up to 5,000 cubic metres per day.

UV System

- Installation of one UV disinfection system (Trojan model UV3000B), to replace existing UV, capable of handling a peak flow rate of up to 5,000 cubic metres per day to each bank and to be installed inside the existing UV channel 10.19 m long by 3.81 m wide by 1.733 m deep with two (2) UV banks operating in duty /standby type. Each bank will be equipped with a total of 80 lamps (8 lamps per modules and 5 modules per bank);
- Construction of a new weir to maintain water level in the existing UV channel; and
- Construction of a pre-fabricated building over the existing UV channel.

Extended Aeration Plant

- Replacement of the existing grit classifier with a new grit classifier (same capacity);
- Replacement of the existing digester coarse bubble diffusers with new coarse bubble diffusers (same capacity);
- Replacement of the existing sludge pumps with new sludge pumps (same capacity); and
- Replacement of the existing effluent water pump with a new effluent pump (same capacity).

Plant Control System

- Upgrade of the SCADA system.

Miscellaneous

All other controls, electrical equipment, instrumentation, piping, pumps, valves and appurtenances essential for the proper operation of the aforementioned sewage works;

all in accordance with the following submitted supporting documents:

1. Application for Approval of Municipal and Private Sewage Works dated April 28, 2010, with cover letter submitted

by Anna Cleaver, dated May 10, 2010; and supporting documentation prepared by Stantec Consulting, Consulting Engineers.

EXISTING WORKS

Pumping Station

- A reinforced concrete submersible type pumping station located at the north end of Chestnut Street, containing:
- Wet well with a total volume of at least 40 cubic metres;
- One (1) submersible pump rated at 15 L/s;
- Two (2) submersible pumps, one (1) as standby, each rated at 41.7 L/s;
- Two (2) submersible pumps, one (1) as standby, each rated at 168 L/s;
- One (1) 100 kW diesel powered electrical generator for standby power located in a separate 10 m x 5 m control building at the same site.

Force mains

- One (1) 200 mm diameter forcemain from the pumping station to the extended aeration plant; and
- One (1) 300 mm diameter forcemain from the pumping station to the sewage lagoons for conveying storm flows to the lagoons.

Lagoons

- Modifications to the sewage lagoons to enable:
- Pumping of storm flows from the pumping station to the lagoons for treatment prior to final discharge to Benn Drain; and
- Draining of the lagoons back into the pumping station for transfer to the treatment plant when required.

Extended Aeration Plant

- One (1) manually raked bar screen, 20 mm clear opening between bars, sized for the peak design flow of 3,600 cubic metres per day.
- A vortex type grit chamber sized for the peak flow of 3,600 cubic metres per day and designed for 95 per cent capture of 150 micro or larger grit particles.
- A grit classifier to separate and dewater concentrated grit slurry (underflow) for vortex grit chamber, maximum flow 1.5 L/sec. (*to be replaced as per Proposed Works*)
- Two (2) completely mixed aeration basins, each having a volume of 550 cubic to provide a hydraulic retention time of 24 hours at the average design flow.
- Fine bubble diffused aeration system with a minimum oxygen transfer capacity of 530 kg/d and a minimum firm capacity of 472 L/s (standard conditions).
- Two (2) rectangular clarifiers, each having an approximate surface area of 80 square metres and a volume of 315 cubic metres, equipped with sludge and scum removing mechanism and outlet weir with an overflow rate of 2.2 L/m.s.
- Three (3) centrifugal pumps, one (1) as standby, each rated at 10.0 L/s. (*to be replaced as per Proposed Works*)
- Three (3) positive displacement metering pumps, one (1) as standby, each capable of feeding up to 200 L/d of a chemical solution for phosphorus removal;
- One (1) 27,000 L bulk displacement metering pumps, one (1) as standby, each capable of feeding up to 200 kg/d of lime or sodium hydroxide for alkalinity control;
- A two stage aerobic digester having a sludge retention capacity of 123 cubic metres in stage 1 and 63 cubic metres in stage 2 tank;
- A digested sludge storage tank having a storage capacity of approximately 744 cubic metres;
- Coarse bubble aeration system (*to be replaced as per Proposed Works*) for the primary and secondary digesters and the sludge storage tank; and
- Blowers with a firm capacity of at least 790 L/s (standard condition).

Effluent Filters

- A minimum of two (2) sand filters for effluent polishing, sized to handle the peak flow of 3,600 cubic metres per day.

Effluent Disinfection Facility

- Two (2) ultraviolet disinfection units, each sized for a minimum flow of 1,800 cubic metres per day. (*to be replaced as per Proposed Works*)

Post Aerated Basin

- One (1) post aeration basin and associated aeration system to adjust the dissolved oxygen level in the final effluent.

Outfall

- Outlet sewer to Heenan Drain.

Standby Power Diesel Generator

- One (1) diesel engine driven standby electrical generator set to power aeration basin blower, emergency lighting, ultraviolet disinfection equipment and emergency ventilation.

Utility Buildings

- One (1) utility building to house control room/office, laboratory, workshop, blower room, electrical room, standby power room, wash rooms and storage area; and
- One (1) filter room to house filters and disinfection equipment.

together with associated appurtenances, piping, heating and ventilation, electrical and control systems, all in accordance with the Environmental Study Report, Design Brief and preliminary plans and specifications prepared by M.M. Dillon Ltd., Consulting Engineers, at a total estimated cost, including engineering and contingencies, of Five Million, Four Hundred Thousand Dollars (\$5,400,000.00), subject to the following Special Terms and Conditions which are considered necessary by the *Director*.

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 *Average Monthly Concentrations* taken within a period of twelve (12) consecutive months;

"*Annual Average Loading*" means the value obtained by multiplying the *Annual Average Concentration* of a contaminant by the *Annual Average Daily Flow* over the same period of time;

"*Average Daily Flow*" means the cumulative total sewage flow to the Lucan STP 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 Lucan STP that does not undergo any treatment or undergoes only partial treatment, including contents stored in the equalization and storage ponds, before it is discharged to the environment;

"*BOD5*" (also known as TBOD5) means five day biochemical oxygen demand measured in an unfiltered sample and includes carbonaceous and nitrogenous oxygen demands;

"*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*;

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

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

"*Existing Works*" means those portions of the Sewage Works previously constructed and approved under a certificate of approval;

"*Freezing Period*" means the period of time during which the water temperature of the receiving stream is below or equal to 5 degrees Celsius, normally from December 15 to April 15;

"*24 hour Composite Sample*" means a sample collected over a time period of 24 consecutive hours. The sample shall be made up of at least 24 discrete samples taken approximately one hour apart with the volume of each sample being proportional to the sewage flow at the time the discrete sample is taken;

"*Weekly Sample*" means a sample collected on a rotating day and time schedule within a one (1) week period to satisfactorily reflect the overall performance of the sewage works under all operating flow conditions;

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

"*Grab Sample*" means an individual sample of sufficient size collected at a randomly selected time in accordance with HAMES;

"*HAMES*" means the Ministry of the Environment's Handbook of Analytical Methods for Environmental Samples; December 1983 as amended from time to time;

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

"*Monthly Average Loading*" means the value obtained by multiplying the *Monthly Average Concentration* of a contaminant by the *Monthly Average Daily Flow* over the same calendar month;

"*Owner*" means The Corporation of the Township of the Village of Lucan and includes its successors and assignees;

"*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 Lucan STP is approved to handle;

"*Regional Director*" means the Regional Director of the Southwestern 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 the *Existing Works* and the *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*; and
 - (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 Informations 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 **six (6) months** of the *Substantial Completion* of the *Proposed Works*, 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) the sewage flowrate is in excess of the *Peak Flow Rate*;
- (b) it is necessary to avoid loss of life, personal injury, danger to public health or severe property damage;
- (c) 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
- (d) 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 in Table 1 as effluent parameters are not exceeded in the effluent from the *Works*. The *Director* may review and amend the *Certificate* if the objectives are not met:

Table 1 - Effluent Objectives		
Effluent Parameter	Average Monthly Concentration (milligrams per litre unless otherwise indicated)	Average Monthly Loading (kilograms per day unless otherwise indicated)
Column 1	Column 2	Column 3
<i>CBOD₅</i>	5.0	5.5
Total Suspended Solids	5.0	5.5
Total Phosphorus	0.3	0.33
Total Ammonia Nitrogen	1.0	5.0
- non-freezing period	2.0	10.0
- freezing period		
Dissolved oxygen	> 5.0	-

(2) The *Geometric Mean Density* of *E. Coli* in the effluent as measured in accordance with HAMES, should not exceed 150 counts/100 mL for any calendar month.

(3) 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 at all times;
- (b) operate the works within the *Rated Capacity* of the *Works*(at an average flow 1,100 cubic metres per day and a peak flow of 3,600 cubic metres per day); and

(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.

(4) The *Owner* shall include in all reports submitted in accordance with Condition 10 a summary of the efforts made and results achieved under this Condition (Condition 6).

7. EFFLUENT LIMITS

(1) The *Owner* shall design, construct, operate and maintain the *Works* such that the concentrations of the materials named in Table 2 as effluent parameters are not exceeded in the effluent from the *Works*.

Table 2 - Effluent Limits		
Effluent Parameter	Concentration (milligrams per litre unless otherwise indicated)	Loading (kilograms per day unless otherwise indicated)
Column 1	Column 2	Column 3
<i>CBOD₅</i>	10	11
Total Suspended Solids	10	11
Total Phosphorus	0.5	0.55
Total Ammonia Nitrogen	2.0	2.2
- non-freezing period	4.0	4.4
- freezing period		
Dissolved oxygen	> 4.0	--
pH of the effluent maintained between 6.0 to 8.5, inclusive, at all times		

(2) Disinfection shall be performed year-round. The *Geometric Mean Density* of *E. Coli* in the effluent as measured in accordance with HAMES, should not exceed 200 counts/100 mL for any calendar month. Any exceedance constitutes non-compliance with this *Certificate*.

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

(a) The *Annual Average Concentration* of *CBOD₅* and total suspended solids as named in Column 1 of Table 2 of subsection (1) shall not exceed the corresponding maximum concentration set out in Column 2 of Table 2 of subsection (1).

(b) The *Monthly Average Concentration* of total phosphorus as named in Column 1 of Table 2 of subsection (1) shall not exceed the corresponding maximum concentration set out in Column 2 of Table 2 of subsection (1).

(c) The *Daily Concentration* of total ammonia nitrogen as named in Column 1 of Table 2 of subsection (1) shall not exceed the corresponding maximum concentration set out in Column 2 of Table 2 of subsection (1).

(d) The *Annual Average Loading* of *CBOD₅* total suspended solids and total phosphorus as named in Column 1 of Table 2 of subsection (1) shall not exceed the corresponding maximum loading set out in Column 3 of Table 2 of subsection (1).

(e) The *Daily Loading* of total ammonia nitrogen as named in Column 1 of Table 2 of subsection (1) shall not exceed the corresponding maximum loading set out in Column 3 of Table 2 of subsection (1).

(f) The pH of the effluent shall be maintained within the limits outlined in Table 2 in subsection (1), at all times.

(4) Subsection (1), (2) and (3) shall apply upon the date of 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*, *Daily Concentration*, *Annual Average Loading*, *Daily Loading* and monthly *Geometric Mean Density* 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 or update an operations manual **within six (6) months** of the date of issuance 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 129/04.

9. MONITORING AND RECORDING

The *Owner* shall, upon the issuance of this *Certificate*, 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) 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 (Sampling point at the raw sewage pumping station or at the inlet of the Extended Aeration Plant)		
Parameter	Sample Type	Minimum Frequency
Column 1	Column 2	Column 3
<i>BOD</i> ₅	24-hour composite	Weekly
Total Suspended Solids	24-hour composite	Weekly
Total Phosphorus	24-hour composite	Weekly
Total Kjeldahl Nitrogen	24-hour composite	Weekly

Table 4 - Effluent Monitoring (Sampling point at the outlet of the disinfection unit or at the outfall sewer as close as possible to the <i>Works</i>)		
Parameter	Sample Type	Minimum Frequency
Column 1	Column 2	Column 3
<i>CBOD</i> ₅	24-hour composite	Weekly
Total Suspended Solids	24-hour composite	Weekly
Total Phosphorus	24-hour composite	Weekly
Total Ammonia Nitrogen	24-hour composite	Weekly
Total Kjeldahl Nitrogen	24-hour composite	Weekly
Nitrite Nitrogen	24-hour composite	Weekly
Nitrate Nitrogen	24-hour composite	Weekly
Alkalinity	24-hour composite	Weekly
<i>E. coli</i>	grab	Weekly
Dissolved Oxygen	grab	Weekly
pH	grab/probe	Weekly
Temperature	grab/probe	Weekly

(3) 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; and

(c) the publication "Standard Methods for the Examination of Water and Wastewater" (21st edition), as amended from time to time by more recently published editions.

(4) The temperature and pH of the effluent from the *Works* shall be determined in the field at the time of sampling for Total Ammonia Nitrogen. The concentration of unionized 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 (unionized).

(5) If the *Owner* monitors any of the parameters required under this Section more frequently than specified, the analytical results of all such samples, both required and additional, shall be included in the reports to be submitted under Section 10-of this *Certificate*.

(6) 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:

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

(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. REPORTING

(1) **Ten (10) days** prior to the start up of the operation of the *Proposed Works*, the *Owner* shall notify the *District Manager* (in writing) of the pending start up date.

(2) **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*.

(3) 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 after all laboratory results of the exceedence have been received and tabulated.

(4) In addition to the obligations under Part X of the Environmental Protection Act, the *Owner* shall, within **ten (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.

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

(6) The *Owner* shall prepare and submit to the *District Manager* 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

(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 an outline of the proposed sludge handling methods;

(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) an evaluation for the need for modifications to the Works to improve performance and reliability and to minimize upsets and bypasses; and

(k) any other information the *District Manager* requires from time to time.

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 7 are exceeded.
7. Condition 7 is imposed to ensure that the effluent discharged from the *Works* to receiver 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 River.

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 *Works*.

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 design objectives and effluent limits specified in the *Certificate* and that the *Works* does not cause any impairment to the receiving water body.

10. Condition 10 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. 3-2224-88-916 issued on April 9, 1991

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:

CONTENT COPY OF ORIGINAL

The Secretary*
Environmental Review Tribunal
655 Bay Street, 15th Floor
Toronto, Ontario
M5G 1E5

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.

DATED AT TORONTO this 21st day of June, 2010

Jennifer Barolet, P.Eng.
Director
Section 53, *Ontario Water Resources Act*

YK/
c: District Manager, MOE London - District
Kirby Oudekerk, Stantec Consulting Ltd.