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Ontario

Ministry of the Environment
Ministère de l'Environnement

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL
NUMBER 7476-96LR58
Issue Date: May 9, 2013

Fox Run By-the-River Retirement Residence Inc.
104 Thousand Island Pky
Rural Route, No. 2
Gananoque, Ontario
K7G 2V4

Site Location: 104 Thousand Island Parkway
Leeds and the Thousand Islands Township, United Counties of Leeds and Grenville
K7G 2V4

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

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

Proposed Works for collection, treatment and subsurface disposal of domestic sewage with a maximum design capacity of 27,400 Litres per day (L/d) to service a proposed Fox Run By The River 20 - townhouse Retirement Complex located together with *Previous Works No.1* operated at maximum capacity of 25,425 L/d as follows:

PROPOSED WORKS 20 - Townhouses Complex Q = 27,400 L/d

Proposed on-site sewage works for collection, treatment and subsurface disposal of domestic sewage, operated at a maximum design capacity of 27,400 L/d to service a proposed 20-townhouse Retirement Complex (Fox Run By-The-River) as follows:

Proposed Sewage Pump Chambers

- two (2) precast concrete 1.8 m dia manhole type pump chambers, each equipped with duplex sewage pumps rated at approximately 160 L/min at a TDH of 8.5 m, collecting raw sewage via two (2) sewer collection systems from the two (2) townhouse blocks (10 townhouses per each block), discharging sewage via two (2) 50 mm dia forcemains to a proposed septic tank as described below;

Proposed Septic Tanks

- two (2) precast concrete septic tanks installed in series with a combined capacity of the two tanks of 90,000 L (45,000 L per each tank), equipped at the outlet from the second tank with two (2) effluent filters (Zabel A300 or equivalent), discharging effluent to a proposed balancing tank located immediately downstream as described below;

Proposed Balancing Tank

- one (1) single-compartment precast concrete balancing tank with a total capacity of 30,000 L, equipped with two (2) submersible sewage effluent pumps (Little Giant 0.5 hp WS50HM-12-20 or equivalent) operating on an alternating basis, dosing effluent on an even basis throughout a 24-hour

period via a 50 mm dia forcemain to a proposed Waterloo Biofilters as described below;

Proposed Waterloo Biofilter Systems (WBS)

- three (3) proposed underground Waterloo Biofilter System units (WBS Model 95), providing a total treatment capacity of 28,500 L/d (9,500 L/d per unit), each unit a one compartment 22,500 L concrete tank containing two (2) wire mesh baskets filled with biofilter foam medium, collecting treated effluent in the bottom of the biofilter tanks, where biofilter tanks #1 & #2 are drained by gravity into biofilter tank #3 from which the effluent is pumped to a proposed disposal tank as described below.

Proposed Effluent Disposal Tank

- a single compartment precast concrete disposal tank with a total capacity of 9,000 L, equipped with a duplex effluent alternating pump system (Little Giant WS100HAM-12-20 or equivalent), each pump rated at 260 L/min at a TDH = 14 m, discharging a dosing volume of 571 L every 30 minutes for a duration of 130 seconds, alternating to two (2) cells of a proposed pressurized area leaching bed as described below;

Proposed Pressurized Area Beds No. 1, 2 & 3

- a fully raised pressurized area bed, consisting of two (2) cells, each having ten (10) runs of 24 m long, 38 mm dia self-drained pressurized distribution PVC pipes spaced @ 1.2 m at centre, each pipe perforated with 3 mm dia shielded orifices spaced evenly along the pipe length, and each distribution pipe equipped with a caped clean-out at the end; all distribution pipes installed within a layer of a 300 mm thick washed crushed stone over an area of 604 m 2 (24 m x 25.2 m) overlying a 900 mm thick unsaturated sand layer area of 665 m 2 (25.2 m x 26.4 m) having a percolation time of T= 4 to 6 min/cm with less than 5% passing the #200 sieve, and complete with a 500 mm thick extended sand mantle (T= 4 to 6 min/cm) with a total contact area of 3,462 m 2 (57.7 m x 60 m);

PREVIOUS WORKS Retirement Residence Q = 25,425 L/d

Previously approved (# 2166-628QQB, March 23, 2007) existing on-site sewage works for collection, treatment and subsurface disposal of domestic sewage, operated at a maximum design capacity of 25,425 L/d to service existing Fox Run ByThe River Retirement Residence located at the above noted site location and comprising of the following:

Septic Tanks

- two (2) precast concrete septic tanks installed in series, each having a capacity of 40,000 L, equipped with two (2) effluent filters on the outlet from a second tank, collecting raw sewage from the residence and discharging via gravity to an equalization basin as described below;

Equalization Basin

- a precast concrete equalization basin having a total capacity of 40,000 L connected at a low level via a 100 mm dia gravity pipe to an effluent dosing chamber as described below;

Dosing Chamber

- a 1.5 m dia precast concrete dosing chamber equipped with two (2) alternating pumps (one pump working at the time) operated on a timer, each pump operating at an capacity between 270 - 324 L/min at a TDH of 13 m and discharging approximately 530 L to a subsurface disposal system (one distribution pod to be dosed at the time) via a 75 mm dia forcemain, approximately 100 m long as described below;

Subsurface Sewage Disposal System

- a Bio Diffuser Leaching Chambers System consisting of two (2) raised infiltration cells with a total length of infiltration chambers (Equalizer 36) of approximately 876 m with 75 mm dia distribution piping inside, each cell consisting of three (3) distribution pods (146 m per each pod); each of the six distribution pods will be comprised of five (5) runs of 29.2 m rows of infiltration chambers connected end to end (eleven chambers per row) to be set in imported sand fill (T = 10 min/cm) on a 100 mm thick clear, washed limestone gravel and complete with a 300 mm thick layer of sand mantle with a percolation time of 10 min/cm underneath both cells and extending a minimum of 15 m beyond the outermost infiltration chambers in any direction which the effluent will move laterally in the soil away from all fields;

all in accordance with documentation submitted to the *Ministry* as listed in the **Schedule A** in this *Approval* .

For the purpose of this environmental compliance approval, the following definitions apply:

" *Approval"* means this entire document and any schedules attached to it, and the application.

"*Director"* means a person appointed by the Minister pursuant to Section 5 of the *EPA* for the purposes of Part II.1 of the *EPA.*

"*District Manager*" means the District Manager of the Kingston District Office.

"*EPA"* means the Environmental Protection Act, R.S.O. 1990, c.E.19, as amended.

"*Licensed Installer*" means a person who holds a licence under Article 2.12.3.1 of the Ontario Building Code.

"*Ministry"* means the ministry of the government of Ontario responsible for the *EPA* and *OWRA* and includes all officials, employees or other persons acting on its behalf.

"*Owner*" means Fox Run By-the-River Retirement Residence Inc. and its successors and assignees.

"*OWRA*" means the Ontario Water Resources Act, R.S.O. 1990, c. O.40, as amended.

"*Previous Works*" means those portions of the sewage works previously constructed and approved under an *Approval*.

"*Professional Engineer*" means a person entitled to practice as a Professional Engineer in the Province of Ontario under a licence issued under the Professional Engineers Act.

"*Proposed Works*" means the sewage works described in the *Owner's* application, this *Approval*, to the extent approved by this *Approval*.

"*Works*" means the sewage works described in the *Owner*'s application, and this *Approval*, and includes both *Proposed Works* and *Previous Works.*

You are hereby notified that this environmental compliance 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 *Approval* 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 *Approval* , the application for approval of the works and the submitted supporting documents and plans and specifications as listed in this *Approval* .

(3) Where there is a conflict between a provision of any submitted document referred to in this *Approval* and the Conditions of this *Approval* , the Conditions in this *Approval* 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 *Approval* are severable. If any requirement of this *Approval* , or the application of any requirement of this *Approval* to any circumstance, is held invalid or unenforceable, the application of such requirement to other circumstances and the remainder of this Approval shall not be affected thereby.

2. EXPIRY OF APPROVAL

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

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 *Approval* , and a copy of such notice shall be forwarded to the *District Manager* and the *Director* .

4. CONSTRUCTION

(1) The *Owner* shall ensure that the construction of the works is supervised by a licensed installer, as defined in the Ontario Building Code or a Professional Engineer, as defined in the Professional Engineers Act .

(2) The Waterloo Biofilter System shall be installed as per the manufacturer's installation instructions.

(3) The *Works* shall be inspected during the construction phase as follows:

(a) Following excavation and removal of topsoil prior to placement of imported fill.

(b) Following placement of sewage system components; and

(c) Following final grading.

(d) The percolation time (T) of imported soil used for construction of above grade leaching bed shall be verified at the time of placement.

(4) Upon construction of the *Works* , the *Owner* shall prepare a statement, certified by a *Professional Engineer* , that the *Works* are constructed in accordance with this *Approval* , and upon request, shall make the written statement available for inspection by *Ministry* staff.

5. 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) Samples shall be collected at the frequency specified, by means of the specified sample type and analyzed for each parameter listed and all results recorded:

Table 1 - Raw Sewage (for *Proposed Works* only)	
Frequency	every six (6) months
Sample Type	Grab
Parameters	*BOD5*, Total Suspended Solids

Table 2 - Effluent Monitoring (for *Proposed Works* only) (sample collected on from Effluent Dosing Chamber)	
Frequency	monthly
Sample Type	Grab
Parameters	*CBOD5*, Total Suspended Solids, Total Phosphorus (TP)

(3) The *Owner* shall establish a minimum of two (2) piezometers located downgradient of the proposed pressurized area leaching bed and one (1) piezometer upgradient to all leaching beds (existing and proposed) to monitor effluent groundwater flows towards the creek by means of the specified sample type collected at the frequency specified and analyzed for each parameter listed and all results recorded.

Table 3 - Groundwater Monitoring (for surface water impact assessment)	
Frequency	twice annually
Parameters	TP

(4) The *Owner* shall measure and record the daily volume of effluent being discharged to each subsurface disposal system (*Previous and Proposed Works)* by installing an individual water meters on the potable water source(s).

(5) 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.

(6) 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 *Approval* .

(7) The measurement frequencies specified in subsection (2) in respect to any parameter are minimum requirements which may be modified by the *District Manager* in writing from time to time.

6. EFFLUENT OBJECTIVES

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 being discharged to the subsurface disposal system.

Table 4 - Effluent Objectives (for *Proposed Works* only)	
Effluent Parameter	**Concentration Objective** (milligrams per litre unless otherwise indicated)
CBOD5	10 (single grab sample)
Total Suspended Solids	10 (single grab sample)

7. OPERATIONS AND MAINTENANCE

(1) The *Owner* shall prepare an operations manual within six (6) months of the introduction of sewage to the *Works* , that includes, but not necessarily limited to, the following information:

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

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

(2) 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.

(3) The *Owner* shall enter into an agreement whereby a servicing and maintenance of the Waterloo Biofilter System (WBS) and its related components will be carried out by a person who is authorized by the manufacturer to service and maintain the WBS.

(4) The *Owner* shall prepare a complete set of "as constructed" drawings within one (1) year of *Substantial Completion* of the *Works.* The maintenance agreement and drawings must be retained at the site and kept current and shall be made available for inspection by *Ministry* staff.

8. REPORTING

(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.

(2) The *Owner* shall prepare 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 cover successive annual periods following thereafter for as long as *Works* are in operation. Such a performance report shall be submitted on annual basis to the *District Manager* . 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 objectives outlined in Condition 6, including an overview of the success and adequacy of the *Works* ;

(b) a summary and interpretation of monitoring data for TP concentrations at the upgradient monitor (Condition 5.4), including a proposal for the trigger mechanism when TP concentrations at the downgradient monitors have reached concentrations that may cause advers water quality conditions in the Creek. Contingencies should include verification monitoring in the Creek and possible addition of TP removal technology to the wastewater treatment system as per this *Approval.*

(c) a tabulation of the daily volumes of effluent disposed through each subsurface disposal system during the reporting period;

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

(e) a description of any operating problems encountered and corrective actions taken.

(3) 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, oil, solvent, 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.

9. RESPONSIBILITY AGREEMENT & CERTIFICATE OF PROHIBITION

(1) In accordance with the Ministry Procedure D-5-2 entitled "Application of Municipal Responsibility for Communal Water and Sewage Services", the *Owner* shall enter into a duly signed Municipality Responsibility Agreement (MRA) with The Corporation of The Township of Leeds and The Thousand Islands prior to the operation of the *Works* approved herein.

(2) Prior to operation of the *Proposed Works* , the *Owner* shall submit to the *District Manager* and the *Director* a copy of an updated MRA revised to include the *Proposed Works* to service 20-Townhouse Complex in addition to the *Previous Works* serving the Retirement House.

(3) Two copies of a completed Certificate of Prohibition, containing a registerable description of the property, upon which the *Works* is located, shall be submitted to the *Director* for the *Director* 's signature within 60 calendar days of the date of this *Approval.*

(4) Prior to the operation of the *Works* approved herein, the *Owner* shall register the Certificate of Prohibition signed by the *Director* , in the appropriate Land Registry Office on title to the property, upon which the *Works* is located, and a duplicate registered copy shall be submitted to the *Director* within 10 calendar days of receiving the Certificates of Prohibition signed by the *Director* .

(5) Any dealings with the property are prohibited in any way without first giving a copy of this *Approval* and the Responsibility Agreement to each person acquiring an interest in the property.

(6) In the event that a municipality or other public authority with the power to provide sewage service to the users of the *Works* , determines to do so directly, pursuant to the Responsibility Agreement or otherwise, or is required, by the Medical Officer of Health or the Director, to do so, the *Owner* shall, without compensation, transfer to The Corporation of The Township of Leeds and The Thousand Islands, such parts of the *Works* and any related interests in land required for the *Works* as are determined by the municipality.

APPENDIX A

1. Application for Approval of Municipal and Private Sewage Works dated July 6, 2006 including the following:

1.1 Sewage Treatment System Design Brief for Fox Run Retirement Residence, dated July 2006 prepared by The Thompson Rosemount Group.

1.2 Environmental Impact Study for Fox Run Retirement Residence, dated June 2006 prepared by Niblett Environmental Associates Inc.

1.3 The Draft Responsibility Agreement for the operation of the communal sewage disposal system between Fox Run By-the-River and the Township of Leads and the Thousand Islands as referenced in the Planning Report No. PL-003-07, dated February 22, 2007.

1.4 Drawing No. Fig.1.0 a (Job no. 055518 dated November 2006): Mounding Observation Wells at Fox Run Retirement Residence prepared by The Thompson Rousement Group.

2. Environmental Compliance Approval Application for Sewage Works dated February 4, 2013 for approval of Sewage works with subsurface disposal to service a new 20-Townhouse Complex for the Fox Run By the River Retirement Facility including the following:

2.1 Proposed On-Site Sewage System Fox Run By The River Retirement Residence, dated December

2012, prepared by Kaleb Lakew, P.Eng., Kollard Associates Inc. (File # 120027).

2.2 All other supporting documentation and correspondence submitted in support to this application.

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 Approval 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 Approval the existence of this *Approval.*

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 *Approval* and continue to operate the *Works* in compliance with it.

4. Condition 4 is included to ensure that the works are constructed, and may be operated and maintained such that the environment is protected and deterioration, loss, injury or damage to any person or property is prevented.

5. Condition 5 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 Approval and that the *Works* does not cause any impairment to the receiving watercourse.

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.

7. Condition 7 is included to require that the *Works* be properly operated, maintained, and equipped such that the environment is protected. As well, the inclusion of an operations manual, maintenance agreement with the manufacturer for the treatment process/technology and a complete set of "as constructed" drawings 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 information 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.

8. Condition 8 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 *Approval,* so that the *Ministry* can work with the *Owner* in resolving any problems in a timely manner.

9. Condition 9 is included to ensure that there is a Responsibility Agreement in place between the *Owner* and the Municipality prior to the operation of the *Works* so that, in the event that the *Owner* is unable to continue to provide sewage service, the Municipality may be able to assume ownership and operation of the *Works* . This Condition is also included in order to safeguard the health, safety, material comfort and enjoyment of normal use of potential future owners of the property on which the *Works* is located that they be put on notice that it is reasonably foreseeable that the normal operation of the works in compliance with this certificate may result in normal, fugitive and emergency discharges which result in the long-term contamination of said property.

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). 2166-6Z8QQB issued on

In accordance with Section 139 of the Environmental Protection Act, 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 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance 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.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in.

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

This Notice must be served upon:

The Secretary*****
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the purposes of Part II.1 of the Environmental Protection 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) 212-6349, Fax: (416) 314-4506 or www.ert.gov.on.ca

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 9th day of May, 2013

Edgardo Tovilla
Director
appointed for the purposes of Part II.1 of
the *Environmental Protection Act*

BM/
c: District Manager, MOE Kingston - District
Kaleb Lakew P. Eng., Kollaard Associates Inc.
Elaine M. Mallory, Acting Director of Planning & Development, Township of Leeds and the Thousand Islands