

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 5338-ASUR85

Issue Date: December 14, 2017

The Corporation of the Town of The Blue Mountains
32 Mill Street
The Blue Mountains, Ontario
N0H 2P0

Site Location: Craigleith Sewage Treatment Plant
Lot 20, 21, Concession 1
Town of the Blue Mountains Town, County of Grey
N0H 2P0

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:

modification of the existing Sewage Treatment Plant, located on Part Lot 20, 21 Concession 1 and Part Lot 21 Concession 2 in the Township of Collingwood, serving Craigleith Area, rated at an average daily flow of 8,133 m³/d and a peak flow of 19,640 m³/d, discharging to Nottawasaga Bay and comprising of;

PROPOSED WORKS

- ***Replacement of existing ultra-violet disinfection system*** located in the filter outlet channels with a new Trojan UV disinfection system (UV 3000Plus) capable of delivering a UV dose of 34mWs/cm² at a peak design flow of 19,640 m³/day consisting of 2 UV banks per channel, with a total of two channels, with a total of 48 lamps per channel; the channels are to operate as one for duty and one standby;

PREVIOUS WORKS**Influent Works**

- Two (2) comminutors in the existing channel with a peak hydraulic capacity of 26,640 m³/d;
- aeration equipment, grit lift pumps and appurtenances in the existing two (2) aerated grit tanks with a

hydraulic capacity of 19,640 m³/d;

Aeration Tanks/Secondary Clarifiers

- two (2) circular treatment units, consisting of a central secondary clarifier unit with aeration tanks provided in the annular ring, each treatment unit consisting of:
 - two (2) aeration tanks, consisting of two (2) compartments, with a total volume per tank of approximately 792 m³, equipped with fine bubble diffused aeration system;
 - two (2) secondary clarifier with an internal diameter of 15.5 m and a 4.5 m SWD, equipped with sludge scraping mechanism and scum skimming device;
- one (1) circular treatment unit, consisting of a central secondary clarifier unit with aeration tank provided in the annular ring, each treatment unit consisting of:
 - one aeration tank, consisting of two (2) compartments, with a total volume of approximately 3,167 m³, equipped with fine bubble diffused aeration system;
 - one (1) secondary clarifier with an internal diameter of 22 m and a 4.5 m SWD, equipped with sludge scraping mechanism and scum skimming device;
- air blowers with a firm capacity of approximately 1700 L/s to deliver air to the aeration tanks;

Sludge Pumping Station

- three (3) sludge pumping stations, one for each aeration tank/secondary clarifier, two (2) sludge pumping stations share three (3) return activated sludge and two (2) waste activated sludge pumps;
- one (1) sludge pumping stations equipped with two (2) return activated sludge and one (1) waste activated sludge pumps;

Effluent Filtration

- four (4) automatic backwash, single media effluent filters, each with overall dimensions of approximately 11.38 m x 2.74 m with total filtration capacity of 19,640 m³/d;
- a wastewater and filter backwash pumping station with two (2) pumps, each rated at 308 L/s;

Sludge Digestion and Storage

- two (2) aerobic two stage digesters, with an approximate volume of 576 m³ in the first stage and 314 m³ in second stage consisting of fine bubble diffused aeration system and supernatant decanting facility;
- air blowers with a firm capacity of approximately 1,360 L/s to deliver air to aerobic sludge digester and 680 L/s for sludge storage tank;
- two (2) digested sludge storage tanks one (1) with a volume of 1,224 m³ and one (1) with a volume of 1,300m³;

Phosphorus Removal

- alum storage tank and three (3) metering pumps;

Disinfection

- an ultra-violet disinfection system located in the filter outlet channels, with disinfecting capacity to 19,640 m³/d (now being amended);

all in accordance with Schedule A.

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

1. "Annual Average Daily Influent Flow" means the cumulative total sewage flow of Influent to the Sewage Treatment Plant during a calendar year divided by the number of days during which sewage was flowing to the Sewage Treatment Plant that year;
2. "Approval" means this entire document and any schedules attached to it, and the application;
3. "BOD5" (also known as TBOD5) means five day biochemical oxygen demand measured in an unfiltered sample and includes carbonaceous and nitrogenous oxygen demands;
4. "Bypass" means diversion of sewage around one or more unit processes within the Sewage Treatment Plant with the diverted sewage flows being returned to the Sewage Treatment Plant treatment train upstream of the Final Effluent sampling point;
5. "CBOD5" means five day carbonaceous (nitrification inhibited) biochemical oxygen demand measured in an unfiltered sample;
6. "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;
7. "*E. coli* " refers to the thermally tolerant forms of *Escherichia* that can survive at 44.5 degrees Celsius;
8. "EPA" means the *Environmental Protection Act* , R.S.O. 1990, c.E.19, as amended;
9. "Equivalent Equipment" means alternate piece(s) of equipment that meets the design requirements and performance specifications of the piece(s) of equipment to be substituted;
10. "Event" means an action or occurrence, at a given location within the Works that causes a Bypass or Overflow. An Event ends when there is no recurrence of Bypass or Overflow in the 12-hour period following the last Bypass or Overflow. Overflows and Bypasses are separate Events even when they occur concurrently;
11. "Final Effluent" means effluent that are discharged to the environment through the approved effluent disposal facilities, including all Bypasses, that are required to meet the compliance limits stipulated in the

Approval for the Sewage Treatment Plant at the Final Effluent sampling point;

12. "Geometric Mean Density" means the geometric mean of all Single Sample Results of density measurement in the samples taken over the period specified;
13. "Influent" means flows to the Sewage Treatment Plant from the collection system but excluding process return flows;
14. "Limited Operational Flexibility" (LOF) means the protocol under which the Owner shall follow in order to undertake any modification that is pre-approved in this Approval;
15. "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;
16. "Monthly Average Effluent Concentration" means the arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured during a calendar month, weighted by the quantity of the Final Effluent discharged over the days deemed to be represented by each sample;
17. "Monthly Average Daily Effluent Flow" means the cumulative total Final Effluent discharged during a calendar month divided by the number of days during which Final Effluent was discharged that month;
18. "Monthly Average Daily Effluent Loading" means the value obtained by multiplying the Monthly Average Effluent Concentration of a contaminant by the Monthly Average Daily Effluent Flow over the same calendar month;
19. "Overflow" means a discharge to the environment from the Works at a location other than the approved effluent disposal facilities or via the effluent disposal facilities downstream of the Final Effluent sampling point;
20. "Owner" means the Corporation of the Town of The Blue Mountains and its successors and assignees;
21. "OWRA" means the *Ontario Water Resources Act* , R.S.O. 1990, c. O.40, as amended;
22. "Peak Daily Flow Rate" (also referred to as maximum daily flow or maximum day flow) means the largest volume of flow to be received during a one-day period for which the sewage treatment process unit or equipment is designed to handle;
23. "Peak Hourly Flow Rate" (also referred to as maximum hourly flow or maximum hour flow) means the largest volume of flow to be received during a one-hour period for which the sewage treatment process unit or equipment is designed to handle;
24. "Peak Instantaneous Flow Rate" means the instantaneous maximum flow rate as measured by a metering device for which the sewage treatment process unit or equipment is designed to handle;

25. "Preliminary Treatment System" means all facilities in the Sewage Treatment Plant associated with screening and grit removal;
26. "Previous Works" means those portions of the Works included in the Approval that have been constructed previously;
27. "Primary Effluent" means the effluent from the Primary Treatment System that does not receive secondary treatment;
28. "Primary Treatment System" means all facilities in the Sewage Treatment Plant associated with the primary sedimentation unit process and includes chemically enhanced primary treatment;
29. "Proposed Works" means those portions of the Works included in the Approval that are under construction or to be constructed;
30. "Rated Capacity" means the Annual Average Daily Influent Flow for which the Sewage Treatment Plant is designed to handle;
31. "Sanitary Sewers" means pipes that collect and convey wastewater from residential, commercial, institutional and industrial buildings, and some infiltration and inflow from extraneous sources such as groundwater and surface runoff through means other than stormwater catch basins;
32. "Sewage Treatment Plant" means the entire sewage treatment excluding the Final Effluent disposal facilities;
33. "Single Sample Result" means the test result of a parameter in the effluent discharged on any day, as measured by a probe, analyzer or in a composite or grab sample, as required;
34. "Water Supervisor" means the Water Compliance Supervisor for the Safe Drinking Water Branch (SDWB) for the Owen Sound office of the Ministry;
35. "Works" means the approved sewage works, and includes Proposed Works, Previous Works and modifications made under Limited Operational Flexibility.

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 terms and conditions herein and shall take all reasonable

measures to ensure any such person complies with the same.

2. The Owner shall design, construct, operate and maintain the Works in accordance with the conditions of this Approval.
3. Where there is a conflict between a provision of any document referred to in this Approval and the conditions of this Approval, the conditions in this Approval shall take precedence.

2. CHANGE OF OWNER AND OPERATOR

1. The Owner shall, within thirty (30) calendar days of issuance of this Approval, prepare/update and submit to the Water Supervisor the Municipal and Local Services Board Wastewater System Profile Information Form (obtainable from the Water Supervisor) under any of the following situations:
 - a. the form has not been previously submitted for the sewage works;
 - b. this Approval is issued for extension, re-rating or process treatment upgrade of the sewage works;
 - c. every time when a notification is provided to the Water Supervisor in compliance with requirements of change of Owner or operator under this condition.
2. The Owner shall notify the Water Supervisor and the Director, in writing, of any of the following changes within thirty (30) days of the change occurring:
 - a. change of address of Owner;
 - b. change of Owner, including address of new 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. B.17* , as amended, shall be included in the notification;
 - 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. C.39* , as amended, shall be included in the notification.
3. The Owner shall notify the Water Supervisor, in writing, of any of the following changes within thirty (30) days of the change occurring:
 - a. change of address of operator;
 - b. change of operator, including address of new operator.
4. In the event of any change in ownership of the Works, the Owner shall notify the succeeding owner in

writing, of the existence of this Approval, and forward a copy of the notice to the Water Supervisor.

5. The Owner shall ensure that all communications made pursuant to this condition refer to the number at the top of this Approval.

3. TIMING FOR CONSTRUCTION OF PROPOSED WORKS/RECORD DRAWINGS

1. All Proposed Works in this Approval shall be constructed and installed and must commence operation within five (5) years of issuance of this Approval, after which time the Approval cease to apply in respect of any portions of the Works not in operation.
2. One (1) week prior to commissioning operation of any portion of the Proposed Works, the Owner shall notify the Water Supervisor, in writing, of the pending start up date. The notification shall include a statement, certified by a Professional Engineer, that the portion of the Proposed Works to be commissioned is constructed in accordance with this Approval.
3. Within one (1) year of completion of construction of the Proposed Works, a set of record drawings of the Works shall be prepared or updated. 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.
4. In the event that the construction, installation and/or operation of any portion of the Proposed Works is anticipated to be delayed beyond the time period stipulated in paragraph 1 of this condition, the Owner shall submit to the Director an application to amend the Approval to extend this time period, at least six (6) months prior to the end of the period. The amendment application shall include the reason(s) for the delay and whether there is any design change(s).

4. BYPASSES

1. Any Bypass is prohibited, except:
 - a. in an emergency situation when a structural, mechanical or electrical failure causes a temporary reduction in the capacity of a treatment process or when an unforeseen flow condition exceeds the design capacity of a treatment process that is likely to result in personal injury, loss of life, health hazard, basement flooding, severe property damage, equipment damage or treatment process upset, if a portion of the flow is not bypassed;
 - b. where the Bypass is a direct and unavoidable result of a planned repair and maintenance procedure or other circumstance(s), the Owner having notified the Water Supervisor in writing at least fifteen (15) days prior to the occurrence of Bypass, including an estimated quantity and duration of the Bypass, an assessment of the impact on the quality of the Final Effluent and the mitigation measures if necessary, and the Water Supervisor has given written consent of the Bypass;
2. At the beginning of a Bypass Event, the Owner shall immediately notify the Spills Action Centre (SAC) and the local Medical Officer of Health. This notice shall include, at a minimum, the following

information:

- a. the date and time of the beginning of the Bypass;
 - b. the location of the Bypass and the treatment process(es) bypassed;
 - c. the reason(s) for the Bypass.
3. Upon confirmation of the end of a Bypass Event, the Owner shall immediately notify the Spills Action Centre (SAC) and the local Medical Officer of Health. This notice shall include, at a minimum, the following information:
- a. the date and time of the end of the Bypass;
 - b. the measured or estimated volume of Bypass.
4. For any Bypass Event, the Owner shall collect daily sample(s) of the Final Effluent, inclusive of the Event and analyze for all effluent parameters outlined in Compliance Limits condition, following the same protocol specified in the Monitoring and Recording condition as for the regular samples. The sample(s) shall be in addition to the regular Final Effluent samples required under the monitoring and recording condition, except when the Event occurs on a scheduled routine monitoring day.
5. The Owner shall submit a summary report of the Bypass Event(s) to the Water Supervisor on a quarterly basis, no later than each of the following dates for each calendar year: February 15, May 15, August 15, and November 15. The summary reports shall contain, at a minimum, the types of information set out in Subsections (2), (3) and (4) and assessment of the impact of the Event(s) on Final Effluent, plant operation and the receiver, and planned mitigation strategies, as appropriate.

5. OVERFLOWS

1. Any Overflow is prohibited, except:
 - a. in an emergency situation when a structural, mechanical or electrical failure causes a temporary reduction in the capacity of the Works or when an unforeseen flow condition exceeds the design capacity of the Works that is likely to result in personal injury, loss of life, health hazard, basement flooding, severe property damage, equipment damage or treatment process upset, if a portion of the flow is not overflowed;
 - b. where the Overflow is a direct and unavoidable result of a planned repair and maintenance procedure or other circumstance(s), the Owner having notified the Water Supervisor in writing at least fifteen (15) days prior to the occurrence of Overflow, including an estimated quantity and duration of the Overflow, an assessment of the impact on the environment and the mitigation measures if necessary, and the Water Supervisor has given written consent of the Overflow;
2. At the beginning of an Overflow Event, the Owner shall immediately notify the Spills Action Centre

(SAC) and the local Medical Officer of Health. This notice shall include, at a minimum, the following information:

- a. the date and time of the beginning of the Overflow;
 - b. the location of the Overflow and the receiver and disinfection status of the Overflow;
 - c. the reason(s) for the Overflow.
3. Upon confirmation of the end of an Overflow Event, the Owner shall immediately notify the Spills Action Centre (SAC) and the local Medical Officer of Health. This notice shall include, at a minimum, the following information:
- a. the date and time of the end of the Overflow;
 - b. the measured or estimated volume of the Overflow;
 - c. the mitigation measures taken.
4. For any Overflow Event in the Sewage Treatment Plant, the Owner shall collect grab sample(s) of the Overflow, one near the beginning of the Event and one every eight (8) hours for the duration of the Event, and have them analyzed at least for CBOD₅, total suspended solids, total phosphorus, *E. coli* , except that raw sewage and primary treated effluent Overflow shall be analyzed for BOD₅, total suspended solids, total phosphorus and total Kjeldahl nitrogen only.
5. The Owner shall submit a summary report of the Overflow Event(s) to the Water Supervisor on a quarterly basis, no later than each of the following dates for each calendar year: February 15, May 15, August 15, and November 15. The summary report shall contain, at a minimum; the types of information set out in Subsections (2), (3) and (4) and assessment of the impact of the Event(s) on plant operation and the receiver, and planned mitigation strategies, as appropriate.

6. DESIGN OBJECTIVES

1. The Owner shall design and operate the Sewage Treatment Plant in accordance with the following objectives:
 - a. Final Effluent parameters design objectives listed in the table(s) included in Schedule B:
 - b. Final Effluent 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.
 - c. Annual Average Daily Influent Flow is within the Rated Capacity of the Sewage Treatment Plant.
2. The Owner shall make an assessment of the issues and recommendations for pro-active actions if any is

required under the following situations and include in the annual report to the Water Supervisor:

- a. when any of the design objectives is not achieved more than 50% of the time in a year;
- b. when the Annual Average Daily Influent Flow reaches 80% of the Rated Capacity.

7. COMPLIANCE LIMITS

1. The Owner shall operate and maintain the Sewage Treatment Plant such that the Final Effluent is disinfected continuously and compliance limits for the effluent parameters listed in the table(s) included in Schedule C are met.

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 Approval 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 Approval and the OWRA 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/update the operations manual for the Works within six (6) months of completion of construction of the Proposed Works, 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 and contingency plan, consisting of contingency plans and procedures for dealing with equipment breakdowns, potential spills and any other abnormal situations, including notification of the Water Supervisor;
 - f. procedures for receiving, responding and recording public complaints, including recording any followup actions taken.
3. The Owner shall maintain the operations manual up-to-date and retain a copy at the location of the Works for the operational life of the Works and upon request, 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

1. The Owner shall, upon commencement of operation of the Works, carry out a routine monitoring program of collecting samples at the required sampling points, at the frequency specified or higher, by means of the specified sample type and analyzed for each parameter listed in the tables under the monitoring program included in Schedule D and record all results, as follows:
 - a. all samples and measurements are to be taken at a time and in a location characteristic of the quality and quantity of the sewage stream over the time period being monitored.
 - b. a schedule of the day of the week/month and time of the day for the routine sampling shall be forwarded to the Water Supervisor for record. The sampling schedule shall be revised and updated every year through rotation of the day of the week/month and time of the day for the routine sampling program.
 - c. definitions and preparation requirements for each sample type are included in document referenced in paragraph 4.b.
 - d. definitions for frequency:
 - i. Daily means once every day;
 - ii. Weekly means once every week;
 - iii. Bi-weekly means once every two weeks;
 - iv. Monthly means once every month;
 - v. Quarterly means once every three months;
 - vi. Semi-annually means once every six months;
 - vii. Annually means once every year;
 - viii. Biennially means once every two years and
2. In addition to the routine monitoring program required in paragraph 1, the Owner shall collect samples of the Final Effluent, by means of the specified sample type and analyzed for each parameter listed in the tables under the monitoring program included in Schedule D on any day when there is any abnormal operating conditions with or without occurrence of Bypass or Overflow.
3. The Single Sample Results obtained on any routine monitoring day are deemed to be representative of the quality of the Final Effluent on that day and the calendar days that followed until the next routine monitoring day, except for any intervening day(s) when abnormal operating conditions occurred.
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 documents:

- 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;
 - b. the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater Version 2.0" (January 2016), PIBS 2724e02, as amended;
 - c. the publication "Standard Methods for the Examination of Water and Wastewater", as amended.
5. The Owner shall monitor and record the flow rate and daily quantity of the following sewage streams with an accuracy to within plus or minus 15 per cent (+/- 15%) of the actual flowrate:
- a. Influent flow to the Sewage Treatment Plant by continuous flow measuring devices and instrumentations/pumping rates;
 - b. Final Effluent discharged from the Sewage Treatment Plant by continuous flow measuring devices and instrumentations/pumping rates;
6. The Owner shall retain for a minimum of five (5) years from the date of their creation, all records and information related to or resulting from the monitoring activities required by this Approval.

10. LIMITED OPERATIONAL FLEXIBILITY

1. The Owner may make pre-authorized modifications to the Sewage Treatment Plant in Works in accordance with the document "Limited Operational Flexibility - Protocol for Pre-Authorized Modifications to Municipal Sewage Works", included as Schedule E of this Approval, subject to the following:
 - a. the modifications will not involve the addition of any new treatment process or the removal of an existing treatment process, including chemical systems, from the liquid or solids treatment trains as originally designed and approved.
 - b. the scope and technical aspects of the modifications are in line with those delineated in Schedule E and conform with the Ministry's publication "Design Guidelines for Sewage Works 2008", as amended, MOE regulations, policies, guidelines, and industry engineering standards;
 - c. the modifications shall not negatively impact on the performance of any process or equipment in the Works or result in deterioration in the Final Effluent quality;
 - d. where the pre-authorized modification requires notification, a "Notice of Modifications to Sewage Works" (included in Schedule E) shall be completed with declarations from a Professional Engineer and the Owner and submitted to the Water Supervisor at least thirty (30) days prior to the scheduled implementation date. The notification shall also include technical memorandum, engineering plans and specifications, as applicable and appropriate to support the declarations that the modifications

conform with LOF.

2. The following modifications are not pre-authorized under Limited Operational Flexibility:
 - a. Modifications that involve addition or extension of process structures, tankages or channels;
 - b. Modifications that involves relocation of the Final Effluent outfall or any other discharge location or that may require reassessment of the impact to the receiver or environment;
 - c. Modifications that involves addition of or change in technology of a treatment process or that may involve reassessment of the treatment train process design;
 - d. Modifications that requires changes to be made to the emergency response, spill prevention and contingency plan; or
 - e. Modifications that are required pursuant to an order issued by the Ministry.

11. REPORTING

1. The Owner shall report to the Water Supervisor orally as soon as possible any non-compliance with the compliance limits, and in writing within seven (7) days of non-compliance.
2. The Owner shall, within fifteen (15) days of occurrence of a spill within the meaning of Part X of the *Environmental Protection Act* , submit a full written report of the occurrence to the Water Supervisor describing the cause and discovery of the spill, clean-up and recovery measures taken, preventative measures to be taken and schedule of implementation, in addition to fulfilling the requirements under the EPA and Ont. Reg. 675/98 "Classification and Exemption of Spills and Reporting of Discharges".
3. The Owner shall, upon request, make all manuals, plans, records, data, procedures and supporting documentation available to Ministry staff.
4. The Owner shall prepare performance reports on a calendar year basis and submit to the Water Supervisor by March 31 of the calendar year following the period being reported upon. The reports shall contain, but shall not be limited to, the following information pertaining to the reporting period:
 - a. a summary and interpretation of all Influent monitoring data, including sewage characteristics, flow rates and a comparison to the values used in the design of the Works;
 - b. a summary and interpretation of all Final Effluent monitoring data, including concentration, flow rates, loading and a comparison to the design objectives and compliance limits in this Approval, including an overview of the success and adequacy of the Works;
 - c. a summary of all operating issues encountered and corrective actions taken;
 - d. a summary of all normal and emergency repairs and maintenance activities carried out on any major

structure, equipment, apparatus or mechanism forming part of the Works;

- e. a summary of any effluent quality assurance or control measures undertaken;
- f. a summary of the calibration and maintenance carried out on all Influent, and Final Effluent monitoring equipment;
- g. a summary of efforts made to achieve the design objectives;
- h. a tabulation of the volume of sludge generated, 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;
- i. a summary of any complaints received and any steps taken to address the complaints;
- j. a summary of all Bypasses, Overflows, spills within the meaning of Part X of EPA and abnormal discharge events, and other abnormal operating conditions;
- k. a copy of all Notice of Modifications to Sewage Works submitted to the Water Supervisor under paragraph 1.d. of Condition 10, with a summary report on status of implementation of all modification.

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

1. Condition 1 regarding general provisions is imposed to ensure that the Works are constructed and operated in the manner in which they were described and upon which approval was granted.
2. Condition 2 regarding change of owner and operator is included to ensure that the Ministry records are kept accurate and current with respect to ownership and operator of the 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.
3. Condition 3 regarding timing for construction of proposed works is included to ensure that the Works are constructed in a timely manner so that standards applicable at the time of Approval of the Works are still applicable at the time of construction to ensure the ongoing protection of the environment, and that prior to the commencement of construction of the portion of the Works that are approved in principle only, the Director will have the opportunity to review detailed design drawings, specifications and an engineer's report containing detailed design calculations for that portion of the Works, to determine capability to comply with the Ministry's requirements stipulated in the terms and conditions of the Approval, and also. ensure that the Works are constructed in accordance with the Approval and that record drawings of the Works "as constructed" are updated and maintained for future references.
4. Condition 4 regarding Bypasses is included to indicate that Bypass is prohibited, except in circumstances where the failure to Bypass could result in greater damage to the environment than the Bypass itself. 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 Bypass Events.

5. Condition 5 regarding Overflows is included to indicate that Overflow of untreated or partially treated sewage to the receiver is prohibited, except in circumstances where the failure to Overflow could result in greater damage to the environment than the Overflow itself. 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 Overflow Events.
6. Condition 6 regarding design objectives is imposed to establish non-enforceable design objectives to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs.
7. Condition 7 regarding compliance limits is imposed to ensure that the Final Effluent discharged from the Works to the environment meets the Ministry's effluent quality requirements.
8. Condition 8 regarding operation and maintenance 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. 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 regarding monitoring and recording 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 compliance limits.
10. Condition 10 regarding Limited Operational Flexibility is included to ensure that the Works are constructed, maintained and operated in accordance with the Approval, and that any pre-approved modification will not negatively impact on the performance of the Works.
11. Condition 11 regarding reporting 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 this Approval.

Schedule 'A' forms part of this *Approval* and contains a list of supporting documentation / information received, reviewed and relied upon in the issuance of this *Approval*.

Schedule A

List of Documents considered for the Current Application

1. Application for Environmental Compliance Approval submitted by WSP Canada for the Town of Blue Mountains, dated July 10, 2017 and received on July 26, 2017 including Environmental Study Report, design report, final plans and specifications and other documentation.

List of Documents considered for Previous Approvals

1. Environmental Study Report, dated June 1992 and Revised process design calculations dated September 9, 1992 prepared by C.C. Tatham & Associates Limited, Consulting Engineers.
2. All other applications and associated documentation submitted.

Schedule B

Final Effluent Design Objectives

Concentration Objectives

Final Effluent Parameter	Averaging Calculator	Objective (milligrams per litre unless otherwise indicated)
CBOD5	Monthly Average Effluent Concentration	10 mg/L
Total Suspended Solids	Monthly Average Effluent Concentration	5 mg/L
Total Phosphorus	Monthly Average Effluent Concentration	0.2 mg/L
Un-ionized Ammonia	Monthly Average Effluent Concentration	0.1 mg/L
<i>E. coli</i>	Monthly Geometric Mean Density	150 organisms per 100 mL
pH	Single Sample Result	6.5 - 8.5 inclusive

Schedule C

Final Effluent Compliance Limits

Concentration Limits

Final Effluent Parameter	Averaging Calculator	Limit (maximum unless otherwise indicated)
CBOD5	Monthly Average Effluent Concentration	15 mg/L
Total Suspended Solids	Monthly Average Effluent Concentration	15 mg/L
Total Phosphorus	Monthly Average Effluent Concentration	0.3 mg/L
Un-ionized Ammonia	Monthly Average Effluent Concentration	0.2 mg/L
<i>E. coli</i>	Monthly Geometric Mean Density	200 organisms per 100 mL
pH	Single Sample Result	between 6.0 - 9.5 inclusive

Loading Limits

Final Effluent Parameter	Averaging Calculator	Limit (maximum unless otherwise indicated)
CBOD5	Monthly Average Daily Effluent Loading	122 kg/d
Total Suspended Solids	Monthly Average Daily Effluent Loading	122 kg/d
Total Phosphorus	Monthly Average Daily Effluent Loading	2.4 kg/d
Un-ionized Ammonia	Monthly Average Daily Effluent Loading	1.6 kg/d

Schedule D

Monitoring Program

Influent - Headworks after the Grit Tank

Parameters	Sample Type	Frequency
BOD5	24 hour composite	Bi-Weekly
Total Suspended Solids	24 hour composite	Bi-Weekly
Total Phosphorus	24 hour composite	Bi-Weekly
Total Kjeldahl Nitrogen	24 hour composite	Bi-Weekly

Final Effluent - Sample to be collected downstream of the UV facility

Parameters	Sample Type	Frequency
CBOD5	24 hour composite	Bi-Weekly
Total Suspended Solids	24 hour composite	Bi-Weekly
Total Phosphorus	24 hour composite	Bi-Weekly
Total Ammonia Nitrogen	24 hour composite	Bi-Weekly
<i>E. coli</i>	Grab	Bi-Weekly
Alkalinity	Grab	Bi-Weekly
pH	Grab	Bi-Weekly
Temperature	Grab	Bi-Weekly

Schedule E

Limited Operational Flexibility

Protocol for Pre-Authorized Modifications to Municipal Sewage Works

1. General

1. Pre-authorized modifications are permitted only where Limited Operational Flexibility has already been granted in the Approval and only permitted to be made at the pumping stations and sewage treatment plant in the Works, subject to the conditions of the Approval.
2. Where there is a conflict between the types and scope of pre-authorized modifications listed in this document, and the Approval where Limited Operational Flexibility has been granted, the Approval shall take precedence.
3. The Owner shall consult the Water Supervisor on any proposed modifications that may fall within the scope and intention of the Limited Operational Flexibility but is not listed explicitly or included as an example in this document.
4. The Owner shall ensure that any pre-authorized modifications will not:
 - a. adversely affect the hydraulic profile of the Sewage Treatment Plant or the performance of any upstream or downstream processes, both in terms of hydraulics and treatment performance;
 - b. result in new Overflow or Bypass locations, or any potential increase in frequency or quantity of Overflow(s) or Bypass(es).
 - c. result in a reduction in the required Peak Flow Rate of the treatment process or equipment as originally designed.

2. Modifications that do not require pre-authorization:

1. Sewage works that are exempt from Ministry approval requirements;
2. Modifications to the electrical system, instrumentation and control system.

3. Pre-authorized modifications that do not require prior notification

1. Normal or emergency maintenance activities, such as repairs, renovations, refurbishments and replacements with Equivalent Equipment, or other improvements to an existing approved piece of equipment of a treatment process do not require pre-authorization. Examples of these activities are:

- a. Repairing a piece of equipment and putting it back into operation, including replacement of minor components such as belts, gear boxes, seals, bearings;
 - b. Repairing a piece of equipment by replacing a major component of the equipment such as motor, with the same make and model or another with the same or very close power rating but the capacity of the pump or blower will still be essentially the same as originally designed and approved;
 - c. Replacing the entire piece of equipment with Equivalent Equipment.
2. Improvements to equipment efficiency or treatment process control do not require pre-authorization. Examples of these activities are:
 - a. Adding variable frequency drive to pumps;
 - b. Adding on-line analyzer, dissolved oxygen probe, ORP probe, flow measurement or other process control device.
4. Pre-Authorized Modifications that require notification
 1. Pumping Stations
 - a. Replacement, realignment of existing sewers including manholes, valves, gates, weirs and associated appurtenances provided that the modifications will not add new influent source(s) or result in an increase in flow from existing sources as originally approved.
 - b. Extension or partition of wetwell to increase retention time for emergency response and improve station maintenance and pump operation;
 - c. Replacement or installation of inlet screens to the wetwell;
 - d. Replacement or installation of flowmeters, construction of station bypass;
 - e. Replacement, reconfiguration or addition of pumps and modifications to pump suctions and discharge pipings including valve, gates, motors, variable frequency drives and associated appurtenances to maintain firm pumping capacity or modulate the pump rate provided that the modifications will not result in a reduction in the firm pumping capacity or discharge head or an increase in the peak pumping rate of the pumping station as originally designed;
 - f. Replacement, realignment of existing forcemain(s) valves, gates, and associated appurtenances provided that the modifications will not reduce the flow capacity or increase the total dynamic head and transient in the forcemain.
 2. Sewage Treatment Plant

1. Sewers and appurtenances

- a. Replacement, realignment of existing sewers (including pipes and channels) or construction of new sewers, including manholes, valves, gates, weirs and associated appurtenances within the a sewage treatment plant, provided that the modifications will not add new influent source(s) or result in an increase in flow from existing sources as originally approved and that the modifications will remove hydraulic bottlenecks or improve the conveyance of sewage into and through the sewage works.

2. Flow Distribution Chambers/Splitters

- a. Replacement or modification of existing flow distribution chamber/splitters or construction of new flow distribution chamber/splitters, including replacements or installation of sluice gates, weirs, valves for distribution of flows to the downstream process trains, provided that the modifications will not result in a change in flow distribution ratio to the downstream process trains as originally designed.

3. Preliminary Treatment System

- a. Replacement of existing screens and grit removal units with equipment of the same or higher process performance technology, including where necessary replacement or upgrading of existing screenings dewatering washing compactors, hydrocyclones, grit classifiers, grit pumps, air blowers conveyor system, disposal bins and other ancillary equipment to the screening and grit removal processes.
- b. Replacement or installation of channel aeration systems, including air blowers, air supply main, air headers, air laterals, air distribution grids and diffusers.

4. Primary Treatment System

- a. Replacement of existing sludge removal mechanism, including sludge chamber;
- b. Replacement or installation of scum removal mechanism, including scum chamber;
- c. Replacement or installation of primary sludge pumps, scum pumps, provided that:the modifications will not result in a reduction in the firm pumping capacity or discharge head that the primary sludge pump(s) and scum pump(s) are originally designed to handle.

5. Secondary Treatment System

1. Biological Treatment

- a. Conversion of complete mix aeration tank to plug-flow multi-pass aeration tank, including modifications to internal structural configuration;

- b. Addition of inlet gates in multi-pass aeration tank for step-feed operation mode;
- c. Partitioning of an anoxic/flip zone in the inlet of the aeration tank, including installation of submersible mixer(s);
- d. Replacement of aeration system including air blowers, air supply main, air headers, air laterals, air distribution grids and diffusers, provided that the modifications will not result in a reduction in the firm capacity or discharge pressure that the blowers are originally designed to supply or in the net oxygen transferred to the wastewater required for biological treatment as originally required.

2. Secondary Sedimentation

- a. Replacement of sludge removal mechanism, including sludge chamber;
- b. Replacement or installation of scum removal mechanism, including scum chamber;
- c. Replacement or installation of return activated sludge pump(s), waste activated sludge pump(s), scum pump(s), provided that the modifications will not result in a reduction in the firm pumping capacity or discharge head that the activated sludge pump(s) and scum pump(s) are originally designed to handle.

6. Tertiary Treatment System

- a. Replacement of filtration system with equipment of the same filtration technology, including feed pumps, backwash pumps, filter reject pumps, filtrate extract pumps, holding tanks associated with the pumping system, provided that the modifications will not result in a reduction in the capacity of the filtration system as originally designed.

7. Disinfection System

1. UV Irradiation

- a. Replacement of UV irradiation system, provided that the modifications will not result in a reduction in the design capacity of the disinfection system or the radiation level as originally designed.

2. Chlorination/Dechlorination and Ozonation Systems

- a. Extension and reconfiguration of contact tank to increase retention time for effective disinfection and reduce dead zones and minimize short-circuiting;
- b. Replacement or installation of chemical storage tanks, provided that the tanks are provided with effective spill containment.

8. Supplementary Treatment Systems

1. Chemical systems

- a. Replacement, relocation or installation of chemical storage tanks for existing chemical systems only, provided that the tanks are sited with effective spill containment;
- b. Replacement or installation of chemical dosing pumps provided that the modifications will not result in a reduction in the firm capacity that the dosing pumps are originally designed to handle.
- c. Relocation and addition of chemical dosing point(s) including chemical feed pipes and valves and controls, to improve phosphorus removal efficiency;
- d. Use of an alternate chemical provided that it is a non-proprietary product and is a commonly used alternative to the chemical approved in the Works, provided that the chemical storage tanks, chemical dosing pumps, feed pipes and controls are also upgraded, as necessary..

9. Final Effluent Disposal Facilities

- a. Replacement or realignment of the Final Effluent channel, sewer or forcemain, including manholes, valves and appurtenances from the end of the treatment train to the discharge outfall section, provided that the sewer conveys only effluent discharged from the Sewage Treatment Plant and that the replacement or re-aligned sewer has similar dimensions and performance criteria and is in the same or approximately the same location and that the hydraulic capacity will not be reduced.

10. Sludge Management System

1. Sludge Holding and Thickening

- a. Replacement or installation of sludge holding tanks, sludge handling pumps, such as transfer pumps, feed pumps, recirculation pumps, provided that modifications will not result in reduction in the solids storage or handling capacities;

2. Sludge Digestion

- a. Replacement or installation of digesters, sludge handling pumps, such as transfer pumps, feed pumps, recirculation pumps, provided that modifications will not result in reduction in the solids storage or handling capacities;
- b. replacement of sludge digester covers.

3. Sludge Dewatering and Disposal

- a. Replacement of sludge dewatering equipment, sludge handling pumps, such as transfer pumps, feed pumps, cake pumps, loading pumps, provided that modifications will not result in reduction in solids storage or handling capacities.

11. Standby Power System

1. Replacement or installation of standby power system, including feed from alternate power grid, emergency power generator, fuel supply and storage systems, provided that the existing standby power generation capacity is not reduced.

12. Pilot Study

1. Small side-stream pilot study for existing or new technologies, alternative treatment process or chemical, provided:
 - i. all effluent from the pilot system is hauled off-site for proper disposal or returned back to the sewage treatment plant for at a point no further than immediately downstream of the location from where the side-stream is drawn;
 - ii. no proprietary treatment process or propriety chemical is involved in the pilot study;
 - iii. the effluent from the pilot system returned to the sewage treatment plant does not significantly alter the composition/concentration of or add any new contaminant/inhibiting substances to the sewage to be treated in the downstream process;
 - iv. the pilot study will not have any negative impacts on the operation of the sewage treatment plant or cause a deterioration of effluent quality;
 - v. the pilot study does not exceed a maximum of two years and a notification of completion shall be submitted to the Water Supervisor within one month of completion of the pilot project.

13. Lagoons

- a. installing baffles in lagoon provided that the operating capacity of the lagoon system is not reduced;
- b. raise top elevation of lagoon berms to increase free-board;
- c. replace or install interconnecting pipes and chambers between cells, provided that the process design operating sequence is not changed;
- d. replace or install mechanical aerators, or replace mechanical aerators with diffused aeration system provided that the mixing and aeration capacity are not reduced;

- e. removal of accumulated sludge and disposal to an approved location offsite.

This page contains an image of the form entitled "Notice of Modification to Sewage Works"



Notice of Modification to Sewage Works

RETAIN COPY OF COMPLETED FORM AS PART OF THE ECA AND SEND A COPY TO THE WATER SUPERVISOR (FOR MUNICIPAL) OR DISTRICT MANAGER (FOR NON-MUNICIPAL SYSTEMS)

Part 1 – Environmental Compliance Approval (ECA) with Limited Operational Flexibility <i>(Insert the ECA's owner, number and issuance date and notice number, which should start with "01" and consecutive numbers thereafter)</i>		
ECA Number	Issuance Date (mm/dd/yy)	Notice number (if applicable)
ECA Owner		Municipality

Part 2: Description of the modifications as part of the Limited Operational Flexibility <i>(Attach a detailed description of the sewage works)</i>
<p>Description shall include:</p> <ol style="list-style-type: none"> 1. A detail description of the modifications and/or operations to the sewage works (e.g. sewage work component, location, size, equipment type/model, material, process name, etc.) 2. Confirmation that the anticipated environmental effects are negligible. 3. List of updated versions of, or amendments to, all relevant technical documents that are affected by the modifications as applicable, i.e. submission of documentation is not required, but the listing of updated documents is (design brief, drawings, emergency plan, etc.)

Part 3 – Declaration by Professional Engineer	
<p>I hereby declare that I have verified the scope and technical aspects of this modification and confirm that the design:</p> <ol style="list-style-type: none"> 1. Has been prepared or reviewed by a Professional Engineer who is licensed to practice in the Province of Ontario; 2. Has been designed in accordance with the Limited Operational Flexibility as described in the ECA; 3. Has been designed consistent with Ministry's Design Guidelines, adhering to engineering standards, industry's best management practices, and demonstrating ongoing compliance with s.53 of the Ontario Water Resources Act; and other appropriate regulations. <p>I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate</p>	
Name (Print)	PEO License Number
Signature	Date (mm/dd/yy)
Name of Employer	

Part 4 – Declaration by Owner	
<p>I hereby declare that:</p> <ol style="list-style-type: none"> 1. I am authorized by the Owner to complete this Declaration; 2. The Owner consents to the modification; and 3. This modification to the sewage works are proposed in accordance with the Limited Operational Flexibility as described in the ECA. 4. The Owner has fulfilled all applicable requirements of the <i>Environmental Assessment Act</i>. <p>I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate</p>	
Name of Owner Representative (Print)	Owner representative's title (Print)
Owner Representative's Signature	Date (mm/dd/yy)

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). 3-1027-92-006 issued on October 19, 1992 and associated Notices.

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:

- a. 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;
- b. 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:

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;
5. The name of the Director, and;
6. 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 and Climate Change
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

*** 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) 326-5370 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 14th day of December, 2017



Fariha Pannu, P.Eng.

Director

appointed for the purposes of Part II.1 of the
Environmental Protection Act

KH/

c: DWMD Supervisor, MOECC Owen Sound
Kim Pilon, WSP Canada Inc.