

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 9472-BDFL8Z
Issue Date: July 31, 2019

Gowest Gold Ltd.
80 Richmond St W, No. 1400
Toronto, Ontario
M5H 2A4

Site Location: Bradshaw Gold Mine
approx. 15 km off Hwy 655
Lot 10, Concession 3
Unorganized Township of Tully, District of Cochrane, Ontario

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:

sewage works for the collection, transmission, treatment and disposal of surface runoff and mine water, serving Bradshaw Gold Mine with an underground portal and ramp, and a stock piling area, designed for mine water inflow with an average flow rate of 3,000 cubic metres per day and a maximum flow rate of 14,200 cubic metres per day, located approximately 15 kilometres off Hwy 655 (486,534 m E; 5,398,841 m N), in the Unorganized Township of Tully, consisting of the following:

- collection and transmission system, comprised of pump system and pipeline, discharging mine water, comprised of process wastewater (recirculated drilling water) and seepage and precipitation/runoff from underground working area, to a surface ditch and/or Wastewater Treatment System;
- surface ditches for the collection and conveyance of the mine water, as well as stormwater runoff from a total of 30.1 hectares of catchment areas, including stockpile and working areas confined by run-off containment berms, discharging into a Wastewater Treatment System or Runoff Settling Pond
- one (1) Runoff Settling Pond, approximately 82 metres wide and 324 metres long with a total depth of 3.0 metres to the top of the perimeter berm, having a total storage volume of 53,000 cubic metres at the internal berm elevation (0.5 metre below the berm crest), capable of handling surge flows from storm events up to the 100 year storm event, with an estimated daily average flow (during spring freshet) of 1,150 cubic metres of effluent flow rate, discharging via a 2 metre wide internal spillway to a Polishing Pond or Mine Water Pond

- one (1) Wastewater Treatment System (to be activated only if the water quality of the Polishing Pond effluent does not meet effluent quality criteria) to be located upstream of the aforementioned Runoff Settling Pond, designed with a maximum flow rate of 24,729 cubic metres per day, comprising a series of two (2) in-ditch agitated reactors and one (1) final chamber, complete with ferric sulphate dosing system, hydrated lime dosing system, and polymer dosing when necessary
- one (1) Mine Water Pond (to be constructed when mine dewatering flow exceeds 4,000 cubic meters per day on average for more than three (3) consecutive months), measuring approximately 55 metres wide and 324 metres long with a total depth of 2.8 metres to the top of the perimeter berm, having a total storage volume to the internal berm (0.3 metre below the berm crest) of 33,400 cubic metres discharging via a 2 metre wide internal spill way to the Polishing Pond, or if necessary directed to the Wastewater Treatment System
- one (1) Polishing Pond, measuring approximately 125 metres wide and 324 metres long with total depth 3.0 metres to the spillway external berm, having a total storage volume to the internal berm of 88,000 cubic metre, divided into two cells as follows:
 - one (1) existing East Cell complete with a 3 metre wide overflow spillway, discharging effluent into a flow discharge Separation Weir Box
 - one (1) new West Cell (to be constructed when mine dewatering exceeds 6,000 cubic metres per day on average for more than three (3) consecutive months)
- one (1) Flow Discharge Separation Weir box, comprised of two chambers: a 4.5 metre long chamber serves as settling basin, and a second chamber that contains two weirs as follow:
 - a low flow V-notch weir, with a design flow rate of up to 37 litres per second, connected to a low flow water diffusion system, which comprises a 300 metre long buried pipe, and a 150 metre long perforated pipe to allow for diffuse discharge through a peat bog (wetland) to the West Buskegau River
 - high flow rectangular weir with flow control system, connected to an approximately 300 metre long discharge channel and an outlet structure to discharge a peak discharge of 600 litres per second to the West Buskegau River (only be activated during freshet and/or any storm event exceeding a rainfall intensity of 5 millimetres per hour)
- pH adjustment system with chemical (carbon dioxide or sulphuric acid) dosing, to be utilized as required to control pH near the final effluent discharge point prior to discharge
- recycle water pump house, stilling well/wet well in the Polishing Pond to provide ability to recycle water for process use and dust suppression
- all other controls, electrical equipment, instrumentation, piping, valves and appurtenances essential for the proper operation of the aforementioned sewage works

all in accordance with the supporting documents set out in Schedule A attached to this Approval.

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

1. "Approval" means this entire document and any schedules attached to it, and the application;
2. "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;
3. "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;
4. "District Manager" means the District Manager of the Timmins District Office of the Ministry;
5. "EPA" means the *Environmental Protection Act*, R.S.O. 1990, c.E.19, as amended;
6. "Equivalent equipment" means a substituted equipment that meets the required quality and performance standards of a named equipment;
7. "Limited Operational Flexibility" (LOF) means the Modifications that the Owner is permitted to make to the Works under this Approval;
8. "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;
9. "Modifications" means any addition, replacement, alteration, expansion or optimization for the Works as specified under Limited Operational Flexibility;
10. "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;
11. "Notice of Modifications" means the form entitled "Notice of Modifications to Sewage Works";
12. "Owner" means Gowest Gold Ltd. and its successors and assignees;
13. "OWRA" means the *Ontario Water Resources Act*, R.S.O. 1990, c. O.40, as amended; and
14. "Works" means the sewage works described in the Owner's application, and this Approval, and includes 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 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, and the application for approval of the Works.
3. Where there is a conflict between a provision of any document in the schedule 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 documents in the schedule, the document bearing the most recent date shall prevail.
4. Where there is a conflict between the documents listed in the Schedule, 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 Conditions of this Approval are severable. If any Condition of this Approval, or the application of any requirement of this Approval to any circumstance, is held invalid or unenforceable, the application of such condition to other circumstances and the remainder of this Approval shall not be affected thereby.

2. CHANGE OF OWNER

1. The Owner shall notify the District Manager and the Director, in writing, of any of the following changes within thirty (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 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.

3. AS-CONSTRUCTED DRAWINGS

1. The Owner shall prepare within 6 months of substantial completion of any new works a complete set of drawings showing the works as-constructed and shall, within a reasonable period of time after any changes to the works, amend the drawings to reflect said changes. A copy of the said drawings and amendments thereto shall be submitted to the District Manager (for his records only), as they become available.
2. The Owner shall maintain the as-constructed drawings, as amended, at the location of the works for so long as it is in operation, and shall make them available for inspection and copying by a provincial officer upon request.

4. EFFLUENT - VISUAL OBSERVATIONS

1. Notwithstanding any other Condition in this Approval, the Owner shall ensure that the effluent from all discharges 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, sheen or foam on the receiving waters. The Owner shall ensure regular maintenance of equipment is undertaken and all spills are addressed appropriately.
2. In the event of an occurrence, as defined in Condition 4(1), the Owner shall inform the District Manager as soon as reasonably possible, and again in writing within seven (7) days of the occurrence. The Owner shall implement appropriate mitigation measures and a sampling program to confirm mitigation measures are adequate.

5. EFFLUENT CRITERIA

1. The Owner shall design, construct, operate and maintain the Works such that the concentrations of the materials named in Table 1 of Schedule B as effluent parameters are not exceeded in the effluent from the Works at the aforementioned Flow Discharge Separation Weir box.
2. For the purposes of determining compliance with and enforcing subsection (1):
 - a. The Daily Concentration of a parameter named in Column 1 of subsection (1) shall not exceed the corresponding maximum concentration set out in Column 2 of subsection (1).
 - b. The Monthly Average Concentration of a parameter named in Column 1 of subsection (1) shall not exceed the corresponding maximum concentration set out in Column 3 of subsection (1).

3. The Owner shall operate and maintain the Works such that the effluent from the Works is not acutely lethal to Rainbow Trout and *Daphnia magna* by ensuring that each Rainbow Trout acute lethality test and each *Daphnia magna* acute lethality test performed on any grab sample of effluent shall result in mortality for no more than 50 percent of the test organism in 100 percent effluent.
4. The Owner shall use best efforts to design, construct operate and maintain the Works with the objective that the concentrations of the materials named in Table 2 of Schedule B as effluent parameters are not exceeded in the effluent from the Works.

6. OPERATION AND MAINTENANCE

1. The Owner shall ensure that the Works and related equipment and appurtenances which are installed or used to achieve compliance with this Approval are properly operated and maintained. The Owner shall check all the Works on a weekly basis and keep a log or record of the inspections at the mine.
2. The Owner shall carry out on a regular basis, specific maintenance requirements associated with the Works and shall ensure that sediment is removed from it at such a frequency as to prevent excessive build-up and potential overflow of sediment into the receiving watercourse.
3. The Owner shall use best efforts to immediately identify and clean-up all losses of oil and fuel which can drain to the Works.
4. The Owner shall, upon identification of a loss of oil and fuel, take immediate action to prevent the further occurrence of such loss.
5. In furtherance of, but without limiting the generality of, the obligation imposed by subsection (1), the Owner shall ensure that equipment and material for the containment, clean-up and disposal of oil and fuel and materials contaminated with oil or fuel are kept on hand and in good repair for immediate use in the event of:
 - a. loss of oil or fuel during refuelling or equipment maintenance;
 - b. a spill within the meaning of Part X of the EPA; or
 - c. the identification of an abnormal amount of oil or fuel in the Works.
6. The Owner shall prepare an operations manual within three (3) months of the issuance of the Approval, 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. best management practices (BMPs for the use and handling of explosives, including Ammonium Nitrate/Fuel Oil (ANFO), for ammonia control. The BMPs should include, but shall not be limited to, the following:
 - i. establish contractor requirements to maintain good housekeeping practices to minimize spillage and excess use of explosives;
 - ii. maintain an updated water balance for the industrial sewage works; and
 - iii. measure ammonia levels in the outflow from the sewage works,
 - e. a spill prevention control and countermeasures plan, consisting of contingency plans and procedures for dealing with potential spills and any other abnormal situations, including notification of the District Manager;
 - f. procedures for receiving, responding and recording public complaints, including recording any follow-up actions taken.
7. 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.

7. MONITORING AND RECORDING

1. The Owner shall, upon commencement of operation of the Works, carry out a scheduled 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 Tables 3, 4 and 5 in Schedule B 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. definitions and preparation requirements for each sample type are included in document referenced in Paragraph 2.b.
 - c. definitions for frequency:
 - i. Thrice Weekly means three times each week
 - ii. Weekly means once each week
 - iii. Monthly means once every month
 - iv. Quarterly means once every three months
 - v. Semi-annual means once every six months
2. 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 and all analysis shall be conducted by a laboratory accredited to the ISO/IEC:17025 standard or as directed by the District Manager:

- 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 Version 2.0" (January 2016), PIBS 2724e02, as amended;
 - 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; and
 - d. the Environment Canada publications "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout" (July 1990) and "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Daphnia magna" (July 1990), as amended from time to time by more recently published editions.
3. 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 Un-ionized Ammonia shall be calculated using the total ammonia concentration, pH and temperature using the methodology stipulated in "Ontario's Provincial Water Quality Objectives" dated July 1994, as amended, for ammonia (un-ionized).
4. In the event of the monitoring data shows that the Total Ammonia Nitrogen concentrations are a concern (at circumstances when there has been a toxicity failure as per condition 5(3) or an exceedance of the un-ionized ammonia objectives), the Owner shall implement the following:
- a. Confirm ammonia levels are toxic;
 - b. Audit mine explosive handling compared to mandated best management practices and implement corrective measures as necessary;
 - c. Review water balance and ammonia concentrations to determine if a trend ammonia levels is apparent and can be related to specific mine activities;
 - d. Review the type of explosive used (ANFO, emulsion, gel) and determine if switching to a less water soluble form of explosive is necessary;
 - e. Review water management practices to determine if modification can be made to reduce ammonia levels (e.g., reduce levels of recycling mine water for drill water to avoid build-up of ammonia) or if effluent release can be improved to better manage discharge (e.g., storage and seasonal discharge) while operating within design parameters of the water management

ponds; and

- f. If best management practices and water management modifications are insufficient to control ammonia levels, then investigate treatment alternatives (e.g., aeration, acid addition, biological treatment) to control un-ionized ammonia concentrations.
5. The monitoring locations, parameters, frequencies and sample type specified in subsection (3) in respect to any parameter are minimum requirements which may, after twelve (12) months of monitoring in accordance with this Condition, be modified by the District Manager in writing from time to time.
 6. After the completion of the two (2) years of monitoring, a statistical analysis shall be conducted that compares average concentrations of all contaminant(s) of concern (COC(s)), at the one near-field monitoring station, and in the one far-field monitoring station to the concentrations found at the up-stream monitoring station, on a parameter by parameter basis. The statistical analysis must consider data normality and be of a valid parametric or non-parametric test. COC(s) that are found to be significantly higher in any of the downstream stations in comparison to the upstream at an alpha of 0.05 will trigger a chronic toxicity larval survival and growth test using fathead minnow. The water for the chronic test will be collected at the monitoring station where the elevated COC(s) was detected, using an appropriate statistical analyses statistically valid test.
 7. The Owner shall notify the District Manager, within a reasonable time frame (within three business days after receiving water quality results) if, prior to the completion of one year's data collection, any parameter downstream of discharge location has a concentration that exceeds background or Ontario Provincial Water Quality Objectives. At this time, a review of the data will be undertaken in conjunction with Regional Technical Support and this may trigger additional monitoring to confirm the exceedance, and upon confirmation, may also trigger that a chronic toxicity test be conducted with water collected at the appropriate downstream monitoring station.
 8. The Owner shall install and maintain a continuous flow measuring device, to measure the flowrate of the mine water leaving the groundwater working areas and the flowrate of the effluent from the wastewater treatment system, with an accuracy to within plus or minus 15 per cent (+/- 15%) of the actual flowrate for the entire design range of the flow measuring device, and record the flowrate at a weekly frequency.
 9. The Owner shall develop a comprehensive contingency plan, and submit it to the District Manager within one (1) year of the issuance of the Approval. The contingency plan must address what measures will be implemented in the event that groundwater quality is impacted and the trigger thresholds that will be used to determine the need for implementing these measures.

8. LIMITED OPERATIONAL FLEXIBILITY

1. The Owner may make modifications to the Works in accordance with the Terms and Conditions of this Approval and subject to the Ministry's "Limited Operational Flexibility Criteria for

Modifications to Sewage Works", included under Schedule C of this Approval, as amended.

2. Sewage works under Limited Operational Flexibility shall adhere to the design guidelines contained within the Ministry's publication "Design Guidelines for Sewage Works 2008", as amended.
3. The Owner shall ensure at all times, that the Works, related equipment and appurtenances which are installed or used to achieve compliance are operated in accordance with all Terms and Conditions of this Approval.
4. For greater certainty, the following are not permitted as part of Limited Operational Flexibility:
 - a. Modifications to the Works that result in an increase of the Rated Capacity of the Works;
 - b. Modifications to the Works that may adversely affect the approved effluent quality criteria or the location of the discharge/outfall;
 - c. Modifications to the treatment process technology of the Works, or modifications that involve construction of new reactors (tanks) or alter the treatment train process design;
 - d. Modifications to the Works approved under s.9 of the EPA, and
 - e. Modifications to the Works pursuant to an order issued by the Ministry.
5. Implementation of Limited Operational Flexibility is not intended to be used for piecemeal measures that result in major alterations or expansions.
6. For greater certainty, any modification made under the Limited Operational Flexibility may only be carried out after other legal obligations have been complied with, including those arising from the *Environmental Protection Act, Lakes and Rivers Improvements Act* and the *Mining Act*.
7. At least thirty (30) days prior to implementing Limited Operational Flexibility, the Owner shall complete a Notice of Modifications describing any proposed modifications to the Works and submit it to the District Manager.
8. The Owner shall not proceed with implementation of Limited Operational Flexibility until the District Manager has provided written acceptance of the Notice of Modifications or a minimum of thirty (30) days have passed since the day the District Manager acknowledged the receipt of the Notice of Modifications.

9. REPORTING

1. One (1) 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 report to the District Manager or designate, any exceedence of any parameter

specified in Condition 5 orally, as soon as reasonably possible, and in writing within seven (7) days of receiving results.

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.
4. The Owner shall, upon request, make all manuals, plans, records, data, procedures and supporting documentation available to Ministry staff.
5. The Owner shall prepare, and submit to the District Manager, annual performance reports covering one calendar year, by June 1 of the following year. The reports shall contain the following information:
 - a. an effluent and surface water monitoring report, which shall contain, but shall not be limited to, the following information:
 - i. a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 5, including an overview of the success and adequacy of the Works;
 - ii. description and evaluation of any and all aquatic environmental effects associated with the mining operation;
 - iii. tabulation and interpretation of current and historical receiver surface water monitoring data and comparison to Ontario Provincial Water Quality Objectives;
 - iv. graphs illustrating current and historical trends with time of key water quality parameters;
 - v. a site plan(s) of the entire site illustrating significant features such as lakes, streams, ponds, seeps, ditches, collection and treatment facilities and roadways as well as all of the sampling locations;
 - vi. universal transverse Mercator (UTM) coordinates for all sampling locations, North American Datum 1983; and
 - vii. a summary of any effluent quality assurance or control measures undertaken in the reporting period.
 - b. a groundwater monitoring report, which shall be prepared by a licensed independent

Professional Geoscientist or Professional Engineer qualified in the field of hydrogeology, and shall contain, but shall not be limited to, the following information:

- i. a site description and background;
 - ii. a discussion of the geology and hydrogeology of the site;
 - iii. a section detailing the field sampling protocols and QA/QC program;
 - iv. a site plan showing the location of monitoring wells
 - v. a discussion and interpretation of the results of the groundwater sampling and whether the results indicate potential impact to nearby surface water features;
 - vi. an evaluation of the monitoring results with respect to the trigger thresholds identified in the contingency plan, and a discussion related to the requirements for contingency measures to be implemented;
 - vii. Conclusions and recommendations for future monitoring and/or remedial actions;
 - viii. a scale site plan or plans of the entire site illustrating significant site features such as surface water bodies, seeps, ponds, ditches, collection and treatment facilities, and roadways, as well as all of the sampling locations;
 - ix. a groundwater contour map showing the groundwater elevations for each well and the groundwater flow direction;
 - x. stratigraphic cross-sections which clearly illustrate the subsurface distribution of geological materials;
 - xi. tables summarizing all of the historical and current water chemistry and water level data;
 - xii. graphs illustrating historical water quality trends with time for the key analytical parameters;
 - xiii. a copy of the borehole logs for all groundwater monitoring wells (may be provided electronically); and,
 - xiv. a copy of the original laboratory analytical results (may be provided electronically).
- c. a description of any operating problems encountered and corrective actions taken;
 - d. a summary of all maintenance carried out on any major structure, equipment, apparatus,

- mechanism or thing forming part of the Works;
- e. an assessment on whether or not a stormwater control implementation plan is necessary;
 - f. a summary of any complaints received during the reporting period and any steps taken to address the complaints;
 - g. a summary of all By-pass, spill or abnormal discharge events;
 - h. a copy of all Notice of Modifications submitted to the District Manager as a result of Schedule C, Section 1, with a status report on the implementation of each modification;
 - i. a report summarizing all modifications completed as a result of Schedule C, Section 3; and
 - j. any other information the District Manager requires from time to time.
6. The Owner shall provide a copy of the annual performance report required under above Condition 9(5) to each of the aboriginal communities, which have requested the data, within the time frame agreed with each community.

Schedule A

1. Application for Environmental Compliance Approval submitted by Greg Romain, Chief Executive Officer of Gowest Gold Ltd., dated August 24, 2018 and received on August 29, 2018 for the proposed modifications to existing sewage works, including technical memorandums, final plans and specifications.

Schedule B

Table 1 - Effluent Limits

Effluent Parameter	Daily Concentration (milligrams per litre unless otherwise indicated)	Monthly Average Concentration (milligrams per litre unless otherwise indicated)
<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>
Total Suspended Solids	30.0	15.0
Arsenic	0.30	0.15
Copper	0.024	0.012
Lead	0.006	0.003
Nickel	0.05	0.025
Zinc	0.04	0.02
Cobalt	0.02	0.01
pH of the effluent maintained between 6.5 to 8.5, inclusive, at all times		

Table 2 - Effluent Objectives

Effluent Parameter	Daily Concentration (milligrams per litre unless otherwise indicated)	Monthly Average Concentration (milligrams per litre unless otherwise indicated)
Un-ionized Ammonia	0.08	0.04

Table 3 - Effluent Monitoring
Effluent Sampling Location - at the Flow Discharge Separation Weir box

Parameters	Sample Type	Frequency
pH	Grab, field measurement	Thrice Weekly
Total Suspended Solids	Grab	Thrice Weekly
Total Ammonia Nitrogen	Grab	Weekly
Arsenic	Grab	Weekly
Cobalt	Grab	Weekly
Copper	Grab	Weekly
Lead	Grab	Weekly
Nickel	Grab	Weekly
Zinc	Grab	Weekly
Temperature	Grab, field measurement	Weekly
Acute Lethality Test (Rainbow Trout and Daphnia Magna)	Grab	Monthly, or Quarterly after 12 consecutive passed samples*
Chronic Toxicity Test (Fathead Minnow and Ceriodaphnia Dubia)	Grab	semi-annual (on reduced toxicity sample only)**

Notes *: When 12 consecutive samples of effluent did not exceed 50 per cent mortality for Rainbow Trout and Daphnia Magna, Acute Lethality Testing may be reduced to quarterly monitoring frequency; and If any sample of the effluent results in mortality of more 50 percent mortality for the test of Rainbow Trout and Daphnia Magna, monthly Acute Lethality Test shall resume until a further 12 consecutive samples result in mortality for no more than 50 per cent of Rainbow Trout and Daphnia Magna for each test; and

** : The Owner needs not collect a sample for effluent for Chronic Toxicity Test list in above Table 3 until reduced monitoring frequency (Quarterly) for Acute Lethality Test is triggered.

Table 4 - Surface Water Monitoring

Sampling Stations	Three (3) surface water monitoring stations on the West Buskegau River, as follows: (1) an upstream station (BR-U/S) (2) a near-field site located within 50 metres of the direct discharge (BR-MIX) (3) a far-field station (BR-D/S)
Sample Type	Grab
Sample Frequency	Monthly including the winter*
Sample Parameters	Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Chromium III, Chromium VI, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Strontium, Thallium, Tin, Titanium, Tungsten, Uranium, Vanadium, Zinc, Zirconium, Nitrates, Nitrites, Total Ammonia Nitrogen, Un-ionized Ammonia, Oil and Greases, Phenols, major ions (Calcium, Magnesium, Potassium, Sodium, Sulphate, Chloride, Fluoride, Hardness), TSS, TDS, pH, Conductivity, Alkalinity, field temperature and Dissolved Oxygen

* Note: Winter sampling will be conducted provided that it is safe to do so, otherwise, the Owner shall provide evidence (i.e. photos, etc.) to confirm the conditions were not safe.

Table 5 - Ground Water Monitoring

Sampling Stations	Six (6) sampling stations: BH14-1A/1B, BH10-1, BH10-2A/2B, BH10-3A/3B, BH-10-4A/4B, BH10-5
Sample Type	Grab
Sample Frequency	twice per year (spring and fall)
Sample Parameters	pH, Conductivity, Total Dissolved Solids, Alkalinity, Dissolved Organic Carbon, Acidity, Hardness, Ammonium, Sulphate, and the following dissolved metals: Aluminum, Arsenic, Boron, Cadmium, Calcium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, and Zinc.

Schedule C

Limited Operational Flexibility Criteria for Modifications

to Industrial Sewage Works

1. The modifications to sewage works approved under an Environmental Compliance Approval (Approval) that are permitted under the Limited Operational Flexibility (LOF), are outlined below and are subject to the LOF conditions in the Approval, and require the submission of the Notice of Modifications. If there is a conflict between the sewage works listed below and the Terms and Conditions in the Approval, the Terms and Conditions in the Approval shall take precedence.

1.1 Sewage Pumping Stations

- a. Alter pumping capacity by adding or replacing equipment where new equipment is located within an existing sewage treatment plant site or an existing sewage pumping station site, provided that the modifications do not result in an increase of the sewage treatment plant Rated Capacity and the existing flow process and/or treatment train are maintained, as applicable.

1.2 Sewage Treatment Process

- a. Installing additional chemical dosage equipment including replacing with alternative chemicals for pH adjustment or coagulants (non-toxic polymers) provided that there are no modifications of treatment processes or other modifications that may alter the intent of operations and may have negative impacts on the effluent quantity and quality.
- b. Optimizing existing sewage treatment plant equipment with the purpose to increase the efficiency of the existing treatment operations, provided that there are no modifications to the works that result in an increase of the approved Rated Capacity, and may have adverse effects to the effluent quality or location of the discharge.
- c. Replacement, refurbishment of previously approved equipment in whole or in part with Equivalent Equipment, like-for-like of different make and model, provided that the firm capacity, reliability, performance standard, level of quality and redundancy of the group of equipment is kept the same or exceeded. For clarity purposes, the following equipment can be considered under this provision: pumps, screens, grit separators, blowers, aeration equipment, sludge thickeners, dewatering equipment, UV systems, chlorine contact equipment, bio-disks, and sludge digester systems.

1.3 Sewage Treatment Plant Outfall

- a. Replacement of discharge pipe with similar pipe size or diffusers provided that the outfall location is not changed.

1.4 Pilot Systems

- a. Installation of pilot systems for new or existing technologies provided that:
 - i. any effluent from the pilot system is discharged to the inlet of the sewage treatment plant or hauled off-site for proper disposal,
 - ii. any effluent from the pilot system discharged to the inlet of the sewage treatment plant or sewage conveyance system does not significantly alter the composition/concentration of the influent sewage to be treated in the downstream process; and that it does not add any inhibiting substances to the downstream process, and
 - iii. the pilot system's duration does not exceed a maximum of two years; and a report with results is submitted to the Director and District Manager three months after completion of the pilot project.
2. Sewage works that are exempt from section 53 of the OWRA by O. Reg. 525/98 continue to be exempt and are not required to follow the notification process under this Limited Operational Flexibility.
3. Normal or emergency operational modifications, such as repairs, reconstructions, or other improvements that are part of maintenance activities, including cleaning, renovations to existing approved sewage works equipment, provided that the modification is made with Equivalent Equipment, are considered pre-approved.
4. The modifications noted in section (3) above are not required to follow the notification protocols under Limited Operational Flexibility, provided that the number of pieces and description of the equipment as described in the Approval does not change.

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 modifications 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)

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 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.
3. Condition 3 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.
4. Conditions 4 and 5 are imposed to ensure that the effluent discharged from the Works to the West meets the Ministry's effluent quality requirements thus minimizing environmental impact on the receiver and to protect water quality, fish and other aquatic life in the receiving water body.
5. Condition 6 is included to require that the Works be properly operated, maintained 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.
6. Condition 7 is included to enable the Owner to evaluate and demonstrate the performance of the Works, on a continual basis, so that the Works are properly operated and maintained at a level which is consistent with the effluent limits specified in the Approval and that the Works does not cause any impairment to the receiving watercourse.
7. Condition 8 is included to ensure that the Works are operated in accordance with the application and supporting documentation submitted by the Owner, and not in a manner which the Director has not been asked to consider. These conditions are also included to ensure that a Professional Engineer has reviewed the proposed Modifications and attests that the Modifications are in line with that of Limited Operational Flexibility, and provide assurance that the proposed Modifications comply with the Ministry's requirements stipulated in the terms and conditions of this Approval, MOECC policies, guidelines, and industry engineering standards and best management practices.
8. Condition 9 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.

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). 5879-AJMZY issued on February 24, 2017.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me, the Environmental Review Tribunal and in accordance with Section 47 of the Environmental Bill of Rights, 1993, the Minister of the Environment, Conservation and Parks, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Minister of the Environment, Conservation and Parks will place notice of your appeal on the Environmental Registry. 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 Minister of the Environment,
Conservation and Parks
777 Bay Street, 5th Floor
Toronto, Ontario
M7A 2J3

AND

The Director appointed for the purposes of
Part II.1 of the Environmental Protection Act
Ministry of the Environment,
Conservation and Parks
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**

This instrument is subject to Section 38 of the Environmental Bill of Rights, 1993, that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek leave to appeal within 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry at www.ebr.gov.on.ca, you can determine when the leave to appeal period ends.

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

DATED AT TORONTO this 31st day of July, 2019



Youssouf Kalogo, P.Eng.
Director
appointed for the purposes of Part II.1 of the
Environmental Protection Act

NH/

c: District Manager, MECP Timmins Distrit Office
Linda Byron, Blue Heron Environmental