

## AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 9476-DQXQG8

Issue Date: July 31, 2026

Greenstone Gold Mines GP Inc.  
7921 Highway 11, P.O. Bag 10  
Geraldton, Ontario  
P0T 1M0

Site Location: Greenstone Gold Mine  
7921 Highway 11, Geraldton  
Municipality of Greenstone  
District of Thunder Bay, 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:*

the modification/alteration, usage and operation of the **Works** for the collection, transmission, treatment, by an Effluent Treatment Plant (ETP), of Process Effluent including tailings effluent, Minewater effluent, and site stormwater runoff and seepage from the Greenstone Mine, an open pit gold mining and milling operation with a maximum throughput of 10,950,000 tonnes per year (nominal average Process Plant throughput of 30,000 tonnes per day), together with the use and operation of a sanitary Sewage Treatment Plant (STP), collections ponds and other ancillary works, with the Final Effluent discharged via Final Effluent Disposal Facility to the Southwest Arm of Kenogamisis Lake consisting of the following:

### **Tailings Management Facility (TMF)**

One (1) Tailings Management Facility (TMF), operating as a closed-loop process between the process plant and TMF with no discharge to land or to any surface water feature, designed for a total tailings storage capacity of approximately 145 million tonnes (Mt) (dry weight basis), encompassing a total area of approximately 550 hectares and impounded by TMF West, North, East, Southeast and Southwest Dams, for the receipt of historical tailings, Type C soil, and production tailings, to be expanded in stages to the ultimate design height of 365 metres above sea level (masl), consisting of the following:

#### **Tailing Dams - Stage 2**

- One (1) TMF West Dam with a crest height of approximately 347 masl, designed to contain the northwest portion of the TMF basin, including the addition of a downstream toe berm (placement of fill

material);

- One (1) TMF North Dam with a crest height of approximately 347 masl, designed to contain the northeast portion of the TMF basin;
- One (1) TMF East Dam with a crest height of approximately 347 masl, designed to contain the east portion of the TMF basin;
- One (1) TMF Southeast Dam with a crest height approximately 347 masl, including a shear key along part of downstream of the Southeast Dam with two (2) pumping well casings within the shear key, designed to contain the southeast portion of the TMF basin; and
- One (1) TMF Southwest Dam a crest height of approximately 347 masl, designed to contain the southwest portion of the TMF basin, including extensions to the existing downstream toe buttresses and addition of a shear key along part of downstream of the Southwest Dam.

#### **TMF Pond**

- One (1) TMF Pond (supernatant pond) within the Tailings Management Facility (TMF), constructed / developed with an emergency spillway, as required and designed by a Licensed Engineering Practitioner, to discharge Overflow Effluent overland to Goldfield Creek Diversion Pond, which subsequently drains to the Southwest Arm of Kenogamisis Lake; and
- One (1) Overflow Effluent Sampling Point at the TMF Pond emergency spillway.

#### **Seepage Collection System for the Tailings Management Facility (TMF)**

- T1 Runoff and Seepage Collection Pond bordering the south side of the Southeast Dam, contained by the TMF perimeter Access Road and having a capacity of 101,940 cubic metres, sufficient to contain the 100-year return period 24-hour precipitation event without exceeding the Maximum Operating Level outlined in the **Table A-1 in Schedule A**, having submersible pumps (one duty and one standby, with diesel pump contingency) located at the north end of the pond, each with a maximum capacity of 550 cubic metres per hour, via a 300 mm discharge pipeline into the TMF.
- T2 Runoff and Seepage Collection System, located west of the TMF between the Goldfield Creek Diversion Dyke and the West Dam, operating as pumping back system to facilitate the construction of the downstream toe berm at the West dam, including a complete infill of T2 area and installation of three pumping wells (2 m diameter pipes) to pump water accumulated in the infilled T2 area back to the TMF to maintain the pump well water level between the Minimum and Maximum Operating Levels as identified in the **Table A-1**.
- T3 Runoff and Seepage Collection Pond bordering the north side of the TMF with a capacity of approximately 18,000 cubic metres sufficient to contain the 100-year return period 24-hour precipitation event without exceeding the Maximum Operating Level outlined in the **Table A-1**. Water collected in the seepage collection pond is to be pumped with submersible pumps (one duty one standby, with diesel

pump contingency), each with a maximum capacity of 64 m<sup>3</sup>/h and via a 100 mm discharge pipeline, to the TMF; and

- Seepage Collection Ditches along the perimeter of the TMF conveying collected water to the Seepage Collection Ponds or pump back system identified above, including relocation of existing Realignment and extension of seepage collection ditch - Southwest Ditch and Southeast Ditch discharging into existing Pond T1.

## **Cyanide Destruction**

- one (1) 1,811 cubic metres per hour design capacity in-plant tailings slurry cyanide destruction (SO<sub>2</sub>/Air) treatment system located in the process plant, designed to treat wastewater from the process plant, consisting of two (2) parallel reactors, each reactor having an operating volume of 1,634 cubic metres and each equipped with an agitator, and oxygen supplied through spargers from a VSA Oxygen plant, together with two (2) 55,000 litre live volume liquid SO<sub>2</sub> pressurized storage vessels with two liquid SO<sub>2</sub> dosing lines each capable of a maximum flow of 1,431 kilograms per hour (kg/hr), one (1) 1 cubic metre per hour capacity copper sulphate reagent addition system, one (1) 4 cubic metre per hour capacity lime addition system, discharging via two pump trains from the tailings pump box to the tailings discharge pipeline to the TMF;

## **Tailing Slurry and Reclaim Water Pipelines**

- one (1) approximately 4.2 km long and 700 mm diameter Tailings Slurry Pipeline transporting fine slurry tailings from the process plant to the top of the tailings dam with a pipeline extending approximately 2.2 km along the north side of the TMF and another pipeline extending approximately 4.6 km towards the south cell. All three Tailings Slurry Pipelines have a nominal operating pressure of 1,900 kiloPascals (kPa) and a maximum pump shut off pressure of 2,450 kPa, at a pumping rate of 1,575 cubic metre per hour.
- one (1) approximately 8.1 km long, 600 mm diameter Reclaim Water Pipeline conveying reclaim water from the TMF to the process plant, and circulating reclaim water through the tailings spigots when required, with a nominal operating pressure of 392 kPa and maximum pump shut off pressure of 1,176 kPa, with floating tailings pond reclaim barge outfitted with three (3) submersible pumps (two duty one standby) each having a rated capacity of 600 cubic metre per hour, for a total rated capacity of 1,200 cubic metre per hour.
- one (1) emergency ditch trapezoidal in cross section with a top width of 4.8 m, base width of 3 m and a depth of 0.9 m, lined with 60 mil LDPE geomembrane layer installed on a minimum 0.3 m thick sand bed, running parallel along the haul road, to contain the Tailings Slurry Pipeline and the Reclaim Water Pipeline identified above from the process plant to the TMF, draining by gravity to the emergency pond identified below in the event of a leak or maintenance activities; and
- one (1) emergency pond having an available storage capacity of 1,240 cubic metres at a maximum water level of 333.15 masl at a depth of 0.9 m and a freeboard of 1 m from the crest of the emergency pond berms, lined with 60 mil LDPE geomembrane liner, designed to contain the full volume of the Tailings

Slurry Pipeline and Reclaim Water Pipeline between the process plant to the TMF in the event of a leak or maintenance activities.

### **Collection Ponds**

Use and operation of the following collection ponds with collected water directed to the central Pond M1 water management pond, which directs water to the Effluent Treatment Plant for treatment prior to discharge to the Southwest Arm of Kenogamisis Lake:

- One (1) Pond A1 to manage contact water from the overburden stockpile. Two perimeter ditches, A1-A and A1-B, (comprising of riprap lined with a D50 of 0.15 m and a layer thickness of 0.3 m, and intended to intercept the shallow groundwater table, thus providing a seepage collection and conveyance mechanism) to direct collected water to Pond A1 via gravity. A1-A is approximately 1,176 m long with a bottom width of ~2.5 m and a nominal depth of ~1.6 m. A1-B is approximately 1,685 m long with a bottom width of ~2.0 m and a nominal depth of ~1.2 m. Two pumps to pump water from Pond A1 to Pond B1 via the Pond A1 transference pipeline. The maximum operating water volume is approximately 14,600 cubic metres with the remainder of the total volume of approximately 50,600 cubic metres available up to the spillway for the storage to contain the 100-year return period 24-hour precipitation event.
- One (1) Pond A1 transference pipeline to convey water requiring treatment from Pond A1 to Pond B1 via a ~2,735 m long HDPE pipeline that connects to a main header, approximately 3,000 m long. The main header directing water to Pond B1 also conveys water from Pond A2 and Pond B2 to Pond B1, before being pumped to Pond M1.
- One (1) Pond A2 to capture contact water from the south-western portion of the waste rock storage area (WRSA) A. Two perimeter ditches, A2-A and A2-B, directs collected water to Pond A2 via gravity. A2-A is approximately 1,685 m long with a bottom width of ~2.5 m and a depth of ~1.4 m. A2-B is approximately 725 m long with a bottom width of ~1.5 m and a nominal depth of ~1.2 m. Two pumps to pump water from Pond A2 to Pond B1 via the Pond A2 transference pipeline. The maximum operating water volume is approximately 8,600 cubic metres with a total volume of approximately 42,600 cubic metres available up to the spillway for storage to contain the 100-year return period 24-hour precipitation event.
- One (1) Pond A2 transference pipeline to convey water requiring treatment from Pond A2 to Pond B1 via a ~14 m long pipeline that connects to the main header directing water from Pond A1, A2, and B2 to Pond B1, prior to being sent to Pond M1.
- One (1) Pond B1 to receive flow and runoff from the process plant area as well as contact water from the ore stockpile. An approximately 1,469 metre long perimeter B1 ditch that collects surface runoff and directs it via gravity to Pond B1. The B1 ditch has a bottom width of approximately 2.0 m and a depth of approximately 1.6 m. Two duplex pumps to pump water from Pond B1 to Pond M1 via the Pond B1 transference pipeline. The maximum operating water volume is approximately 19,000 cubic metres with total volume of approximately 56,100 cubic metres available up to the spillway storage to

contain the 100-year return period 24-hour precipitation event.

- One (1) Pond B1 transference pipeline to convey water requiring treatment from Pond B1 to Pond M1 via an approximately 1,150 m long HDPE pipeline.
- One (1) Pond B2 to capture contact water from the western portion of WRSA B. A 870 m long B2 perimeter ditch collects seepage and surface runoff and directs it via gravity to Pond B2. The B2 perimeter ditch has a bottom width of 1.0 m and a nominal depth of 1.6 m. Two pumps to pump water from Pond B2 to Pond B1 via the Pond B2 transference pipeline. The maximum operating water volume is approximately 8,721 cubic metres with a total volume of approximately 23,721 cubic metres available up to the spillway for storage to contain the 100-year return period 24-hour precipitation event.
- One (1) Pond B2 transference pipeline to convey water requiring treatment from Pond B2 to Pond B1 via a 30 m long HDPE pipeline that connects to the main header directing water from Pond A1, A2, and B2 to Pond B1, prior to being sent to Pond M1.
- One (1) Pond M1, the main water management pond, to balance the flows to the ETP and to reclaim water through a transfer pipeline that conveys water to the gold ore processing plant. Two perimeter ditches, M1-A and an interim ditch, collect surface runoff from the Pond M1 catchment. M1-A is approximately 933 m long with a bottom width of 2.0 m and a depth of approximately 0.9 m. The interim ditch is approximately 1,165 m long with a bottom width of 1.5 m and a nominal depth of 1.3 m. The interim ditch and ditch M1-A are lined with non-woven geotextile, if required. Pond M1 has three pumps. The collected water is pumped to the process plant to provide a portion of the process make-up water as required, with surplus water fed to the ETP for treatment and Final Effluent disposal of. The maximum operating water volume is approximately 50,522 cubic metres with a total volume capacity of approximately 54,346 cubic metres available up to the spillway for storage to contain the 100-year return period 24-hour precipitation event. Pond M1 (having 2H:1V slopes or flatter as required for liner or berm stability and a minimum berm crest widths of 5 m to allow for construction and maintenance access) is lined with geomembrane and low permeability fill to maintain hydraulic containment. Water retaining perimeter berms, constructed of low permeability fill or lined with geomembrane, shall be used to achieve the targeted pond size at locations where it is not efficient to rely only on excavation to meet storage capacity requirements to contain the 100-year return period 24-hour precipitation event.
- One (1) Pond M1 transference pipeline to convey water requiring treatment from Pond M1 to the ETP via a 375 m long HDPE pipeline.
- One (1) Pond D1 located northeast of WRSA D to capture contact water from the northern and eastern portions of WRSA D. Two perimeter ditches, D1-A and D1-B, to direct collected water to Pond D1 via gravity. D1-A is approximately 1,516 m long with a bottom width of 2.5 m and a nominal depth of 1.6 m. D1-B is approximately 1,358 m long with a bottom width of 2.5 m and a nominal depth of 1.8 m. Duplex pumps to pump water from Pond D1 to Pond M1 via the Pond D1 transference pipeline. The maximum operating water volume is approximately 19,324 cubic metres with a total volume of approximately 147,324 cubic metres available up to the spillway for the storage to contain the 100-year return period 24-hour precipitation event.

- One (1) Pond D1 transference pipeline to convey water requiring treatment from Pond D1 to Pond M1 via a 1,875 m long HDPE pipeline that also transfers water from Pond D2 to Pond M1.
- One (1) Pond D2 to be located south of WRSA D and to capture contact water from the southern and south-western portions of WRSA D. Two perimeter ditches, D2-A and D2-B, to direct collected water to Pond D2 via gravity. D2-A is approximately 430 m long with a bottom width of 2.0 m and a nominal depth of 1.3 m. D2-B is approximately 1,450 m long with a bottom width of 2.0 m and a nominal depth of 1.1 m. Duplex pumps to pump water from Pond D2 to Pond M1 via the Pond D2 transference pipeline. The maximum operating water volume is approximately 10,879 cubic metres with a total volume of approximately 89,879 cubic metres available up to the spillway for the storage to contain the 100-year return period 24-hour precipitation event.
- One (1) Pond D2 transference pipeline to convey water requiring treatment from Pond D2 to Pond M1 via a 2,170 m long HDPE pipeline that joins the main pipe transferring water from Pond D1 to Pond M1.

### **Effluent Treatment Plant (ETP)**

One (1) Effluent Treatment Plant (ETP) for the collection, transmission, treatment, and disposal of mine water and site runoff and seepage from the Greenstone Mine, having a Maximum Daily Volume of Effluent not exceeding 19,008 cubic metres per day or 220 litres per second (L/s), with Final Process Effluent discharged, via Final Effluent disposal facility - in a combined stream with the Final Effluent from a sanitary sewage treatment plant as described below, to the Southwest Arm of Kenogamisis Lake, and the reuse of treated water, consisting of:

- One (1) ETP, located adjacent to the west side of the process plant, with a hydraulic range and capacity between 22 L/s to 220 L/s, to reduce contaminants from the influent flow, such as total suspended solids (TSS), and metals, consisting of one (1) 175.9 square metres (Metal Precipitation Reactor, two (2) Model ACP2-70 Actiflo Clarifiers, one (1) 117.2 m<sup>3</sup> Neutralization Tank, associated chemical storage and dosing system and sludge handling system. Precipitation occurs by adding ferric sulfate (or a similar purpose reagent) to the water at a controlled pH to become a slurry. The slurry is then settled through an Actiflo sand-ballasted settling unit - the Actiflo Clarifiers that utilizes coagulation and flocculation (with microsand). The second stage is to provide enhanced total iron removal and phosphorus polishing, and to correct the pH before discharge. Either an aluminum based coagulant or an iron-based coagulant could be used depending on water quality. Sulphuric acid is to be added if the pH is not in the optimal range. Sludge collected from metal removal - underflow of the Actiflo Clarifiers is to be sent to the TMF via a sludge transference pipeline or sent to geotextile socks with a capacity of 344 cubic metres each for dewatering to produce a cake of approximately 20% dryness and ultimately disposed of in the TMF. A portion of treated effluent may be sent to the process plant for reuse via a treated effluent transference pipeline, when necessary, and the Final Process Effluent is discharging to the Southwest Arm of Kenogamisis Lake via the Final Effluent Disposal Facility.
- Reuse of treated water for the truck wash, fire suppressant systems, process plant water (i.e. carbon treatment, automated reagent analyzers, gland water, reagent mixing), dust suppression, drill water, and soil thermal treatment process water.

- One (1) monitoring port, Final Effluent Sampling Point #1 (Final Process Effluent Sampling Point), located in the ETP on the discharge line.

### **Treated Effluent Transference Pipeline**

- One (1) treated effluent transference pipeline to transfer treated effluent from the ETP to the process plant, when necessary, via a 200 mm diameter HDPE pipeline, using two (2) centrifugal pumps in duty/standby, each having a capacity of 93 cubic metres per hour at a Total Dynamic Head of 24.53 m.

### **ETP Sludge Transference Pipeline**

- One (1) sludge transference 150 mm diameter pipeline to transfer sludge from the ETP to the process plant tailings pump box.

### **Sewage Treatment Plant (STP)**

One (1) sanitary Sewage Treatment Plant (STP) for the treatment and disposal of sanitary sewage associated with the facilities for the workers at the work site, having Maximum Daily Volume of Effluent from the STP not exceeding 0.9 L/s, with the Final Effluent discharging pipeline connected to the ETP Final Process Effluent discharge forcemain described below, discharging as a combined stream to the Southwest Arm of Kenogamisis Lake, and consisting of:

- One (1) STP, located at the southwest corner of the process plant, with hydraulic range between 0.6 L/s to 0.9 L/s. The STP is a membrane bioreactor (MBR) wastewater treatment system. The treatment system consists of one (1) 19 cubic metres flow equalization tank, one 1,530 L screening tank equipped with fine screening unit, one (1) 34,440 L aeration tank equipped with aeration system with 24 fine-bubble diffusers, two (2) 2.06 cubic metres MBR tanks each with 12 membrane module filters, one (1) 4.52 cubic metres per hour UVMAX disinfection unit, two (2) 7,950 L sludge tanks, and associated chemical dosing system for pH correction, alkalinity addition and phosphorus reduction. The flow equalization system is to provide a steady and homogenous flow into the treatment plant by storing wastewater during high flow periods and providing flow during low flow periods. The fine screen is to remove large solids and fibrous material to protect the equipment in the treatment train. The aerobic biological treatment combines the inflow with return activated sludge and dissolved air floatation to reduce organics and ammonia. Sodium hydroxide is added to raise the pH back to optimal levels. Inorganic phosphates are precipitated with an aluminum sulphate and removed with the waste activated sludge. The influent is drawn through an ultrafiltration membrane (pore size of 0.04 µm), trapping the remaining solids in the membrane modules and providing a 4-log reduction of viruses and 6-log reduction of bacteria. Air scouring continually runs through the membrane to prevent build-up and fouling of the membrane. An ultraviolet system is to follow the membrane to provide additional disinfection and redundancy. Sludge from the membrane tank is discharged to a tank for holding and thickening. Supernatant from the waste activated sludge is returned to the MBR for the biological treatment and the sludge is decanted or disposed of once it reaches the holding tank threshold.
- One (1) monitoring sampling port, Final Effluent Sampling Point #2, for the sanitary sewage Final

Effluent from the STP, located on in the STP discharge line.

### **Final Effluent Disposal Facility**

- One (1) Final Effluent discharging forcemain for the conveyance and disposal of the Final Process Effluent from the ETP and Final Effluent from the STP at rates up to 220.9 L/s via duplex pumps, consisting of approximately 2,500 m long 450 mm diameter on-land section of pipeline including 2,150 m installed above ground, 270 m buried below grade to the extent of the 100-year flood plain and 80 m trenched 3.5 m below the crest of Grade Control Structure 1, below the bed of a stream named Southwest Arm Tributary (SWAT), as well as approximately 105 m of 400 mm diameter in-water section of pipeline, discharging at a Final Effluent disposal point with a depth of approximately 2.8 m into the Southwest Arm of Kenogamisis Lake.
- One (1) diffuser attached to Final Effluent discharging forcemain at the Final Effluent disposal point, constructed using a 300 mm diameter HDPE pipe, 10 metres long with 24 circular ports each 50 mm in diameter, spaced 0.4 m apart. The diffuser is secured using concrete blocks and will discharge treated water into the Southwest Arm of Kenogamisis Lake at a design velocity of approximately 4.2 metres per second (m/s) to facilitate the dispersion of the effluent in the Lake by jetting the treated water into the surrounding water to increase the efficiency of initial mixing.
- One (1) monitoring port, Final Effluent Sampling Point #3 (for the combined Final Process Effluent from the ETP and sanitary sewage Final Effluent from the STP) located downstream of where the ETP and STP Final Effluent Monitoring Streams combine, prior to discharging into Kenogamisis Lake.

### **Redirection of the MacLeod High Tailings (MHT) Seepage Collection System**

- Redirection of the seepage collection system, located on the north side of the historical MacLeod High Tailings (MHT), to the ETP for treatment.

### **Dewatering of the Open Pit Mine and Historical Underground Workings**

- Two (2) submersible deep well pumps to pump water from the Mosher Shaft to Pond M1 via an approximately 2,485 m long HDPE pipe.
- Open Pit Sumps, as required.

### **Holding Tanks Serving Mobile Washrooms**

- Up to eight (8) 6,000 L holding tanks each serving a mobile washroom unit, located on Crown land. Each holding tank is fitted with float level indicators coupled with an audio and visual alarm that is trigger when inputs reach 80% capacity, complete with a vent pipe and access cover. The holding tanks are regularly emptied and disposed of at the aforementioned Sewage Treatment Plant (STP) or be transported off-site for disposal at a Ministry-approved waste disposal facility by haulers that are approved by the Ministry or registered on the Environmental Activity and Sector Registry, as required.



### **Ammonia Treatment System**

- A moving bed biofilm reactor (MBBR) or equivalent ammonia treatment unit added, if required, to the treatment train upstream of the Actiflo clarifier, operating as needed, to reduce ammonia concentrations in the treated effluent prior to discharge to the receiver.

### **Historical Tailings Relocation Water Management**

- Wick drains/weeping tiles for drainage of the stockpiling of the historic MacLeod High tailings via gravity to the open pit sump, and pumped through the open pit dewatering system to Pond M1 prior to treatment in the ETP or to the process plant for reuse.

### **Truck Wash Bay**

- A closed-loop truck wash down area with concrete trench to drain to a sump where wash water is collected and treated via an oil water separator SRS Environment model KNS3-300, having a maximum treatment flow rate of 189 L/min and a Interclean Wash Titan treatment system with settling pit 0.9 m wide and 1.8 m deep, intake filter screen and cyclonic separator having a treatment capacity of 1,136 L/min and a 2,082 L holding tank for the storage of treated wash water for reuse. The sludge/mud in the settling pit is to be disposed in TMF, or, as applicable, transported off-site for disposal at a Ministry-approved waste disposal facility by haulers that are approved by the Ministry or registered on the Environmental Activity and Sector Registry.

### **Miscellaneous**

- All temporary sediment and erosion control measures during construction/operation; and
- All other mechanical system, electrical system, instrumentation and control system, piping, pumps, valves and appurtenances essential for the proper, safe and reliable operation of the Works in accordance with this Approval, in the context of process performance and general principles of wastewater engineering only.

All in accordance with the submitted supporting documents listed in **Schedule A**.

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

1. "Approval" means this entire Environmental Compliance Approval and any Schedules attached to it;
2. "CBOD5" means five day carbonaceous (nitrification inhibited) biochemical oxygen demand measured in an unfiltered sample;
3. "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;
4. "Daily Volume of Effluent" for a stream volume is the volume that flowed past the sampling point

maintained in this Approval on the stream during a one-day period;

5. "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;
6. "District Manager" means the District Manager of the appropriate local district office of the Ministry where the Works are geographically located, Thunder Bay District Office in this Approval;
7. "*E. coli* " refers to coliform bacteria that possess the enzyme beta-glucuronidase and are capable of cleaving a fluorogenic or chromogenic substrate with the corresponding release of a fluorogen or chromogen, that produces fluorescence under long wavelength (366 nm) UV light, or color development, respectively. Enumeration methods include tube, membrane filter, or multi-well procedures. Depending on the method selected, incubation temperatures include  $35.5 \pm 0.5$  °C or  $44.5 \pm 0.2$  °C (to enumerate thermotolerant species). Depending on the procedure used, data are reported as either colony forming units (CFU) per 100 mL (for membrane filtration methods) or as most probable number (MPN) per 100 mL (for tube or multi-well methods);
8. "Eight (8)-hour Period" means between: a) midnight and 8 a.m., b) 8 a.m. and 4 p.m., or c) 4 p.m. and midnight;
9. "EPA" means the Environmental Protection Act, R.S.O. 1990, c.E.19, as amended;
10. "Equivalent Equipment" means a substituted equipment or like-for-like equipment that meets the required quality and performance standards of a named equipment;
11. "Final Effluent", in the Approval, means the Final Process Effluent from the Effluent Treatment Plant (ETP), the sanitary sewage Final Effluent from the sanitary Sewage Treatment Plant (STP), or the combined Final Process Effluent and sanitary sewage Final Effluent, that is discharged to the environment through the approved Final Effluent Disposal Facilities, and that are required to meet the compliance limits stipulated in the Approval for wastewater treatment facilities at the Final Effluent Sampling Points;
12. "Final Effluent Sampling Point" means a sampling point maintained on a Final Effluent stream;
13. "Greenstone Mine" means the industrial facility that produces metal, metal concentrates or metal-bearing substances and the developed property, waste disposal sites, all the facilities related to Process Effluent treatment including Tailings Area/Tailings Management Facility (TMF) and sanitary sewage treatment, as well as Final Effluent disposal facilities associated with it approved under this Approval;
14. "Licensed Engineering Practitioner" means a person who holds a licence, limited licence or temporary licence under the Professional Engineers Act, R.S.O. 1990, c. P.28, as amended;
15. "Limited Operational Flexibility" (LOF) means the conditions that the Owner shall follow in order to undertake any modification that is pre-authorized as part of this Approval;

16. "Limited Parameter" means a parameter for which a limit is specified in Table B-2 for Final Process Effluent Limits in **Schedule B** of this Approval;
17. "Maximum Daily Volume of Effluent" means the largest volume of flow to be discharged during a one-day period for which the wastewater treatment process unit or equipment is designed to handle.
18. "Maximum Operating Level" means the level at which the pond can still contain, without overtopping, the 1 in 100-year, 24-hour precipitation event;
19. "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;
20. "Monthly Average Daily Volume of Effluent" means the cumulative total Daily Volume of Effluent discharged during a calendar month divided by the number of days during which the stream effluent was discharged that month;
21. "Monthly Average Effluent Concentration" is the mean of all Single Sample Results of the concentration of a contaminant in the Process Effluent sampled or measured during a calendar month;
22. "Overflow Effluent" means effluent discharged from a Tailings Area (TMF) through a spillway or other engineered structure designed to protect the Tailings Area (TMF) from failure in the event of an extraordinary thaw or storm event;
23. "Overflow Effluent Monitoring Stream" means an overflow effluent stream, if any, on which a sampling point is maintained under Condition 6 regarding overflows;
24. "Overflow Effluent Sampling Point" means a sampling point, if any, maintained on an Overflow Effluent Monitoring Stream under Condition 6 regarding overflows;
25. "Overflow Event" means an action or occurrence, at a given location within the Works that causes an Overflow Effluent. An Overflow Event ends when there is no recurrence of Overflow Effluent in the 12-hour period following the last Overflow Event;
26. "Owner" means Greenstone Gold Mines GP Inc. and its successors and assignees;
27. "OWRA" means the Ontario Water Resources Act, R.S.O. 1990, c. O.40, as amended;
28. "Pick-Up", in relation to a sample, means pick-up for the purpose of storage, including storage within an automatic sampling device, and transportation to and analysis at a laboratory;
29. "Process Change" means a change in equipment, production processes, Process Materials or treatment processes;
30. "Process Effluent" means: a) effluent that, by design, has come into contact with Process Materials other than Process Materials stored in a materials storage site, including but not limited to a waste rock storage

site, b) effluent that results from cleaning or maintenance operations during a period when all or part of the mine site is shut down, and c) any effluent described in paragraphs a) and b) combined with Storm Water Effluent;

31. "Final Process Effluent Monitoring Stream" means a process effluent stream on which a sampling point is maintained under **Condition 10** regarding monitoring and recording;
32. "Final Process Effluent Sampling Point" means a sampling point maintained on a process effluent stream under **Condition 10** regarding monitoring and recording;
33. "Process Materials", in relation to the Greenstone Gold Mine, means raw materials for use in an industrial process at the plant, manufacturing intermediates produced at the plant, or products or by-products of an industrial process at the plant, but does not include chemicals added to cooling water for the purpose of controlling organisms, fouling and corrosion;
34. "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;
35. "Storm Water Effluent" means run-off from a storm event or thaw that is not used in any industrial process;
36. "Tailings Area", identified in this Approval as "Tailings Management Facility (TMF)", means an area that is confined by artificial or natural structures or both and that is used for the disposal of finely divided solid waste materials produced as a result of the processing of metal, metal concentrates or metal-bearing substances; and
37. "Works" means the approved sewage works, and includes 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.

4. The issuance of, and compliance with the conditions of this Approval does not:
  - a. relieve any person of any obligation to comply with any provision of any applicable statute, regulation or other legal requirement, including, but not limited to, the obligation to obtain approvals from the Ministry of Energy and Mines, Ministry of Natural Resources, and/or Department of Fisheries and Oceans Canada, necessary to construct or operate the sewage Works; or
  - b. limit in any way the authority of the Ministry to require certain steps be taken to require the Owner to furnish any further information related to compliance with this Approval.

## 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 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* shall be included in the notification;
  - d. change of name of the corporation and a copy of the most current information filed under the *Corporations Information Act, R.S.O. 1990, c. C.39* shall be included in the notification.
2. 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 District Manager.
3. The Owner shall ensure that all communications made pursuant to this condition refer to the number of this Approval.

## 3. CONSTRUCTION

1. All 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 ceases to apply in respect of any portions of the Works not in operation. 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, 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).
2. Upon completion of construction of the Works (including any construction activities approved under

Notice of Modification of this Approval), the Owner shall prepare and submit a written statement to the District Manager, certified by a Licensed Engineering Practitioner, that the Works is constructed in accordance with this Approval.

3. Within **one (1) year** of completion of construction of the 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 readily accessible for reference at the Works.
4. The Owner shall ensure that the TMF Southwest Dam shear key construction only occurs in either two sections each no greater than 100-metre, or one section no more than 200-metre, at any one time.
5. For the construction of TMF Southwest Dam, the Owner shall install appropriate groundwater flow barriers prior to any water takings that will provide the level of groundwater seepage reduction used in the predictive models on which the impact assessment in the Permit to Take Water application is based.
6. Construction activities shall be carried out in accordance with the Soil Management Plan and the Construction Environmental Management and Monitoring Plan, as approved and amended under Condition 9 and Condition 24, respectively, in the "Notice of Approval to Proceed with the Undertaking" dated March 12, 2019 (EA File No. EA-02-10) under Section 9 of Environmental Assessment Act.
7. Soil stripping and excavation shall only be conducted when there is no precipitation occurring that is substantial enough to cause runoff or erosion unless contained within a seepage collection system or adequate erosion and sediment control measures are in place.
8. Waste rock shall only be placed in the portion of WRSAs (except WRSA C) where there is appropriate water management for the effective collection of runoff.
9. Following a rainfall event that is more than 15 mm in the previous 24 hours, construction activities shall cease, and excavations shall store the groundwater and the surface water runoff, unless contained within a seepage collection system or adequate erosion and sediment control measures are in place.
10. The relocation and deposition into the TMF of historical tailings and Type C soils shall be carried out in accordance with a) "Soil Management Plan (OP-GGM-EV-007-1002\_0), prepared by Greenstone Gold Mines, dated October 16, 2025, or as amended; and b) "Hardrock Project Historical Tailings Management and Relocation Plan, prepared for Greenstone Gold Mines GP Inc." by Stantec Consulting Ltd., dated April 14, 2021, or as amended.

#### **4. PROCESS CHANGE**

1. The Owner shall notify the District Manager in writing of Process Change or redirection of or change in the character of an effluent stream that effects the quality of effluent at any sampling point maintained under this Approval, within thirty (30) days of the change or redirection.
2. The Owner need not comply with subsection 1 of this condition where the effect of the change or

redirection on effluent quality is of less than one week's duration.

## **5. BYPASSES**

1. The Owner shall not permit Process Effluent that would ordinarily flow past any of the Final Effluent Sampling Points #1 and #3 maintained under this Approval to be discharged from Greenstone Mine without flowing past that Final Effluent Sampling Point, including during a maintenance operation, a breakdown in equipment or any scheduled or unscheduled event.
2. The Owner shall report orally, as soon as reasonably possible, and in writing, as soon as reasonably possible, any incident in which Process Effluent is discharged from Greenstone Mine without flowing past a Final Effluent Sampling Point maintained on a process effluent stream in accordance with this Approval before being discharged.

## **6. OVERFLOWS**

1. The Owner shall not permit Overflow Effluent to be discharged from Greenstone Mine unless it is unavoidable as a result of an extraordinary thaw or storm event.
2. The Owner shall establish, an Overflow Effluent Sampling Point on each Overflow Effluent Monitoring Stream at Greenstone Mine. The Owner shall, during each Eight(8)-hour Period in which Overflow Effluent is discharged, collect a grab sample of the Overflow Effluent Sampling Point and shall analyze each sample for each Limited Parameter (excluding acute/chronic toxicity tests), with each sample collected being Picked-Up within four (4) hours of when it was collected. The Owner shall also collect a sample for toxicity test - Acute Toxicity to Rainbow Trout and Daphnia Magna in the first twelve (12) hour period in which Overflow Effluent is discharged.
3. Upon the discovery of an Overflow Event, the Owner shall notify the Ministry Spills Action Centre (SAC) (telephone number: 1-800-268-6060) forthwith. This notice shall include, at a minimum, the following information:
  - a. the date and time of the beginning of the overflow;
  - b. the point of the overflow from the Works, and whether the overflow is discharged through the effluent disposal facilities or an alternate location; and
  - c. the reason(s) why the overflow was not avoided.
4. Upon confirmation of the end of an Overflow Event, the Owner shall immediately notify the SAC forthwith. This notice shall include, at a minimum, the following information:
  - a. the date and time of the end of the overflow;
  - b. the estimated or measured volume of the overflow.

5. The Owner shall develop a notification procedure in consultation with the District Manager and SAC and notify the public and downstream water users that may be adversely impacted by any Overflow Events.
6. The Owner shall forthwith develop a response plan for any Overflow Events, and document it in a site Spills Prevention and Spills Contingency Plan.

## 7. DESIGN OBJECTIVES

1. The Owner shall design and undertake everything practicable to operate the Works in accordance with the following objectives:
  - a. Final Effluent parameters design objectives listed in the table included in the Table B-1 of **Schedule B**; and
  - b. Any 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.

## 8. COMPLIANCE LIMITS

1. The Owner shall operate and maintain the Works such that the following compliance limits are met:
  - a. the concentration of the materials listed as effluent parameters in the effluent limits tables, **Table B-2** and **Table B-3** in **Schedule B**, are not exceeded in the Final Process Effluent from the ETP at the Final Process Effluent Sampling Point #1 and sanitary sewage Final Effluent from the sanitary STP at the Final Effluent Sampling Point#2, respectively;
  - b. A Maximum Daily Volume of Effluent not exceeding 19,008 cubic metres per day (220 litres per second) in the Final Process Effluent from the ETP;
  - c. a Maximum Daily Volume of Effluent not exceeding 0.9 litre per second in the sanitary sewage Final Effluent from the STP; and
  - d. The calculated Total Phosphorus loadings at the combined Final Effluent Sampling Point #3, monitored as required by **Condition 10** regarding monitoring and recording, shall not exceed **3.95 kilograms (kg) per day**. The Owner shall take best efforts to achieve the following objectives for total phosphorus loadings: 14.8 kg per month, and 178 kg per year.
2. The Owner shall install and implement ammonia treatment at the ETP if the unionized ammonia concentration exceeds 0.4 milligram per litre (mg/L) for four consecutive weeks of thrice weekly effluent samples from the ETP.
3. The Owner shall implement the Ammonia Management Plan as detailed in the "North Side Ammonia Management Plan" dated January 28, 2022 prepared for Greenstone Gold Mines GP Inc. by Stantec



## 9. OPERATION AND MAINTENANCE

1. The Owner shall ensure 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 laboratory facilities, adequate staffing and training, including training in all procedures and other requirements of this Approval and the OWRA and relevant regulations made under the OWRA, process controls and alarms and the use of process chemicals and other substances used in the Works.
2. The Owner shall maintain an up-to-date the operations manual for the Works, that includes, but not necessarily limited to, the following information:
  - a. operating procedures for the Works under routine operating conditions;
  - 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. operating procedures for the Works to handle situations outside routine operating conditions and emergency situations such as a structural, mechanical or electrical failure, or an unforeseen flow condition, including procedures to minimize Overflow Events;
  - f. a spill prevention control and countermeasures plan, consisting of contingency plans and procedures for dealing with equipment breakdowns, potential spills and any other abnormal situations, including notification of the Spills Action Centre (SAC) and District Manager; and
  - g. procedures for receiving, responding and recording public complaints, including recording any follow-up actions taken.
3. The Owner shall maintain an up to date operations manual and make the manual readily accessible for reference at the Works for the operational life of the Works. Upon request, the Owner shall make the manual available to Ministry staff.
4. The Owner shall ensure that no effluent from the Tailings Management Facility (TMF) (except an Overflow Event) or process plant is discharged to land or to any surface water feature, nor conveyed to the Effluent Treatment Plant (ETP) for discharge into the Southwest Arm of Kenogamisis Lake.
5. The Owner shall maintain the water levels in Ponds A1, A2, B1, B2, D1, and D2 below the groundwater level to create an inward hydraulic gradient and maintain hydraulic containment in accordance with **Table A-2 of Schedule A**; and maintain the water levels in Ponds T1, T2 and T3 within the maximum

and minimum operating levels in accordance with **Table A-1 of Schedule A**. Within a period of no longer than five (5) days following a rainfall event that is more than 15 mm in the previous 24 hours, Ponds A1, A2, B1, B2, M1, D1, and D2 shall be pumped to the design operational water level to maintain the inward hydraulic gradient.

6. The Owner shall install, operate, and maintain water level monitoring devices in Ponds A1, A2, B1, B2, T1, T3 and Seepage Pump System T2. These devices shall be equipped with alarms that alert when water level conditions in the ponds reaching the Maximum Operating Level of each pond/system in accordance with Table A-2 of Schedule A.
7. The Owner shall install water level monitoring devices within the Ponds A1, A2, B1, B2, T1, T3 and Seepage Pump System T2. These devices shall be equipped with alarms set to alert when the water level in the ponds reaches an elevation at which the 100-year return period 24-hour precipitation event can be contained in the pond without overtopping.
8. The Owner shall install, operate, and maintain alarms and infrastructure to trigger the cessation of pumping to Pond M1 from the other collection ponds if the Maximum Operating Level is reached in Pond M1 in accordance with Table A-2 of Schedule A.
9. The Owner shall ensure that adequate spill clean-up equipment and/or contingency supplies are available at the site for fuel, oil and lubricant spills, and that all on-site operators are familiar with the use of such equipment and/or supplies.
10. Fuels, Petroleum hydrocarbons, and any chemicals used during all activities shall be stored appropriately with secondary containment to prevent leakages and spills, and to protect groundwater quality.
11. No waste rock shall be stored above grade between Pond A2 and Ditch B2.
12. In the event of a Tailings Slurry Pipeline or Reclaim Water Pipeline break, reclaim water and/or tailings shall be drained to the emergency pond or the TMF. Reclaim water collected in the emergency pond shall be conveyed back to the TMF or the process plant directly as part of the closed loop system. Any tailings collected in the emergency pond shall be removed and transferred back to the TMF. Any collected stormwater runoff or snowmelt within the emergency pond above a depth of 0.3 metre from the bottom of the pond shall be conveyed to the TMF or process plant directly as part of the closed loop system.
13. Inspections of the diffuser shall be integrated into Greenstone Mine's operational surveillance activities, and shall be carried out at least annually.
14. An inspection of the Greenstone Mine shall be conducted weekly when the Works are in operation and/or construction is occurring to ensure that the Works are being operated in compliance with this Approval and are not causing any Adverse Effects (as defined in the EPA) or Deemed Impairment (as defined in section 1(3) of the OWRA) of water quality. Inspections should include an assessment of the condition of the entire Works as described in the Approval.

15. The Owner shall undertake any necessary cleaning and maintenance to prevent the excessive build-up of sediment and/or decaying vegetation and to ensure that necessary maintenance is performed to maintain the availability of the necessary capacity and proper function of the sewage works. Any deficiencies discovered as a result of the inspection shall be remedied immediately, including temporarily ceasing operations if needed. The Owner shall within twenty-four (24) hours notify the District Manager of deficiencies observed which resulted in a discharge of wastewater which is not in accordance with the approved Works.
16. The Owner shall conduct regular visual inspections of the temporary soils storage areas to verify the integrity of the temporary storage facilities and associated water management infrastructure .
17. A record of the inspections shall be kept that includes:
  - a. the name and signature of person that conducted the inspection;
  - b. the date and time of the inspection;
  - c. the location and/or equipment inspected;
  - d. the list of any deficiencies discovered;
  - e. the recommendations for remedial action; and
  - f. the date, time and description of actions taken.
18. The Owner shall perform a technical inspection of all containment components of the Works, including berms, ditches, and spillways and prepare a report that includes a detailed summary of all observations, measurements, and opinions resulting from the inspection. The inspection shall be performed by, and the report prepared by, a professional engineer or geoscientist licensed in Ontario and it shall be undertaken with the minimum following frequency:
  - a. twice every year within 72 hours after an extreme weather event, under snow-free and non-frozen conditions, and
  - b. Within ninety (90) days of a significant change to the operation of the facility being implemented.
19. The Owner shall ensure that the operators of the Works possesses the level of training and experience sufficient to allow safe and environmentally sound operation of the Works.
20. The Owner shall designate one or more Environmental Representative, who is knowledgeable, through instruction and/or practice, in relevant environmental legislation, regulations and guidelines, relevant Environmental Management Plans associated with the undertaking, environmental concerns pertaining to sewage works, emergency response procedures and the requirements of this Approval, to ensure that all environmental safeguards are in place, are utilized and are effective in protecting the environment. At least one Environmental Representative shall be readily available for the duration of the operation of the Works authorized by this Approval.
21. 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 operation and maintenance activities required by this Approval.

## 10. 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 identified in the monitoring program, as follows:

### A. Effluent Monitoring

- a. The Owner shall carry out Final Effluent monitoring as outlined in Tables C-1, C-2 and C-3 of **Schedule C**.
- b. Despite the above Paragraph 1.A.a, the Owner need not collect samples from each Final Effluent Monitoring Stream, on a day on which Final Effluent is not being discharged from the Works.
- c. The Owner shall undertake the Final Process Effluent monitoring quality control measures as outlined in Table C-1A of **Schedule C**.
- d. Notwithstanding any other sampling requirements of this approval, samples of the following sources of influent to the ETP shall be collected and analyzed for total phosphorus and orthophosphate once a week, at the following sampling locations:
  - o Mosher Shaft;
  - o Macleod High Tailings seepage collection drain; and
  - o Pond M1.
- e. When twelve (12) weekly samples have been collected at each of the sampling locations identified in the above Paragraph 1.A.d, the data shall be analyzed to assess the potential effects of phosphorus loading to Kenogamisis Lake, and sampling may be altered by submitting a written request to the District Manager that is supported by sufficient and appropriate sampling data.
- f. The Owner shall install and maintain continuous flow measuring devices (flow meters) to measure the discharge rate for 1) the Final Process Effluent from the ETP, 2) the sanitary sewage Final Effluent from the STP, and 3) the combined Final Effluent from the Final Effluent Disposal Facility, and ensure that:
  - i. the three flow meters shall be time and reading synchronized, meaning they shall be all read at the same time and collect flow measurements at the same time and timestep. The reading timestep shall be continuous;
  - ii. the measured flow rates of Final Effluent at the three flow meter locations are each within +/- 5% accuracy;
  - iii. the three flow metres shall be equipped with an audible and visual alarm with alarm limits set

- to ensure compliance with the Maximum Daily Volume of Effluent limits;
- iv. Under the supervision of a Licensed Engineering Practitioner, these three independent flow meters shall be calibrated monthly by means of an external, portable master flow meter; and
  - v. The Owner shall calculate and record the Daily Volume of each effluent stream.
  - g. The Owner shall calculate and record the monthly loadings from the 1) the ETP, 2) the STP, and 3) the Final Effluent Disposal Facility for policy 2 parameters (i.e. arsenic, iron, total phosphorus) using the monthly discharge volumes and the average concentrations of parameters from the three weekly samples at each of the three locations. Should any of the monthly loadings differ by more than 25% of the previous month loadings, the District Manager shall be notified and an alternative appropriate method of calculating the monthly loadings shall be determined and followed.
  - h. The Owner shall install flow measurement devices to measure and record the daily volume of tailings transferred to the TMF and the daily volume of water transferred from the TMF to the process plant.
  - i. The Owner shall use a flow measurement method that achieves an accuracy of plus or minus twenty per cent (+/- 20%) to determine in cubic metres a volume of effluent for each Overflow Effluent Monitoring Stream for each Eight(8)-hour Period for which a sample is collected under this Approval from the stream. A volume of effluent for an Overflow Effluent Monitoring Stream is the volume that flows past the Overflow Effluent Sampling Point on the stream during the Eight(8)-hour Period.
  - j. The Owner shall determine by calibration or confirm by means of a certified report of a Licensed Engineering Practitioner that each flow measurement method used under this Subsection meets the accuracy requirements for each effluent stream, at least annually, or as specified.
  - k. Where the Owner uses a new flow measurement method or alters an existing flow measurement method, the Owner shall determine by calibration or confirm by means of a certified report of a Licensed Engineering Practitioner that each new or altered flow measurement method meets the accuracy requirements of this Subsection, as the case may be, within two weeks after the day on which the new or altered method or system is used.

B. Groundwater Monitoring

- a. The Owner shall carry out the groundwater monitoring program, at the locations and frequency and following the methodology outlined in the Multi-Media Monitoring Plan in the document entitled "Hardrock Project – Multi-Media Monitoring Plan – Order in Council 404/2019 Condition 13", prepared for Greenstone Gold Mines GP Inc. by Stantec Consulting Ltd., dated March 25, 2021, or as amended.
- b. In accordance with the document entitled "*Hardrock Project - Multi-Media Monitoring Plan* –

*Order in Council 404/2019 Condition 13", prepared for Greenstone Gold Mines GP Inc. by Stantec Consulting Ltd., dated March 25, 2021 , or as amended, the Owner shall:*

- i. carry out groundwater level and quality monitoring program in accordance with section 3.1; and
  - ii. implement contingency and mitigation measures relating to groundwater impacts on dependent receptors (surface water bodies, wells, etc.) as outlined in section 4.1.
- c. The Owner shall sample the Pond M1 subdrain drainage water as outlined in the **Table C-4** in **Schedule C**.
- d. The groundwater monitoring well installed between the emergency pond and Southwest Arm Tributary (SWAT) shall be sampled three times a year during spring, summer and fall for the sampling parameters as per the Multi-Media Monitoring Plan included in the document entitled "*Hardrock Project – Multi-Media Monitoring Plan – Order in Council 404/2019 Condition 13"* , prepared for Greenstone Gold Mines GP Inc. by Stantec Consulting Ltd., dated March 25, 2021 , or as amended. The Owner shall collect groundwater samples from this monitoring well until ten (10) samples have been collected to establish the baseline groundwater quality. Subsequently, the Owner shall continue the collection and analysis of groundwater samples every fall from this monitoring well as per the Multi-Media Monitoring Plan.
- e. The pond water level monitoring required by subsection 7 of Condition 9 of this Approval shall be supplemented with groundwater level monitoring adjacent the unlined ponds to confirm an inward hydraulic gradient toward the pond is being maintained.
- f. The Owner shall sample the drive point piezometers DP7-23 and DP8-23 Monthly. If the discharge pipeline monitoring indicates the potential for a leak from the underground portion of the pipeline, the monitoring shall occur Weekly and for 12 weeks after the effluent pipeline has been fixed and is confirmed to be no longer leaking.
- g. The Owner shall install five (5) vibrating wire piezometers (VWPs) along the centre-line of the Southeast Dam shear key, and the VWPs shall be instrumented with dataloggers and pressure transducer and programmed to measure water levels at an hourly frequency .
- h. The Owner shall install two (2) vibrating wire piezometers (VWPs), VWP-T2-1 and VWP-T2-2, at the locations and depths depicted in Drawing C101 entitled "T2 Seepage Collection Pump Pipe Plan" of the document entitled, "T2 SEEPAGE COLLECTION PUMP SYSTEM DESIGN" prepared by WSP Canada Inc and dated September 5, 2025. The VWPs shall be instrumented with dataloggers and pressure transducer and programmed to measure water levels at an hourly frequency. In the event of any VWP malfunction, the Owner shall repair or replace the affected instrument(s) and restore effective hourly pressure monitoring without delay.

#### C. Water Balance Modelling

- a. The Owner shall update the water balance model in accordance with the Water Management Plan as detailed in sections 3-6 of the report “Greenstone Mine Water Management Plan – Water Balance Model, Condition 8(9) ECA No. 0735-C9PMD6” prepared by Stantec, dated July 5, 2023, or as amended.
- b. On an annual basis, the Owner will review the water balance model results for the previous calendar year in the mine plan. If the annual flow and volume model and measured results with uncertainty bounds (i.e., +/- 15%) overlap, then the model results are considered acceptable and the frequency of the water balance model updates and reporting schedule may be reduced to once every four years. If the modelled and measured flow/volume results with uncertainty bounds (i.e., +/- 15%) do not overlap, the frequency of the water balance model updates and reporting shall be increased to annually. The annual water balance reporting update shall continue until the model results with uncertainty bounds are within the measured result uncertainty bounds in a subsequent annual water balance model. Once this occurs, then the frequency of the water balance model updates and reporting may again be reduced to every four years. This report shall contain, but shall not be limited to, the following updated information:
  - i. Updating the water balance to incorporate full-depth freezing of the Seepage Collection Ponds as a worst-case scenario for winter storage capacity and inflow management; and,
  - ii. Quantifying the uncertainty of the water balance model, and quantify the volume of water that uncertainty (i.e. +/-15%) would equate to on an annual basis, to assess the adequacy of the Seepage Collection Ponds' sizing.
- c. In circumstances when there are any significant changes to the site water balance, as defined by a +/- 15% deviation in water volume of any of the structures between the model output data to the measured on-site data, the Owner shall submit to the District Manager, within sixty (60) days from the updated water balance completion, an updated water management plan.

#### D. Surface Water Monitoring

- a. The Owner shall carry out/implement monitoring programs in accordance with the document entitled *"Hardrock Project - Multi-Media Monitoring Plan – Order in Council 404/2019 Condition 13"*, prepared for Greenstone Gold Mines GP Inc. by Stantec Consulting Ltd., dated March 25, 2021 (*Hardrock Project - Multi-Media Monitoring Plan*) , or as amended, with the following additions:
  - i. the Surface Water Monitoring program in accordance with Section 3.2. In addition to the parameters listed in Table 3-7 of the *"Hardrock Project - Multi-Media Monitoring Plan "*, the Owner shall also analyze samples from **three (3) stations 1A, 46, 49** for orthophosphate as part of the routine surface water quality sampling program outlined in Section 3.2., on a seasonal basis, with four samples per year.
  - ii. In addition to the hydrometric stations listed in Table 3-4 of the *"Hardrock Project - Multi-Media Monitoring Plan"*, the Owner shall establish a new hydrometric station on the

- Kenogamisis River by the end of 2026 at the inflow to Kenogamisis Lake, upstream of the Southwest Arm of the lake. Monitoring at this new hydrometric station shall be in accordance with the Surface Water Quantity Monitoring Program outlined in Section 3.2, consisting of monthly manual water level supplemented with data logger and monthly manual flow.
- b. The Owner shall undertake monthly surface water sampling at Stations 55 and 57 in the Southwest Arm Tributary, upstream and downstream of where the discharge pipeline of the ETP crosses at Grade Control Structure 1, respectively, when it is safe to access the sampling stations and there is discharge occurring through the discharge pipeline, as follows:
- i. Monthly surface water grab samples shall be collected from these two stations and analyzed in accordance with the sampling and analysis methods in the Hardrock Project - Multi-Media Monitoring Plan.
  - ii. In-situ field parameters shall be measured monthly at these two stations in accordance with the methods in the Hardrock Project - Multi-Media Monitoring Plan.
  - iii. The frequency of in-situ field parameter measurements at these two sampling stations shall be increased to Weekly, when there is discharge occurring through the discharge pipeline:
    1. for a period of at least twelve (12) weeks if the pipeline flow monitoring required by Paragraph 1.A.f indicates the potential for a leak in the buried portion of the discharge pipeline; or
    2. During periods of low flows when flows in the Southwest Arm Tributary are equal to or less than 110 L/s, until the flows have increased above this low flow condition.
  - iv. If a leak in the buried portion of the discharge pipeline is confirmed, Weekly measurements of in-situ field parameters at Stations 55 and 57 shall continue for at least twelve (12) weeks after the discharge pipeline has been repaired and is confirmed to be no longer leaking.
  - v. If a potential leak in the buried portion of the discharge pipeline is detected or if a leak is confirmed, the Owner shall carry out the contingency plan outlined in the technical memo titled Full Scale Effluent Treatment Plant Discharge Line – Notice of Violation, prepared by Stantec Consulting Ltd., dated August 28, 2023.
- c. The Owner shall carry out the Policy 2 Contaminant Monitoring Program and Reporting Plan in accordance with the document entitled *"Hardrock Project - Policy 2 Contaminant Monitoring Program and Reporting Plan – Order in Council 404/2019 Condition 12"*, prepared for Greenstone Gold Mines GP Inc. by Stantec Consulting Ltd., dated March 11, 2021, or as amended.
- d. **Cyanobacteria Monitoring** - When suspected cyanobacteria blooms are observed by the Owner, or a person acting on the Owner's behalf, during routine sampling in Kenogamisis Lake, the Owner shall immediately notify the Spills Action Centre (SAC), and a sample of the suspected



cyanobacteria bloom shall be collected following the procedures in **Items C-1 and C-2 of Schedule C** when safe to do so. The Owner shall notify the Thunder Bay District Manager ([environment.thunderbay@ontario.ca](mailto:environment.thunderbay@ontario.ca) or 807-475-1205) of the suspected bloom and to arrange sample pick-up by the Thunder Bay District Office of the Ministry, and analytical results shall be provided to the Owner by the District Manager.

- e. The Owner shall carry out the Mercury Monitoring Program and Management Plan in accordance with the document entitled *"Mercury Monitoring Program and Management Plan - to satisfy Order in Council 404/2019 Condition 15"*, prepared for Greenstone Gold Mines GP Inc. by Stantec Consulting Ltd., dated May 13, 2021, or as amended, with the following additional monitoring or amendments:
  - i. The Owner shall sample the surface water quality of the TMF Pond weekly in accordance with the Mercury Monitoring Program and Management Plan in a memo entitled *"Memo Reference: Provincial Officer's Order # 1-232454294 – Item # 3 Mercury Monitoring Program and Management Plan"*, prepared for Greenstone Gold Mines GP Inc. by Stantec Consulting Ltd. dated November 1, 2023, or as amended, and following the methodology for water quality sampling described in Section 3.5.3.3 and the QA/QC protocols outlined in Section 3.6 of the above mentioned *"Mercury Monitoring Program and Management Plan - to satisfy Order in Council 404/2019 Condition 15"*, prepared for Greenstone Gold Mines GP Inc. by Stantec Consulting Ltd., dated May 13, 2021, or as amended.
  - ii. The TMF Pond sample location may be interchanged with the collection of a sample from the TMF Reclaim Line.
  - iii. Weekly samples from the TMF Pond shall be analyzed for low-level total mercury and methylmercury, general chemistry (pH, alkalinity, conductivity), and total metals.
  - iv. This Weekly monitoring shall continue until the Ministry provides written approval allowing it to be discontinued if it has been scientifically demonstrated that it is appropriate to do so.
- f. The Weekly total mercury and methylmercury sample results from the TMF Pond shall be compared to the respective Canadian Water Quality Guidelines for the protection of aquatic life (CWQG-FAL). Should the concentration of total mercury or methylmercury exceed the respective CWQG-FAL in two (2) consecutive weekly samples, the Owner shall:
  - i. Notify the District Manager and develop additional mitigation and remedial actions in consultation with relevant governing agencies.
  - ii. Implement the contingency plan outlined in Section 2.5 Contingency Plan of the Mercury Monitoring Program and Management Plan dated November 1, 2023 in the memo entitled *"Memo Reference: Provincial Officer's Order # 1-232454294 – Item # 3 Mercury Monitoring Program and Management Plan"*, prepared for Greenstone Gold Mines GP Inc. by Stantec Consulting Ltd. dated November 1, 2023, or as amended, with the following

modifications:

1. Commence weekly sampling of TMF seepage collection ponds T1, T3, and seepage pumping back system T2 until total mercury and methylmercury concentrations within the TMF have decreased below their respective Canadian Water Quality Guidelines for the protection of aquatic life for two consecutive weeks;
  2. Commence monthly sampling of surface water sampling locations 54, 22a, and 20a for low-level total mercury and methylmercury, in addition to the monthly monitoring at these stations outlined in the Multi-Media Monitoring Plan in the document entitled "Hardrock Project – Multi-Media Monitoring Plan – Order in Council 404/2019 Condition 13", prepared for Greenstone Gold Mines GP Inc. by Stantec Consulting Ltd., dated March 25, 2021, or as amended;
  3. Continue ongoing weekly sampling of the TMF Pond for low-level total mercury and methylmercury; and
  4. This additional mercury monitoring shall continue until the Ministry provides written approval for discontinuation if it has been scientifically demonstrated that it is appropriate to do so.
- g. The Owner shall monitor the surface water quality in Kenogamisis Lake at a location just outside the lagoon where the Groundwater Under Direct Influence (GUDI) well is located (Station 8) at the frequency specified in Section 3.2 in the document entitled *"Hardrock Project - Multi-Media Monitoring Plan – Order in Council 404/2019 Condition 13", prepared for Greenstone Gold Mines GP Inc. by Stantec Consulting Ltd., dated March 25, 2021, or as amended*, and shall provide potable water for the MacLeod Provincial Park should an unforeseen event occur where Project activities affect water quality at this well.

#### E. Geochemical Monitoring

- a. The Owner shall assess the potential acid generation and metal leaching potential for all materials extracted during construction, such that no material with ML/ARD potential is used for construction purposes and so that all material with ML/ARD potential is handled and stored to prevent metal leaching and acid rock drainage. The potential for ML/ARD shall be determined according to guidance in Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials (Price, 2009 – MEND Report 1.20.1).
2. Any requests to amend any of the monitoring requirements in above Subsection 1 shall be made in writing to the District Manager and be accompanied by sufficient information and assessments to support the request. No changes shall be made to the monitoring program without written acceptance from the District Manager.
3. The Owner shall keep an updated list and plot plan(s) showing the sampling points maintained under this

Approval and submit to the Ministry upon request.

4. For the Monitoring Program required in the above Subsection 1, the following are the sampling requirements:
  - 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 the document referenced in Paragraph 5.a below.
  - c. definitions for frequency:
    - i. Thrice Weekly means three (3) days in every week, and there shall be an interval of at least twenty (24) hours between successive Pick-Up days; and all the samples picked up in a week shall be picked up on the same three (3) days in the week;
    - ii. Weekly means once every week, and there shall be an interval of at least four (4) days between successive Pick-Up days; and all the samples picked up in a week shall be picked up on the same day in the week;
    - iii. Monthly means once every month, and there shall be an interval of at least fifteen (15) days between successive Pick-Up days; and all the samples picked up in a month shall be picked up on the same day in the month; and
    - iv. Quarterly means once every three months, and there shall be an interval of at least forty-five (45) days between successive Pick-Up days; and all the samples picked up in a quarter shall be picked up on the same day in the quarter.
  - d. Where picking-up samples are required for parameters requiring Thrice Weekly or Weekly sampling, the Owner shall pick up samples collected over the twenty-four (24) hour period immediately preceding the Pick-Up.
  - e. For a Monthly acute lethality testing, the sample shall be collected on a day in a month that is also the day when a Thrice Weekly sample is collected, and the Owner shall immediately pick up a grab sample and perform an acute lethality test on each sample.
  - f. For a chronic toxicity testing, the sample shall be collected on a day that is also the day when acute lethality testing sample is collected and the Owner shall immediately pick up a grab sample and perform a chronic toxicity testing test on each sample.
5. The methods and protocols for sampling, analysis and recording shall conform, in order of precedence, to the methods and protocols specified in the following 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;
  - 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; and
  - d. the Environment Canada publications, as follow:
    - i. "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout" (EPS 1/RM/13 Second Edition - December 2000), as amended;
    - ii. "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to *Daphnia magna* " (EPS 1/RM/14 Second Edition - December 2000), as amended;
    - iii. "Biological Test Method: Test of Larval Growth and Survival Using Fathead Minnows" Report EPS1/RM/22 (Second Edition, February 2011), as amended;
    - iv. "Biological Test Method: Test of Reproduction and Survival Using the Cladoceran Ceriodaphnia dubia", Report EPS 1/RM/21 (Second Edition, February 2007), as amended;
    - v. "Biological Test Method: Test Method for Measuring the Inhibition of Growth Using the Freshwater Macrophyte, Lemna minor", Report EPS 1/RM/37 (Second Edition, January 2007), as amended;
    - vi. "Biological Test Method: Growth Inhibition Test Using a Freshwater Alga", Report EPS1/RM/25 (Second Edition, March 2007), as amended;
    - vii. the use of pH stabilization in the determination of acute lethality of Final Effluent to Rainbow Trout in accordance with the Environment Canada publication "Procedure for pH Stabilization during the Testing of Acute Lethality of Wastewater Effluent to Rainbow Trout (EPS 1/RM/50)" (2008), as amended, is permitted only if:
      - 1. all the three criteria stipulated in the Environment Canada EPS 1/RM/50 are met; and
      - 2. the Final Effluent is not discharged to a receiver in which the Final Effluent contributes more than 50% of the total flow in the receiving water, unless the District Manager, having reviewed additional information submitted regarding the Final Effluent and the receiving water approves on the use of RM50 on a site-specific basis.
  - e. for any parameters not mentioned in the documents referenced in Paragraphs 3.a, 3.b, 3.c and 3.d, the written approval of the District Manager shall be obtained prior to sampling.
6. If any Final Effluent sample indicates acute lethality to Rainbow Trout or *Daphnia magna*, the Owner shall carry out the following:

- a. Notify the District Manager within 24 hours of receiving the toxicity test results.
- b. Review the following:
  - i. Final Effluent quality and confirm that concentrations of ammonia are within the limits;
  - ii. Greenstone Mine operations around the time of the toxicity event; and
  - iii. all data available regarding Greenstone Mine operations and Final Effluent quality.
- c. If the observed effluent toxicity is not associated with ammonia, an investigation shall be undertaken to determine the cause or source of the toxicity.
- d. Upon determination of cause or source of acute lethality to Rainbow Trout and *Daphnia magna*, the Owner shall determine appropriate control measures to achieve non-acutely lethal effluent and time lines for the implementation of identified control measures. The Owner shall submit the proposed control measures and implementation time lines for approval to the District Manager.
- e. Any other additional monitoring, reporting, or mitigation measures the District Manager may require.

## 7. Chronic Toxicity Assessment

- a. Should chronic toxicity be observed during required testing under Table C-1 in **Schedule C**, the Owner shall, within sixty (60) days of receipt of the chronic toxicity test results, conduct an assessment of chronic toxicity, including at minimum:
  - i. An investigation of cause into chronic toxicity observed in the effluent including consideration of the potential role of sulphate, and other parameters which may cause chronic toxicity ;
  - ii. An impact assessment consisting of updated mixing zone modelling, as appropriate, to predict the extent of potential chronic toxicity effects and associated impacts; and
  - iii. A mixing zone validation study completed in accordance with the following, at a time and under the environmental conditions that are acceptable to the Ministry:
    - 1. In-situ conductivity and temperature measurements in the water column taken at regular intervals across the mixing zone in a transect or a radius to delineate the extent of the mixing zone;
    - 2. The sampling shall occur during effluent discharge over a range of wind speeds and wind directions, while ensuring that the modelled worst-case scenario is targeted to be sampled;
    - 3. Any other additional monitoring or reporting requirements the District Manager may require; and

4. The Owner shall carry out the mixing zone assessment, including sampling under the conditions specified above, within a time period acceptable to the District Manager.
8. The Owner shall develop and implement a maintenance schedule and a calibration schedule for each flow measurement system installed as required under this Approval and shall maintain each flow measurement system according to good operating practices.
9. 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.

## **11. 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 D** 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 approved 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. If the implementation of Limited Operational Flexibility requires changes to be made to the Emergency Response, Spill Reporting and Contingency Plan, the Owner shall, provide a revised copy of this plan for approval to the local fire services authority prior to implementing Limited Operational Flexibility.
7. 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*.

8. 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.
9. 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.

## 12. REPORTING

1. The Owner shall report to the District Manager orally as soon as possible any non-compliance with the compliance limits, and in writing within seven (7) days of non-compliance.
2. In addition to the obligations under Part X of the EPA and O. Reg. 675/98 (Classification and Exemption of Spills and Reporting of Discharges), the Owner shall, within thirty (30) days of the occurrence of any reportable spill as provided in Part X of the EPA and Ontario Regulation 675/98, submit a full written report of the occurrence to the District Manager describing the cause and discovery of the spill, clean-up and recovery measures taken, preventative measures to be taken and a schedule of implementation.
3. The Owner shall, upon request, make all manuals, plans, records, data, procedures and supporting documentation available to Ministry staff.
4. On or before June 1 in each year, the Owner shall prepare a report "Reports Available to the Public" and submit it to the District Manager upon request, and ensure this report is available to any person on request during the normal office hours, in an electronic format related to the previous calendar year and including the following:
  - a. a summary of daily Final Process Effluent total loadings calculated under sections 2 and 3 of **Schedule E**;
  - b. a summary of concentrations determined under sections 4 and 5 of **Schedule E**;
  - c. a summary of the results of monitoring performed under **Condition 10** regarding monitoring and reporting;
  - d. a summary of calculations performed for the volume of effluent for Overflow Effluent Monitoring Stream and Daily Volume of Effluent for each Final Process Effluent Monitoring Stream;
  - e. a summary of the concentrations or other results that exceeded limit prescribed in **Schedule B**; and

- f. a summary of the Overflow Effluent incidents in which Process Effluent was discharged from the Green Stone Mine without flowing past a sampling point maintained on a Final Process Effluent stream in accordance with this Approval before being discharged.
- 5. The Owner shall prepare a Quarterly Report (in this subsection, "Quarter" means a period of three (3) consecutive months beginning on the first day of January, April, July or October), no later than forty five (45) days after the end of each Quarter. The reports shall contain, but shall not be limited to, the following information pertaining to the reporting period (throughout the Quarter):
  - a. all information relating to reporting requirements of the Approval for bypasses, Overflow Events, and non-compliance during the Quarter;
  - b. for each month in the Quarter, the monthly average Final Process Effluent total loadings and the highest and lowest daily Final Process Effluent total loadings calculated under **Schedule E**.
  - c. for each day in the Quarter, each daily Overflow Effluent stream loading calculated under **Schedule E** for each Limited Parameter;
  - d. for each month in the Quarter, the monthly average concentrations and the highest and lowest analytical results for each Limited Parameter in the Final Process Effluent Monitoring Stream with Thrice Weekly or Weekly monitoring frequency.
  - e. for each day in the Quarter, the daily concentrations calculated and the highest and lowest analytical results for each Limited Parameter in each Overflow Effluent Monitoring Stream;
  - f. for each month in the Quarter, the monthly average total volume and the highest and lowest daily total volumes for the Final Process Effluent.
  - g. for each day in the Quarter, the daily Overflow Effluent stream volumes calculated;
  - h. The Owner shall report the number of days in each month in the Quarter on which Final Process Effluent was discharged from the Works; and
  - i. The Owner shall report, for each month in the Quarter, the highest and lowest pH results obtained for the Final Process Effluent Monitoring Stream.
- 6. For the above subsection 5, unless otherwise specified by the District Manager, the Owner shall submit the data electronically using the current Ministry of Environment, Conservation and Parks Wastewater System (also known as 'MEWS'). MEWS is accessible at <https://www.mewsonario.ca/>, as updated from time to time. The submission type selected in MEWS must be set to "Detail" to complete the data submission. The Owner shall use MEWS to generate and download the Summary Discharges Reports and send those to the District Manager.
- 7. The Owner shall prepare a performance report on a calendar year basis and submit to the District Manager in an electronic format 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 Final Effluent monitoring data, including concentrations/results, acute and chronic toxicity test results, Daily Volume of Effluent, and a comparison to the design objectives and compliance limits in this Approval, including an overview of the success and adequacy of the Works;
- b. a comprehensive interpretation of all data, including statistical evaluation (minimum, maximum, average), graphical presentation, trend analysis and an assessment of project loadings (weekly, monthly, and annual) and impacts within the receiver; if the total phosphorus monthly and annual loading objectives in Condition 8.1.d are not met, provide an explanation of the occurrence(s), and any appropriate supporting assessments;
- c. a summary and analysis/interpretation of all groundwater and receiver monitoring data (including water levels, flows and quality, trigger monitoring results, etc.) consistent with the reporting requirements in items 4-7 of Schedule A, and outlined in the approved ECA, summarizing all the monitoring data (i.e. including tables, graphs, laboratory certificates) and provide an interpretation of the monitoring data;
- d. a summary of all operating issues encountered and corrective actions taken;
- e. 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;
- f. a summary of any effluent quality assurance or control measures undertaken in the reporting period, including the Pond M1 subdrain monitoring results;
- g. a summary of the calibration and maintenance carried out on all Process Effluent, Overflow Effluent, and river flow monitoring equipment to ensure that the accuracy is within the tolerance of that equipment as required in this Approval or recommended by the manufacturer;
- h. a tabulation of the volume of sludge generated at the sanitary Sewage Treatment Plant (STP), 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 overflows and by-passed, other situations outside normal/routine operating conditions and spills within the meaning of Part X of EPA and abnormal discharge events;
- k. a summary of all Notice of Modifications completed under subsection 8 of Condition 11, including a report on status of implementation of all modification;
- l. a report on how all the recommendations of the Independent Tailings Review Board have been

addressed to date; and

m. any other information the District Manager requires from time to time.

8. The Hydrodynamic and Water Quality modelling required by EA Condition of Approval 11, shall be updated every four (4) years (or frequency otherwise approved by the Director). The Owner shall complete the next model update, and shall prepare and submit a model update report by March 31, 2028. The Hydrodynamic and Water Quality modelling updates shall be used to assess the accuracy of model predictions by comparing model outputs with ongoing monitoring results, and to assess the performance of loading offsets which shall be used to inform adaptive management actions, including but not limited to, refinement of effluent limits, or additional reclamation of historical tailings.
9. The Owner shall provide a copy of the performance report required under above subsection 6 to Long Lake 58 First Nation, Aroland First Nation, Ginoogaming First Nation, Animbiigoo Zaagi'igan Anishinaabek First Nation, and Métis Nation of Ontario.

### **13. APPROVAL SUBJECT TO FINAL DRAWINGS**

1. The Owner shall not construct any portion of the Tailings Management Facility (TMF) development, until detailed design drawings, specifications and an engineer's report containing detailed design calculations including water balance calculations for that portion of Works have been submitted to the District Manager and District Manager has provided written acceptance of the Notice of Modifications or a minimum of thirty (30) days have passed.

*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 Operating Agency is included to ensure that the Ministry records are kept accurate and current with respect to ownership and Operating Agency 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 construction 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 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. Conditions 4 regarding process change is included to ensure that the Works are operated in accordance with the information submitted by the Owner relating to the process and materials which are served by the Works, and to ensure that any contemplated changes in them which could potentially affect the

characteristics of effluent from the Works will be properly reviewed and approved.

5. Condition 5 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.
6. Condition 6 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.
7. Condition 7 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.
8. Condition 8 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.
9. Condition 9 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.
10. Condition 10 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.
11. Condition 11 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.
12. Condition 12 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.
13. Condition 13 regarding approval subject to final drawings is included due to the provisional nature of the supporting documentation submitted by the Owner with the application for approval.

## Schedule A

1. Application for Environmental Compliance Approval dated February 19, 2025 and received on February 19, 2025, submitted by David Newhook, General Manager, Greenstone Gold Mines GP Inc. to amend the Environmental Compliance Approval (ECA) No. 0735-C9PMD6 for the proposed Stage 2 dam raise and associated realignment, including design report, engineering drawings and specifications.
2. Application for Environmental Compliance Approval dated January 24, 2023 and submitted by Anderson Cailey, Sr. Environmental Specialist, Greenstone Gold Mines GP Inc. to amend the ECA No. 0735-C9PMD6 to facilitate the operations phase of Greenstone Gold Mine, including design report, engineering drawings and specifications.
3. Application for Environmental Compliance Approval dated April 14, 2020 submitted by Stephen Lines, Director, Environment and Community Relations, Greenstone Gold Mines GP Inc., together with supporting information.
4. *Hardrock Project - Policy 2 Contaminant Monitoring Program and Reporting Plan – Order in Council 404/2019 Condition 12* , prepared for Greenstone Gold Mines GP Inc. by Stantec Consulting Ltd., dated March 11, 2021, or as amended.
5. *Hardrock Project - Multi-Media Monitoring Plan – Order in Council 404/2019 Condition 13* , prepared for Greenstone Gold Mines GP Inc. by Stantec Consulting Ltd., dated March 25, 2021, or as amended.
6. *Mercury Monitoring Program and Management Plan - to satisfy Order in Council 404/2019 Condition 15* , prepared for Greenstone Gold Mines GP Inc. by Stantec Consulting Ltd., dated May 13, 2021, or as amended.
7. *Hardrock Project Construction Environmental Management and Monitoring Plan HP-MG007-EV-130-0008\_0*, prepared for Greenstone Gold Mines GP Inc. by SLR Consulting, dated September 29, 2020, or as amended.
8. *Soil Management Plan* (OP-GGM-EV-007-1002), prepared by Greenstone Gold Mines, dated October 16, 2025, or as amended.
9. Hardrock Project Historical Tailings Management and Relocation Plan, prepared for Greenstone Gold Mines GP Inc. by Stantec Consulting Ltd., dated April 14, 2021, or as amended.
10. "North Side Ammonia Management Plan" dated January 28, 2022 prepared for Greenstone Gold Mines GP Inc. by Stantec Consulting Ltd.
11. Memo: Update to Ammonia Discharge Limits for Full Scale Effluent Treatment Plant, prepared for Greenstone Gold Mines GP Inc. by Stantec Consulting Ltd., dated April 5, 2022, or as amended.
12. "Memo Reference: Provincial Officer's Order # 1-232454294 – Item # 3 Mercury Monitoring Program

and Management Plan", prepared for Greenstone Gold Mines GP Inc. by Stantec Consulting Ltd. dated November 1, 2023.

13. Drawing C101 entitled "T2 Seepage Collection Pump Pipe Plan" of the document entitled, "T2 SEEPAGE COLLECTION PUMP SYSTEM DESIGN" prepared by WSP Canada Inc and dated September 5, 2025.

**Table A-1 Summary of Seepage Collection Pond/System Performance Levels**

| <b>Pond/System</b>                                                                                                                                                                                                                                                                         | <b>Berm Crest Elevation<br/>(masl)</b> | <b>Maximum Water<br/>Storage Capacity<br/>(cubic metre)</b> | <b>Minimum<br/>Operating Level<br/>(masl)</b> | <b>Maximum<br/>Operating Level<br/>(masl)</b> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|
| T1                                                                                                                                                                                                                                                                                         | 332.4                                  | 101,940                                                     | 329.5                                         | 332.1                                         |
| T2                                                                                                                                                                                                                                                                                         | 343.0*                                 | 43,650                                                      | 336.0                                         | 338.0                                         |
| T3                                                                                                                                                                                                                                                                                         | 336.5                                  | 18,000                                                      | 335.0                                         | 336.0                                         |
| <p>* Berm crest elevation is Goldfield Creek (GFC) diversion dyke as the T2 pump back system is situated within a topographic basin between the TMF dam and the GFC diversion dyke.</p> <p>** Maximum Water Storage Capacity is the volume of the pond at the Maximum Operating Level.</p> |                                        |                                                             |                                               |                                               |

**Table A-2 Summary of Pond Performance Levels**

| <b>Pond</b> | <b>Berm Crest<br/>Elevation</b> | <b>IDF<br/>Elevation</b> | <b>Spillway<br/>Invert<br/>Elevation</b> | <b>Maximum Operating Level</b> |        | <b>Minimum Operating Level</b> |        |
|-------------|---------------------------------|--------------------------|------------------------------------------|--------------------------------|--------|--------------------------------|--------|
|             | (masl)                          | (masl)                   | (masl)                                   | (m <sup>3</sup> )              | (masl) | (m <sup>3</sup> )              | (masl) |
| Pond M1     | 334.9                           | 334.4                    | 333.4                                    | 50,522                         | 333.2  | 19,000                         | 331.4  |
| Pond A1     | 332.2                           | 331.5                    | 331.0                                    | 14,608                         | 329.6  | 2,500                          | 329.1  |
| Pond A2     | 332.3                           | 331.6                    | 331.0                                    | 8,645                          | 328.7  | 1,500                          | 328.1  |
| Pond B1     | 333.0                           | 332.6                    | 331.5                                    | 19,073                         | 329.2  | 3,000                          | 328.0  |
| Pond B2     | 331.3                           | 330.8                    | 330.3                                    | 8,721                          | 329.1  | 1,000                          | 328.4  |
| Pond D1     | 332.1                           | 331.6                    | 330.8                                    | 19,324                         | 329.24 | 3,000                          | 329.04 |
| Pond D2     | 332.9                           | 332.4                    | 331.6                                    | 10,879                         | 329.77 | 1,500                          | 329.54 |

Notes:

- The IDF elevation is the level at which the 100-year return period 24-hour precipitation event volume can be added and be contained without exceeding the berm crest elevation.
- Maximum Operating Level is the trigger level for the pump activation.
- Minimum Operating Level is the level at which pump will shut off.
- Pump turn on override will occur if Pond M1 is at the Maximum Operating Level.
- Alarms to be activated if pump continues to operate below the minimum operating level.

References:

SLR Consulting (Canada) Ltd. (SLR). 2020. Design Brief for Water Management Ponds Hardrock Project, Early Mine Development.

SLR Consulting (Canada) Ltd. (SLR). 2019a. Pond M1 Section and Details: HP-EG004-352-C-202-0103C.

SLR Consulting (Canada) Ltd. (SLR). 2019b. Pond A1 Section and Details: HP-EG004-352-C-202-0104E.

SLR Consulting (Canada) Ltd. (SLR). 2019c. Pond A2 Section and Details: HP-EG004-352-C-202-0105E.

SLR Consulting (Canada) Ltd. (SLR). 2019d. Pond B1 Section and Details: HP-EG004-352-C-202-0101E.

SLR Consulting (Canada) Ltd. (SLR). 2019e. Pond B2 Section and Details: HP-EG004-352-C-202-0102E.

SLR Consulting (Canada) Ltd. (SLR). 2019f. Pond D1 Section and Details: HP-EG004-352-C-202-0107C.

SLR Consulting (Canada) Ltd. (SLR). 2019g. Pond D2 Section and Details: HP-EG004-352-C-202-0108C.

## Schedule B

**Table B-1 Final Process Effluent Objectives**

For the Final Process Effluent discharged from the Effluent Treatment Plant (ETP)

| Parameter        | Monthly Average Effluent Concentration<br>(maximum unless otherwise indicated) |
|------------------|--------------------------------------------------------------------------------|
| Total Phosphorus | 0.05 mg/L* <sup>1</sup>                                                        |
| Total Arsenic    | 0.05 mg/L                                                                      |
| Total Iron       | 0.4 mg/L                                                                       |

**Note\*<sup>1</sup>**: mg/L means milligrams per litre.

**Table B-2 Final Process Effluent Compliance Limits**

For the Final Process Effluent discharged from the Effluent Treatment Plant (ETP)

| Limited Parameters                      | Monthly Average Effluent Concentration                                                              | Single Sample Result<br>(maximum unless otherwise indicated) |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| Total Suspended Solid (TSS)             | 15 mg/L* <sup>1</sup>                                                                               | 30 mg/L                                                      |
| Un-ionized Ammonia* <sup>2</sup> (as N) | 0.5 mg/L                                                                                            | 1.0 mg/L                                                     |
| Total Phosphorus (TP)                   | 0.1 mg/L                                                                                            | 0.2 mg/L                                                     |
| Total Cyanide (free form)               | 0.1 mg/L                                                                                            | 0.2 mg/L                                                     |
| Total Antimony (Sb)                     | 0.2 mg/L                                                                                            | 0.4 mg/L                                                     |
| Total Arsenic (As)                      | 0.06 mg/L                                                                                           | 0.1 mg/L                                                     |
| Total Cobalt (Co)                       | 0.018 mg/L                                                                                          | 0.036 mg/L                                                   |
| Total Copper (Cu)                       | 0.05 mg/L                                                                                           | 0.1 mg/L                                                     |
| Total Iron (Fe)                         | 0.6 mg/L                                                                                            | /                                                            |
| Total Lead (Pb)                         | 0.05 mg/L                                                                                           | 0.1 mg/L                                                     |
| Total Nickel (Ni)                       | 0.25 mg/L                                                                                           | 0.5 mg/L                                                     |
| Total Uranium (U)                       | 0.1 mg/L                                                                                            | 0.2 mg/L                                                     |
| Total Zinc (Zn)                         | 0.2 mg/L                                                                                            | 0.4 mg/L                                                     |
| pH                                      | between 6.5 - 8.5, inclusive, all the time ( <b>Single Sample Result</b> )                          |                                                              |
| Acute Toxicity to Rainbow Trout         | Non-acutely lethal - no more than 50% mortality in 100% effluent<br>( <b>Single Sample Result</b> ) |                                                              |
| Acute Toxicity to Daphnia magna         |                                                                                                     |                                                              |

**Note\*<sup>1</sup>**: mg/L means milligrams per litre.

**Note\*<sup>2</sup>**: The concentration of Un-ionized Ammonia shall be calculated using the total ammonia concentrations, pH and temperature measurement taken at the time of sample collection. using the methodology stipulated in "Ontario's Provincial Water Quality Objectives (PWQO)" dated July 1994, as amended, for Unionized Ammonia (as N). Limits reflect MDMER requirements.

**Table B-3 Final Sewage Effluent Compliance Limits**

For the Final Sewage Effluent discharged from the Sanitary Sewage Treatment Plant (STP)

|                                         | <b>Monthly Average Effluent Concentration</b>                                                       | <b>Single Sample Result</b><br>(maximum unless otherwise indicated) |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| CBOD <sub>5</sub>                       | 10 mg/L* <sup>1</sup>                                                                               | 20 mg/L                                                             |
| Total Suspended Solid (TSS)             | 15 mg/L                                                                                             | 30 mg/L                                                             |
| Total Phosphorus                        | 1.0 mg/L                                                                                            | 2.0 mg/L                                                            |
| Un-ionized Ammonia* <sup>2</sup> (as N) | 0.5 mg/L                                                                                            | 1.0 mg/L                                                            |
| <i>E. coli.</i>                         | 200 CFU/100 mL* <sup>3</sup>                                                                        | 200 CFU/100 mL                                                      |
| pH                                      | between 6.5 - 8.5, inclusive, all the time ( <b>Single Sample Result</b> )                          |                                                                     |
| Acute Toxicity to Rainbow Trout         | Non-acutely lethal - no more than 50% mortality in 100% effluent<br>( <b>Single Sample Result</b> ) |                                                                     |
| Acute Toxicity to Daphnia magna         |                                                                                                     |                                                                     |

**Note\*<sup>1</sup>**: mg/L means milligrams per litre.

**Note\*<sup>2</sup>**: The concentration of Un-ionized Ammonia shall be calculated using the total ammonia concentrations, pH and temperature measurement taken at the time of sample collection. using the methodology stipulated in "Ontario's Provincial Water Quality Objectives (PWQO)" dated July 1994, as amended, for Unionized Ammonia (as N).

**Note\*<sup>3</sup>**: If the MPN method is utilized for *E. coli* analysis the limit shall be 200 MPN/100 mL.



## Schedule C

**Table C-1 Monitoring of the Final Process Effluent from the Effluent Treatment Plant (ETP)**

| <b>Sampling Location:</b> The Final Effluent Sampling Point #1 (Final Process Effluent Sampling Point) at the discharge pipeline from the Effluent Treatment Plant (ETP) |                                                 |                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|--------------------|
| <b>Parameter</b>                                                                                                                                                         | <b>Minimum Frequency<br/>(During Discharge)</b> | <b>Sample Type</b> |
| Total Daily Volume of Effluent (m <sup>3</sup> /day)                                                                                                                     | Daily                                           | flow meter         |
| Effluent discharge rate (L/s)                                                                                                                                            | hourly                                          | flow meter         |
| Total Suspended Solid (TSS)                                                                                                                                              | Thrice Weekly                                   | Grab               |
| pH (Field)* <sup>1</sup>                                                                                                                                                 | Thrice Weekly                                   | Grab/Probe         |
| Temperature (Field)* <sup>1</sup>                                                                                                                                        | Thrice Weekly                                   | Grab               |
| Conductivity                                                                                                                                                             | Thrice Weekly                                   | Grab               |
| Total Hardness (as CaCO <sub>3</sub> )                                                                                                                                   | Thrice Weekly                                   | Grab               |
| Alkalinity, Acidity                                                                                                                                                      | Thrice Weekly                                   | Grab               |
| Colour, true                                                                                                                                                             | Thrice Weekly                                   | Grab               |
| Turbidity                                                                                                                                                                | Thrice Weekly                                   | Grab               |
| Total Kjeldahl Nitrogen                                                                                                                                                  | Thrice Weekly                                   | Grab               |
| Nitrite and Nitrate Nitrogen                                                                                                                                             | Thrice Weekly                                   | Grab               |
| Dissolved Organic Carbon (DOC)                                                                                                                                           | Thrice Weekly                                   | Grab               |
| Total and dissolved Metals (ICP - MS Metal Scan)* <sup>2</sup>                                                                                                           | Thrice Weekly                                   | Grab               |
| Total Cyanide                                                                                                                                                            | Thrice Weekly                                   | Grab               |
| Free Cyanide                                                                                                                                                             | Thrice Weekly                                   | Grab               |
| Total Phosphorus (TP)                                                                                                                                                    | Thrice Weekly                                   | Grab               |
| Sulphate (SO <sub>4</sub> )                                                                                                                                              | Thrice Weekly                                   | Grab               |
| Total Ammonia (Ammonia+Ammonium) Nitrogen * <sup>1</sup>                                                                                                                 | Thrice Weekly                                   | Grab               |
| Unionized Ammonia (as N)* <sup>1</sup>                                                                                                                                   | Thrice Weekly                                   | (Calculated)       |
| Total Mercury (low level)                                                                                                                                                | Quarterly                                       | Grab               |
| BTEX (benzene, toluene, ethylbenzene, xylenes)                                                                                                                           | Monthly                                         | Grab               |
| Hydrocarbons                                                                                                                                                             | Monthly                                         | Grab               |
| PCBs (Polychlorinated Biphenyls)                                                                                                                                         | Monthly                                         | Grab               |
| Acute Toxicity to <i>Daphnia Magna</i> * <sup>3</sup>                                                                                                                    | Monthly                                         | Grab               |
| Acute Toxicity to Rainbow Trout* <sup>3</sup>                                                                                                                            | Monthly                                         | Grab               |
| Sublethal/Chronic Toxicity to Fathead Minnows* <sup>3</sup>                                                                                                              | Annually                                        | Grab               |
| Sublethal/Chronic Toxicity to Ceriodaphnia Dubia* <sup>3</sup>                                                                                                           | Annually                                        | Grab               |
| Sublethal/Chronic Toxicity to Lemna minor* <sup>3</sup>                                                                                                                  | Annually                                        | Grab               |
| Sublethal/Chronic Toxicity to Raphidocelis subcapitata* <sup>3</sup>                                                                                                     | Annually                                        | Grab               |

**Note\*<sup>1</sup>:** The temperature and pH of the Final Process Effluent shall be determined in the field at the time

of sampling for Total Ammonia Nitrogen. The concentration of Un-ionized Ammonia Nitrogen shall be calculated using the total ammonia concentrations, pH and temperature using the methodology stipulated in "Ontario's Provincial Water Quality Objectives (PWQO)" dated July 1994, as amended, for Unionized Ammonia (as N).

**Note\*<sup>2</sup>:** ICP-MS metals scan shall include total and dissolved: Aluminium (Al), Antimony (Sb), Arsenic (As), Barium (Ba), Beryllium (Be), Bismuth (Bi), Boron (B), Cadmium (Cd), Calcium (Ca), Chromium (Cr), Cobalt (Co), Copper (Cu), Iron (Fe), Lead (Pb), Lithium (Li), Magnesium (Mg), Manganese (Mn), Mercury (Hg), Molybdenum (Mo), Nickel (Ni), Phosphorus (P), Potassium (K), Selenium (Se), Silver (Ag), Sodium (Na), Strontium (Sr), Tin (Sn), Sulphur (S), Tellurium (Te), Thorium (Th), Thallium (Tl), Tungsten (W), Uranium (U), Vanadium (V), Zinc (Zn) and Zirconium (Zr).

**Note\*<sup>3</sup>:** All samples picked up for toxicity tests shall be picked up on the same day as effluent samples.

**Table C-1A Quality Control - Final Process Effluent Monitoring  
at the Final Effluent Sampling Point #1**

1. On one day in each year, on a day on which samples are picked up as in above **Table C-1**, the Owner shall collect and pick up a duplicate sample for each sample picked up on that day and shall analyze each duplicate sample for the parameters for which the frequency of monitoring, is "Thrice Weekly", or "Weekly".
2. The same Final Process Effluent Sampling Point shall be used for the purposes of sampling under above subsection 1 in a year.
3. The Owner shall prepare a travelling blank and travelling spiked blank sample for each sample for which a duplicated sample is picked up under subsection 1 of this Table and shall analyzed the travelling blank and travelling spiked blank samples in accordance with the directions set out in the Ministry publication entitled "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater Version 2.0" (January 2016), PIBS 2724e02, as amended.
4. There shall be an interval of at least six (6) months between successive Pick-Up days at the Greenstone Mine under subsection 1 of this Table.

**Table C-2 Monitoring of Sanitary Sewage Final Effluent from Sewage Treatment Plant (STP)**

| <b>Sampling Location:</b> the Final Effluent Sampling Point #2 (sanitary sewage Final Effluent Sampling Point) at the discharge pipeline from the Sewage Treatment Plant (STP) |                                         |             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|-------------|
| Parameter                                                                                                                                                                      | Minimum Frequency<br>(During Discharge) | Sample Type |
| Total Daily Volume of Effluent (m <sup>3</sup> /day)                                                                                                                           | Daily                                   | flow meter  |
| Effluent discharge rate (L/s)                                                                                                                                                  | hourly                                  | flow meter  |
| pH (Field)* <sup>1</sup>                                                                                                                                                       | Thrice Weekly                           | Grab/Probe  |
| Temperature (Field)* <sup>1</sup>                                                                                                                                              | Thrice Weekly                           | Grab        |
| Conductivity                                                                                                                                                                   | Thrice Weekly                           | Grab        |
| Total Suspended Solid (TSS)                                                                                                                                                    | Thrice Weekly                           | Grab        |
| Total Phosphorus (TP)                                                                                                                                                          | Thrice Weekly                           | Grab        |
| Total Ammonia (Ammonia + Ammonium) Nitrogen* <sup>1</sup>                                                                                                                      | Thrice Weekly                           | Grab        |
| Unionized Ammonia (as N)* <sup>1</sup>                                                                                                                                         | Thrice Weekly                           | Grab        |
| CBOD <sub>5</sub>                                                                                                                                                              | Thrice Weekly                           | Grab        |
| <i>E. coli</i>                                                                                                                                                                 | Thrice Weekly                           | Grab        |
| Acute Toxicity to <i>Daphnia Magna</i> * <sup>2</sup>                                                                                                                          | Monthly                                 | Grab        |
| Acute Toxicity to Rainbow Trout* <sup>2</sup>                                                                                                                                  | Monthly                                 | Grab        |

**Note\*<sup>1</sup>:** The temperature and pH of the Final Process Effluent shall be determined in the field at the time of sampling for Total Ammonia Nitrogen. The concentration of Un-ionized Ammonia Nitrogen shall be calculated using the total ammonia concentrations, pH and temperature using the methodology stipulated in "Ontario's Provincial Water Quality Objectives (PWQO)" dated July 1994, as amended, for Unionized Ammonia (as N).

**Note\*<sup>2</sup>:** All samples picked up for toxicity tests shall be picked up on the same day as effluent samples.

**Table C-3 Monitoring of the Final Effluent Discharge**  
**Combined Final Effluent of Effluent treatment Plant (ETP) and Sewage Treatment Plant (STP)**

| <b>Sampling Location:</b> At the Final Effluent Sampling Point #3, down-stream of where the ETP and STP Final Effluent Monitoring Streams combine, prior to discharging into the Kenogamisis Lake |                                                 |                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|--------------------|
| <b>Parameter</b>                                                                                                                                                                                  | <b>Minimum Frequency<br/>(During Discharge)</b> | <b>Sample Type</b> |
| Total Daily Volume of Effluent (m <sup>3</sup> /day)                                                                                                                                              | Daily                                           | flow meter         |
| Effluent discharge rate (L/s)                                                                                                                                                                     | hourly                                          | flow meter         |
| pH (Field)* <sup>1</sup>                                                                                                                                                                          | Thrice Weekly                                   | Grab               |
| Temperature (Field)* <sup>1</sup>                                                                                                                                                                 | Thrice Weekly                                   | Grab/Probe         |
| Total Suspended Solid (TSS)                                                                                                                                                                       | Thrice Weekly                                   | Grab               |
| Total and dissolved Metals (ICP - MS Metal Scan)* <sup>2</sup>                                                                                                                                    | Thrice Weekly                                   | Grab               |
| Total Phosphorus (TP)                                                                                                                                                                             | Thrice Weekly                                   | Grab               |
| Orthophosphate                                                                                                                                                                                    | Thrice Weekly                                   | Grab               |
| Total Ammonia Nitrogen (Ammonia + Ammonium)* <sup>1</sup>                                                                                                                                         | Thrice Weekly                                   | Grab               |
| Unionized Ammonia (as N)* <sup>1</sup>                                                                                                                                                            | Thrice Weekly                                   | (Calculated)       |
| Conductivity                                                                                                                                                                                      | Thrice Weekly                                   | Grab               |
| Total Hardness (as CaCO <sub>3</sub> )                                                                                                                                                            | Thrice Weekly                                   | Grab               |
| Alkalinity, Acidity                                                                                                                                                                               | Thrice Weekly                                   | Grab               |
| Sulphate (SO <sub>4</sub> )                                                                                                                                                                       | Thrice Weekly                                   | Grab               |
| Acute Toxicity to <i>Daphnia Magna</i> * <sup>3</sup>                                                                                                                                             | Monthly                                         | Grab               |
| Acute Toxicity to Rainbow Trout* <sup>3</sup>                                                                                                                                                     | Monthly                                         | Grab               |
| Sublethal/Chronic Toxicity to Fathead Minnows* <sup>3</sup>                                                                                                                                       | Annually                                        | Grab               |
| Sublethal/Chronic Toxicity to Ceriodaphnia Dubia* <sup>3</sup>                                                                                                                                    | Annually                                        | Grab               |
| Sublethal/Chronic Toxicity to Lemna minor* <sup>3</sup>                                                                                                                                           | Annually                                        | Grab               |

**Note\*<sup>1</sup>:** The temperature and pH of the Final Process Effluent shall be determined in the field at the time of sampling for Total Ammonia Nitrogen. The concentration of Un-ionized Ammonia Nitrogen shall be calculated using the total ammonia concentrations, pH and temperature using the methodology stipulated in "Ontario's Provincial Water Quality Objectives (PWQO)" dated July 1994, as amended, for Unionized Ammonia (as N).

**Note\*<sup>2</sup>:** ICP-MS metals scan shall include total and dissolved: Aluminium (Al), Antimony (Sb), Arsenic (As), Barium (Ba), Beryllium (Be), Bismuth (Bi), Boron (B), Cadmium (Cd), Calcium (Ca), Chromium (Cr), Cobalt (Co), Copper (Cu), Iron (Fe), Lead (Pb), Lithium (Li), Magnesium (Mg), Manganese (Mn), Mercury (Hg), Molybdenum (Mo), Nickel (Ni), Phosphorus (P), Potassium (K), Selenium (Se), Silver (Ag), Sodium (Na), Strontium (Sr), Tin (Sn), Sulphur (S), Tellurium (Te), Thorium (Th), Thallium (Tl), Tungsten (W), Uranium (U), Vanadium (V), Zinc (Zn) and Zirconium (Zr).

**Note\*<sup>3</sup>:** All samples picked up for toxicity tests shall be picked up on the same day as effluent samples.

**Table C-4 Monitoring of the Pond M1 Drainage Water**

| <b>Sampling Location:</b> Drainage Water from Pond M1                                                       |                                                        |                    |
|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|--------------------|
| <b>Parameter</b>                                                                                            | <b>Minimum Frequency</b>                               | <b>Sample Type</b> |
| Total and dissolved Metals (ICP - MS Metal Scan)* <sup>2</sup>                                              | three (3) times per year<br>(Spring, Summer, and Fall) | Grab               |
| Total Ammonia (Ammonia + Ammonium) Nitrogen                                                                 |                                                        |                    |
| Total Nitrate and Nitrite Nitrogen                                                                          |                                                        |                    |
| Cyanide (free and total)                                                                                    |                                                        |                    |
| Conductivity                                                                                                |                                                        |                    |
| Total Dissolved Solid (TDS)                                                                                 |                                                        |                    |
| Sulphate (SO <sub>4</sub> )                                                                                 |                                                        |                    |
| Fluorine (F)                                                                                                |                                                        |                    |
| Chloride (Cl <sup>-</sup> )                                                                                 |                                                        |                    |
| pH (Field)                                                                                                  |                                                        |                    |
| Alkalinity                                                                                                  |                                                        |                    |
| Organics [Benzene, Ethylbenzene, Toluene, Xylenes, Petroleum Hydrocarbons (PHCs) Fraction 1 (F1) to 4 (F4)] |                                                        |                    |

**Note\*<sup>2</sup>:** ICP-MS metals scan shall include total and dissolved: Aluminium (Al), Antimony (Sb), Arsenic (As), Barium (Ba), Beryllium (Be), Bismuth (Bi), Boron (B), Cadmium (Cd), Calcium (Ca), Chromium (Cr), Cobalt (Co), Copper (Cu), Iron (Fe), Lead (Pb), Lithium (Li), Magnesium (Mg), Manganese (Mn), Mercury (Hg), Molybdenum (Mo), Nickel (Ni), Phosphorus (P), Potassium (K), Selenium (Se), Silver (Ag), Sodium (Na), Strontium (Sr), Tin (Sn), Sulphur (S), Tellurium (Te), Thorium (Th), Thallium (Tl), Tungsten (W), Uranium (U), Vanadium (V), Zinc (Zn) and Zirconium (Zr)

### **Item C-1 Harmful Algal Bloom (Cyanobacteria Bloom) Sampling Methodology**

Please follow these steps for the reporting and sampling of all suspected cyanobacteria blooms encountered by GGM staff on Kenogamisis Lake:

1. Report all suspected cyanobacteria blooms to the Ministry's Spills Action Centre at 416-325-3000 or 1-800-268-6060;
2. Fill in the algae bloom sampling field sheet (provided to GGM by MECP);
3. Take photos and note GPS coordinates;
4. Wear gloves to collect samples; cyanotoxins can irritate skin;
5. Collect samples at 'wrist depth', including scum, if present;
6. Fill the following three jars to the 'shoulder' (MECP to supply the collection jars):
  - PET 500 mL plastic jar;
  - 500 mL wide mouth amber glass jar;
  - 500 mL pre-charged amber glass jar (pour sample into this jar using one of the other jars – do not submerge this pre-charged bottle);
7. Keep samples cool and refrigerate;
8. Contact the Thunder Bay District Office ([environment.thunderbay@ontario.ca](mailto:environment.thunderbay@ontario.ca) or 807-475-1205) to schedule pick-up of samples.
9. MECP will assess presence/absence of cyanobacteria and cyanotoxin laboratory analyses.
10. Results of samples submitted will be shared directly with GGM and public health agencies.
  - Refer to [www.ontario.ca/page/blue-green-algae](http://www.ontario.ca/page/blue-green-algae) for general information.
  - Contact the Thunder Bay District Health Unit for any public health related questions.
  - Seek medical/veterinary attention for any symptoms that might be related to contact with cyanobacteria.

**Item C-2 Algal Bloom Sampling Field Sheet**

|                                                                                                  |
|--------------------------------------------------------------------------------------------------|
| Date:                                                                                            |
| Time:                                                                                            |
| Waterbody Sample:                                                                                |
| Sampled by:                                                                                      |
| Weather Conditions at Sample Time (i.e. wind speed, direction, air temperature and cloud cover): |
| Past 24-hour Weather Condition (i.e. wind speed, direction, air temperature and cloud cover):    |
| Last Rain Event (i.e. date, time and amount):                                                    |
| Coordinates of Sample Location:<br>UTM Zone:<br>UTM Easting:<br>UTM Northing:                    |
| Water Temperature:                                                                               |
| Description of the Bloom:<br>Colour:<br>Texture:<br>Odours:                                      |
| Location Description/Extern of Bloom:                                                            |

## **Schedule D**

### **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.
  - a. Pumping Stations
    - i. Alter pumping capacity by adding or replacing equipment where new equipment is located within the site of an existing sewage/effluent treatment system or an existing sewage pumping station, provided that the modifications do not result in an increase of the sewage/effluent treatment works/systems design capacity and the existing flow process and/or treatment train are maintained, as applicable.
    - ii. Forcemain relining and replacement with similar pipe size where the nominal diameter is not greater than 1,200 mm.
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. Expanding the buffer zone between a sanitary sewage lagoon facility or land treatment area and adjacent uses provided that the buffer zone is entirely on the proponent's land.
  - c. Optimizing existing sanitary sewage lagoons with the purpose to increase efficiency of treatment operations provided that existing sewage treatment rated plant capacity is not exceeded and where no land acquisition is required.
  - d. Optimizing existing sewage/effluent treatment 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 final effluent quality or location of the discharge.
  - e. 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, de-watering equipment, UV systems, chlorine contact equipment, bio-disks, and sludge digester systems.

3. Final Effluent Disposal Facility

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

4. Sewers

- a. Pipe relining and replacement with similar pipe size within the site of the Works, where the nominal diameter is not greater than 1,200 mm.

5. 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/effluent treatment plant or hauled off-site for proper disposal,
  - ii. any effluent from the pilot system discharged to the inlet of the sewage/effluent treatment plant or conveyance system does not significantly alter the composition/concentration of the influent 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.

6. Tailings Management Facilities

- a. Routine dam raises and dam extensions to allow continued management of tailings and storage of mineral materials and sewage, provided that:
  - i. Routine dam raises and extensions are in adherence with a design report prepared by a Licensed Engineering Practitioner.
  - ii. Routine dam raises and extensions engineering drawings that are sealed by a Licensed Engineering Practitioner.
  - iii. Routine dam raises and extensions have an associated erosion and sediment control plan applying best management practices that is to be implemented during construction.
- b. New dams are not eligible under LOF, unless already included as part of the Works for which an Environmental Compliance Approval or an amended Environmental Compliance Approval has already been issued describing how new Works would affect the management of tailings and water at

the site.

- c. Pipe replacement or extension with similar pipe size within the tailings management area, where the nominal diameter is not greater than 1,200 mm.
  - d. Clause 1.6 does not relieve the Owner of any obligation to comply with any provision of any applicable statute, regulation or other legal requirement, including, but not limited to, the obligation to obtain necessary approval from Ministry of Energy and Mines, Ministry of Natural Resources, and/or Department of Fisheries and Oceans Canada to proceed with the undertaking.
- 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.

This page contains an image of the form entitled "Notice of Modification to Sewage Works". A digital copy can be obtained from the District Manager.



**Ontario**

Ministry of the  
Environment,  
Conservation and  
Parks

## Notice of Modification to Sewage Works

RETAIN COPY OF COMPLETED FORM AS PART OF THE ECA ON-SITE PRIOR TO THE SCHEDULED IMPLEMENTATION DATE.

### Part 1 – Environmental Compliance Approval (ECA) with Limited Operational Flexibility

(Insert the ECA's owner, number and issuance date and notice number, which should start with "01" and consecutive numbers thereafter)

|            |                          |                               |
|------------|--------------------------|-------------------------------|
| 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

(Attach a detailed description of the sewage works)

Description shall include:

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

I hereby declare that I have verified the scope and technical aspects of this modification and confirm that the design:

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.

I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate

|                  |                    |
|------------------|--------------------|
| Name (Print)     | PEO License Number |
| Signature        | Date (mm/dd/yy)    |
| Name of Employer |                    |

### Part 4 – Declaration by Owner

I hereby declare that:

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 *Environmental Assessment Act*.

I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate

|                                      |                                      |
|--------------------------------------|--------------------------------------|
| Name of Owner Representative (Print) | Owner representative's title (Print) |
| Owner Representative's Signature     | Date (mm/dd/yy)                      |

## **Schedule E**

### **1. CALCULATION OF LOADINGS — GENERAL**

1. For the purposes of performing a calculation under sections 2 to 5 of this Schedule, the Owner shall use the actual analytical result obtained by the laboratory.
2. Despite subsection 1 of this section, where the actual analytical result is less than one-tenth of the analytical method detection limit set out in the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater Version 2.0" (January 2016), PIBS 2724e02, as amended, the Owner shall use the value zero for the purpose of performing a calculation under sections 2 to 5 of this Schedule.
3. The Owner shall ensure that each calculation of a Final Process Effluent loading required by section 2 and each calculation of a Final Process Effluent concentration required by section 4 is performed as soon as reasonably possible after the analytical results on which the calculation is based become available to the Owner.
4. The Owner shall ensure that each calculation of an Overflow Effluent loading required by section 3 is performed in time and each calculation of an Overflow Effluent concentration required by section 5 is performed in time to comply with Quarterly Reports to the District Manager requirements.

### **2. CALCULATION OF LOADINGS — FINAL PROCESS EFFLUENT**

1. The Owner shall calculate, in kilograms, a daily Final Process Effluent stream loading for each Limited Parameter (excluding pH and Toxicity), in each Final Process Effluent Monitoring Stream for each day on which a sample is collected under this Approval from the stream for analysis for the parameter.
2. When calculating a daily stream loading under subsection 1, the Owner shall multiply, with the necessary adjustment of units to yield a result in kilograms, the analytical result obtained from the sample for the parameter by the Daily Volume of Effluent, as determined under **Condition 10** regarding monitoring and reporting, for the stream for the day.
3. The Owner shall calculate, in kilograms, a daily Final Process Effluent total loading for each Limited Parameter (excluding pH and Toxicity), for each day for which the Owner is required to calculate a daily Final Process Effluent stream loading for the parameter under subsection 1 of this section.
4. For the purposes of subsection 3 of this section, a Final Process Effluent total loading for a parameter for a day is the sum, in kilograms, of the daily Final Process Effluent stream loadings for the parameter calculated under subsection 1 of this section for the day.
5. Where the Owner calculates only one daily Final Process Effluent stream loading for a parameter for a day under subsection 1 of this section, the daily Final Process Effluent total loading for the

parameter for the day for the purposes of subsection 3 of this section is the single daily Final Process Effluent stream loading for the parameter for the day.

6. The Owner shall calculate, in kilograms, a monthly average Final Process Effluent total loading for each Limited Parameter (excluding pH and Toxicity) for each month in which a sample is collected under this Approval more than once from a Final Process Effluent Monitoring Stream for analysis for the parameter.
7. For the purposes of subsection 6 of this section, a monthly average Final Process Effluent total loading for a parameter for a month is the arithmetic mean of the daily Final Process Effluent total loadings for the parameter calculated under subsection 3 of this section for the month.

### **3. CALCULATION OF LOADINGS — OVERFLOW EFFLUENT**

1. The Owner shall calculate, in kilograms, an Overflow Effluent stream loading for each Limited Parameter (excluding pH and Toxicity), in each Overflow Effluent Monitoring Stream for each Eight (8)-hour Period during which a sample is collected under this Approval from the stream for analysis for the parameter.
2. When calculating a stream loading under subsection 1 of this section, the Owner shall multiply, with the necessary adjustment of units to yield a result in kilograms, the analytical result obtained from the sample for the parameter by the volume of effluent, as determined under **Condition 10** regarding monitoring, assessment and recording, for the stream for the Eight (8)-hour Period.
3. The Owner shall calculate, in kilograms, a daily Overflow Effluent stream loading for each Limited Parameter (excluding pH and Toxicity), in each Overflow Effluent Monitoring Stream for each day for which the Owner is required to calculate an Overflow Effluent stream loading for the parameter under subsection 1 of this section.
4. For the purposes of subsection 3 of this section, a daily Overflow Effluent stream loading for a parameter for a day is the sum, in kilograms, of all the Eight (8)-hour period Overflow Effluent stream loadings for the parameter calculated under subsection 1 of this section for the day.
5. Where the Owner calculates only one Overflow Effluent stream loading for a parameter under subsection 1 of this section for a stream for a day, the daily Overflow Effluent stream loading for the parameter for the day for the purposes of subsection 3 of this section is the single Overflow Effluent stream loading calculated for the parameter under subsection 1 of this section.

### **4. CALCULATION OF CONCENTRATIONS — FINAL PROCESS EFFLUENT**

1. The Owner shall calculate, in milligrams per litre, a Monthly Average Effluent Concentration for each Limited Parameter (excluding pH and Toxicity) in each Final Process Effluent Monitoring Stream for each month.

## 5. CALCULATION OF CONCENTRATIONS — OVERFLOW EFFLUENT

1. The Owner shall calculate, in milligrams per litre, a daily concentration for each Limited Parameter (excluding pH and Toxicity), in each Overflow Effluent Monitoring Stream for each day on which a sample is collected under this Approval from the stream for analysis for the parameter.
2. For the purposes of subsection 1 of this section, a daily concentration for a parameter for a stream for a day is the arithmetic mean of the analytical results obtained for the parameter from the samples collected under **Condition 6** regarding overflows from the stream for the day.
3. Where there is only one analytical result obtained for a parameter from the stream for a day, the daily concentration for the parameter for the stream for the day for the purposes of subsection 1 of this section is the single analytical result obtained for the parameter.

**Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). 0735-C9PMD6 and 5375-DQ9KZ8 issued on April 25, 2022 and January 21, 2026.**

In accordance with Section 139 of the *Environmental Protection Act*, you may by written notice served upon me, the Ontario Land 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 ("the Notice") 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 available 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:

Registrar\*  
Ontario Land Tribunal  
655 Bay Street, Suite 1500  
Toronto, Ontario  
M5G 1E5  
OLT.Registrar@ontario.ca

and

The Minister of the Environment,  
Conservation and Parks  
777 Bay Street, 5th Floor  
Toronto, Ontario  
M7A 2J3

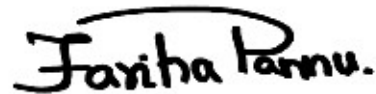
and

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 Ontario Land Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349 or 1 (866) 448-2248, or [www.olt.gov.on.ca](http://www.olt.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 <https://ero.ontario.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, 2026



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Fariha Pannu, P.Eng.

Director

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

NH/

c: District Manager, MECP Thunder Bay District Office  
Kendra Button, Greenstone Gold Mines GP Inc.