



## ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER A-500-2095271849

Version: 1.0

Issue Date: November 13, 2020

*Pursuant to section 20.3 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 and subject to all other applicable Acts or regulations this Environmental Compliance Approval is issued to:*

ITECH PRECISION GROUP INC.

200 HACHBORN ROAD  
ONTARIO  
N3S 7W5

*For the following site:*

Anywhere in 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:*

two (2) mobile sewage works for the collection, transmission, treatment and disposal of process water, leachate, stored water, surface water or groundwater contaminated with petroleum hydrocarbons, gasoline, diesel fuel, oil, volatile organic compounds, halogenated and non-halogenated solvents, surfactants and other organic inorganic contaminants, and/or total suspended solids, with each Mobile Treatment Unit having a rated hydraulic capacity of up to 100 litres per minute, with treated effluent to be disposed depending upon the Site Location through discharge to municipal sewer systems and drainage ditches (where allowed by municipal by-laws); onto the ground for infiltration; into a man-made or natural waterbodies onsite (i.e. stormwater retention pond); or a natural waterbodies off-site.

Local and municipal permits shall be obtained as applicable prior to treatment and discharge.

each mobile sewage works treatment train consisting of the following:

### Settling Tank(s)

- one (1) or more optional *settling tank(s)*.

### Pre-treatment System(s)

- one (1) or more optional *pre-treatment system* (i.e. aeration unit(s), sand filter unit(s), grit removal unit(s), air stripper unit(s), chemical addition unit(s), etc.) receiving wastewater from the inlet source for physical and/or chemical pre-treatment.

### Oil/Water Separator(s)

- one (1) or more optional *oil/water separator(s)*.

### **Bag Filter(s)**

- one (1) or more optional *bag filter(s)* connected in series or in parallel.

### **Organo Clay Filter(s)**

- one (1) or more optional *organo clay filter(s)* containing organo clay filter media.

### **Sand/Anthracite Filter(s)**

- one (1) or more optional *sand/anthracite vessel(s)* containing sand/anthracite filter media.

### **Organo Clay Filter(s)**

- one (1) or more optional *organo clay pressure Filter(s)* containing organo clay filter media.

### **Granular Activated Carbon Filtration System**

- one (1) or more optional *granulated activated carbon filter(s)* containing Granular Activated Carbon (GAC) media.

### **Activated Alumina Filter System**

- one (1) or more optional *activated alumina filter(s)* containing activated alumina media.

### **Specialty Media Filter System**

- one (1) or more optional *filter(s)* with a sacrificial or regenerative filter media that consists of media pellets, granules or powder with optional pH adjustment upstream or downstream of the filter(s).

### **Membrane Filtration System**

- one (1) or more optional *membrane filtration system(s)*.

### **Miscellaneous System**

- including instrumentation, piping, valves and appurtenances essential for the proper operation of the aforementioned sewage Works, housed within a mobile treatment trailer or mobile skid temporarily located on-site.
- additional pumping system(s) if required depending on the elevation of the discharge point relative to the mobile treatment unit.

including pressure gauge, compressor, flow meter and flow regulators, sample ports, oil storage drums, and all other controls, electrical equipment, instrumentation, piping, pumps, valves and appurtenances essential for the proper operation of the aforementioned Works all housed in a secured mobile trailer, or an enclosed trailer, or a sea can or a skid.

all in accordance with supporting documents listed in Schedule 1.

## **DEFINITIONS**

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

1. "Approval" means this environmental compliance approval, any schedules attached to it, and the Application.
2. "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.
3. "District Manager" means the District Manager of the local MECP District / Area Office with jurisdiction over the remediation site where the herein approved mobile sewage units are to be operated.
4. "EPA" means the *Environmental Protection Act, R.S.O 1990, c.E.19*, as amended.
5. "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.
6. "ODWS" means Ontario Drinking Water Standards, Objectives and Guidelines.
7. "Owner" means ITECH PRECISION GROUP INC., and includes its successors and assignees.
8. "OWRA" means the *Ontario Water Resources Act, R.S.O. 1990, c. O.40*, as amended.
9. "PWQO" means Provincial Water Quality Objectives.
10. "Site" means the location where the mobile sewage works is to be deployed.
11. "Works" means the sewage works described in the Owner's application, and this Approval.

## **TERMS AND CONDITIONS**

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*You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:*

### **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. Except as otherwise provided by these terms and conditions, the Owner shall design, build, install, operate and maintain the Works in accordance with this Approval.
3. Where there is a conflict between a provision of this environmental compliance approval and any document submitted by the Owner, the conditions in this environmental compliance approval shall take precedence. Where there is a conflict between one or more of the documents submitted by the Owner, the Application shall take precedence unless it is clear that the purpose of the document was to amend the Application
4. Where there is a conflict between the documents listed in the Schedule 1, and the application, the application shall take precedence unless it is clear that the purpose of the document was to amend the application.

5. The terms and conditions of this Approval are severable. If any term and condition of this environmental compliance approval, or the application of any requirement of this environmental compliance approval to any circumstance, is held invalid or unenforceable, the application of such condition to other circumstances and the remainder of this Approval shall not be affected thereby.
6. 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 approval from the local conservation authority 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*; and
  - d. change of name of the corporation where the Owner is or at any time becomes a corporation, and a copy of the "Initial Return" or "Notice of Change" filed under the *Corporations Information Act, R.S.O. 1990, c. C.39*, shall be included in the notification to the District Manager.
2. In the event of any change in ownership of the Works, the Owner shall notify in writing the succeeding owner of the existence of this Approval, and a copy of such notice shall be forwarded to the District Manager.
3. The Owner shall ensure that all communications made pursuant to this condition refer to the number at the top of this environmental compliance approval.

## 3. NOTIFICATION OF CHANGES IN PROCESSES OR PROCESS MATERIALS

1. The Owner shall give written notice to the Director of any plans to change the processes or process materials forming a part of the Works (and any plans to change the processes or process materials in the Owner's enterprise serviced by the Works) where the change may significantly alter the quantity or quality of the influent to or effluent from the Works, and no such change(s) shall be made unless and until the Owner applies for and receives the written approval of the Director pursuant to section 20.2 of the EPA for the purposes of Part II.1 of the EPA.

## 4. AREA OF OPERATION

1. The Owner may operate the mobile sewage Works anywhere within the Province of Ontario for the purposes of treating process water, stored water, surface water or groundwater that has become contaminated, provided that only the parameters listed in condition 9 of this Approval under organic parameter groups of petroleum hydrocarbons (gasoline/diesel/heating oil), polycyclic-aromatic hydrocarbons, chlorinated solvents and/or volatile organic compounds, and

inorganic parameters under metals group is present in the surface water / industrial wastewater / groundwater. Any use of the system for treatment of any additional parameters not listed in condition 9 but detected at the site can only be undertaken with the written approval of the Director pursuant to section 20.2 of the EPA for the purposes of Part II.1 of the EPA.

## 5. OPERATIONS AND MAINTENANCE

1. The Owner shall ensure that at all times, the Works and related equipment and appurtenances which are installed or used to achieve compliance with this Approval are properly operated and maintained in accordance with manufacturer's specifications.
2. In furtherance of, but without limiting the generality of, the obligation imposed by condition 5. (1), the Owner shall ensure that:
  - a. funding, staffing, training of staff, laboratory and process controls, quality assurance and quality control procedures of or in relation to the Works are adequate to achieve compliance with this Approval; and
  - b. equipment and material are kept on hand and in good repair for immediate use in the event of:
    - i. upset;
    - ii. bypass;
    - iii. abnormal loss of any product, by-product, intermediate product, oil, solvent, waste material or any other polluting substance into the environment or interior of any building; or
    - iv. spill within the meaning of Part X of the EPA.
  - c. and staff are trained in the use of said equipment and material and in the methods and procedures to be employed upon the occurrence of such an event.
3. The Owner shall prepare an operations manual of the Works prior to the commencement of the operation of the Works. The operations manual shall include, but not necessarily limited to, the following information:
  - a. Treatment configuration proposed;
  - b. Operating procedures for routine operation of the Works;
  - c. Inspection programs, including frequency of inspection, for the Works and the methods or tests employed to detect when maintenance is necessary;
  - d. Repair and maintenance programs, including the frequency of repair and maintenance for the Works;
  - e. Contingency Plans and Procedures for dealing with upset, bypasses and any other abnormal situations, and for notifying the District Manager; and
  - f. Complaint procedures for receiving and responding to public complaints, including a reporting system which records what steps the Owner took to determine the cause of the complaint and what corrective measures were taken to alleviate the cause and prevent its recurrence.
4. The Owner shall maintain the operations manual up to date through revisions undertaken from time to time and retain a copy at the location of the Works. Upon request, the Owner shall make the manual available for inspection and copying by Ministry personnel.

## 6. SPECIAL OPERATION AND MAINTENANCE

1. The Owner shall ensure that, prior to the Works being deployed for operation at a Site, the following analysis is undertaken by a qualified professional(s) and the information submitted to the local District Office of the Ministry where the Works are to be deployed as part of a pre-deployment consultation:
  - a. a detailed characterization of the surface water/industrial wastewater/groundwater from the Site is carried out through sampling and analysis for organic parameter groups of petroleum hydrocarbons, polycyclic-aromatic hydrocarbons, chlorinated solvents and/or volatile organic compounds and other potential parameters of concern including a scan for metals and metal-hydrides. This characterization is to be completed to determine the contaminants present at the Site and their quantities;
  - b. an environmental study report is completed to determine the suitability of the mobile sewage Works to complete the proposed remedial work and to meet the effluent limits stipulated in condition 9 of this Approval. In addition, the report is also to evaluate the assimilative capacity of the effluent receiver if needed in consultation with the District Manager and the Ministry's Regional Surface Water Specialist, to evaluate the maximum treatment capacity that can be deployed at a given time for a given Site ensuring that the effluent receiver is not adversely impacted; and
  - c. information/documentation requested in (a) and (b) should be submitted along with the operations manual requested by condition 5.(3).
2. The Owner shall ensure that, prior to the Works being deployed for operation at a Site, the following activities are undertaken:
  - a. any oily waste collected from the use of the sewage Works shall be disposed in accordance with Part V of the Environmental Protection Act; and
  - b. all components of the Works are inspected for proper operation, cleaned and any necessary repairs or replacement are made as necessary.
3. Notwithstanding condition 10, the Owner shall undertake the appropriate monitoring to determine when breakthrough will occur in any of the absorption/adsorption vessels and shall terminate operation upon breakthrough until the filter media in the vessel(s) or the vessel(s) itself has been replaced.

## 7. NOTIFICATION OF DISTRICT MANAGER

1. The Owner shall carry out the pre-deployment consultation with the District Manager of the Ministry's District Office where the mobile sewage Works are to be deployed as specified in condition 6.(1).
2. The Owner shall provide operation commencement notification to the District Manager of the Ministry's District Office where the mobile sewage Works are to be deployed at least **fifteen (15) working days**, or other time period as specified by the District Manager, prior to commencing operation at any Site by submitting:
  - a. a copy of this Approval; and
  - b. a completed Form 1 (see Schedule 2 attached to this Approval); plus a scaled site plan, indicating the intended location of the equipment relative to the onsite structures, all property lines, drainage ditches, wells, surface watercourses and discharge location of the Works.

3. The Owner shall retain a copy of this Approval at each Site at which the Works are in operation for inspection by the Ministry's staff.

## 8. EBR PUBLIC NOTIFICATION

1. The Owner shall, at least **five (5) days** prior to commencing operation at a new Site, provide public notification to those residing in the vicinity of the site in a form as described in S. 28(1) of the Environmental Bill of Rights.

## 9. EFFLUENT LIMITS

1. The Owner shall operate and maintain the Works such that the concentrations of the contaminant (s) of concern identified pursuant to condition 6.(1) (a) and named as effluent parameters in the Effluent Limits Table in Schedule 3 are not exceeded in the effluent from the Works.
2. The limit for Lead shall be based on the interim Provincial Water Quality Objective (PWQO) level which is determined based on the hardness of water. If the hardness (as CaCO<sub>3</sub> concentration) is less than 30 milligrams per litre, the limit is 1 microgram per litre. If the hardness is between 30 milligrams per litre and 80 milligrams per litre, inclusive, the limit is 3 micrograms per litre. If the hardness is greater than 80 milligrams per litre the limit is 5 micrograms per litre.
3. The limit for lead as specified in condition 9.(2) may be modified by the District Manager in writing from time to time if the Owner requests for a deviation by providing a rationale and environmental justification.
4. Per-and PolyFluoroAlkyl Substances (PFAS) Effluent Limits: The Owner shall prepare and submit for the approval of the District Manager an environmental study report (as required by condition 6.(1)(b)) that develops PFAS effluent limits in consultation with the District Manager.
5. The Owner shall maintain the pH of the effluent between 6.5 to 8.5, inclusive, at all times.
6. For the purposes of determining compliance with and enforcing subsection (1):
  - a. The concentration of a parameter named in Column 1 of Effluent Limits Table listed in Schedule 3 shall not exceed the corresponding maximum concentration set out in Column 2 of Effluent Limits Table listed in Schedule 3.

## 10. EFFLUENT QUALITY MONITORING AND RECORDING

1. Samples shall be collected and analyzed at the sampling point(s), at the sampling frequencies and using the sample type for the parameters identified pursuant to condition 6.(1) (a) in the Effluent Monitoring Table in Schedule 4.
2. The methods and protocols for sampling, analysis and recording shall conform, in order of precedence, to the methods and protocols specified in the following:
  - a. the Ministry's publication "Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario" (December 1996), ISBN 0-7778-4056-1, as amended from time to time by more recently published editions;
  - b. the Ministry's publication "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the *Environmental Protection Act*" (March 9, 2004), as amended from time to time by more recently published editions;
  - c. the publication "Standard Methods for the Examination of Water and Wastewater" (22<sup>nd</sup> edition) as amended from time to time by more recently published editions; and

- d. for any parameters not mentioned in the documents referenced in (a), (b) and (c), the written approval of the District Manager shall be obtained prior to sampling.
3. The sampling frequency for Locations #2:
  - a. shall be once each day for the first **one (1) week** of operation at a site and may be reduced to once a week thereafter, if no exceedance of the criteria in condition 9 has been observed during the **one (1) week** daily sampling; and
  - b. shall revert to daily followed by weekly, as outlined in paragraph (a), following replacement of treatment media.
4. The Owner shall measure, record and calculate the daily volume of flow discharged from the Works.
5. The Owner shall maintain a log book to record:
  - a. all analytical and monitoring information;
  - b. a tabulation and description of any operating problems encountered, and corrective actions taken;
  - c. a summary of any maintenance carried out on any equipment; and
  - d. keep this book with each individual mobile sewage works.

## 11. REPORTING

1. Upon being allowed to establish operations following pre-deployment consultation with the District Manager of the local District Office of the Ministry, the Owner shall submit a copy of the analytical results and flow volume records, collected pursuant to condition 10, to the District Manager on a **monthly** basis, or at any other frequency specified in writing by the District Manager.
2. The Owner shall report to the District Manager or designate, any exceedance of any parameter specified in condition 9 orally, as soon as reasonably possible, and in writing within **seven (7) days** of the exceedance.
3. The Owner shall, upon completion of treatment operations at a Site, prepare and submit a performance report to the District Manager of the local District Office of the Ministry, no later than **thirty (30) working days** following the end of operations. The report shall contain, but shall not be limited to, the following information in a format acceptable to the District Manager:
  - a. a summary and comprehensive interpretation of all monitoring data and analytical data collected relative to the Works during the reporting period and a comparison to the effluent quality criteria described in this Approval;
  - b. a description of any environmental and operating problems encountered, and corrective actions taken during the reporting period; and
  - c. any other information the District Manager requires from time to time.

## 12. UNIT IDENTIFICATION

1. The Owner shall ensure that each mobile treatment unit approved under this Approval is clearly marked with a unique identification number.

## 13. ANNUAL REPORT



1. The Owner shall prepare and submit a report to the District Manager of the Guelph District Office, on an annual basis, which includes a summary of which mobile treatment units were operated during the previous calendar year, where they were operated and for how long they operated at each Site. This report shall be submitted within **ninety (90) days** following the end of the calendar year.

## REASONS

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

1. Condition 1 is imposed to ensure that the Works are built and operated in the manner in which they were described for review and upon which approval was granted. This condition is also included to emphasize the precedence of conditions in the Approval and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review. Condition 1.(6) is included to emphasize that the issuance of this Approval does not diminish any other statutory and regulatory obligations to which the Owner is subject in the construction, maintenance and operation of the Works. The condition specifically highlights the need to obtain any necessary conservation authority approvals. The condition also emphasizes the fact that this Approval doesn't limit the authority of the Ministry to require further information.
2. Condition 2 is included to ensure that the Ministry records are kept accurate and current with respect to approved Works and to ensure that subsequent owners of the Works are made aware of the Approval and continue to operate the Works in compliance with it.
3. Condition 3 is included to ensure that the Works is 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.
4. Condition 4 is included to ensure that the Works are only operated under conditions and in areas covered in the application for Approval.
5. Conditions 5 and 6 are included to require that the Works be properly operated, maintained, funded, staffed and equipped such that the environment is protected and deterioration, loss, injury or damage to any person or property is prevented. As well, the inclusion of a comprehensive operations manual governing all significant areas of operation, maintenance and repair is prepared, implemented and kept up-to-date by the Owner and made available to the Ministry. Such a manual is an integral part of the operation of the Works. Its compilation and use should assist the Owner in staff training, in proper plant operation and in identifying and planning for contingencies during possible abnormal conditions. The manual will also act as a benchmark for Ministry staff when reviewing the Owner's operation of the Works.
6. Condition 7 is included to ensure that the Ministry is notified when and where the mobile treatment units shall be deployed to ensure that their operation does not lead to impairment of the local environment.
7. Due to the nature of this operation, it is not practical to undertake the additional public consultation required by the Environmental Bill of Rights before issuance of the Approval, therefore, condition 8 is included to satisfy the additional public consultation requirements of the Environmental Bill of Rights, after this Approval is issued.
8. Conditions 9 and 10 are included to require the Owner to demonstrate on a continual basis that the quality of the effluent from the approved Works is consistent with the design objectives and effluent limits specified in the Approval and that the approved Works do not cause any impairment to the receiver.

9. Conditions 11, 12, and 13 are included to ensure that the Ministry is updated, on a regular basis, on the operations of the mobile treatment units approved under this Approval.

## APPEAL PROVISIONS

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*In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me, the Environmental Review Tribunal and in accordance with Section 47 of the Environmental Bill of Rights, 1993, the Minister of the Environment, Conservation and Parks, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Minister of the Environment, Conservation and Parks will place notice of your appeal on the Environmental Registry. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:*

- a. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
- b. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

*The Notice should also include:*

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

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

*This Notice must be served upon:*

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

AND

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

AND

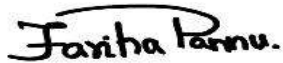
*The Director appointed for the purposes  
of Part II.1 of the Environmental  
Protection Act  
Ministry of the Environment,  
Conservation and Parks  
135 St. Clair Avenue West, 1st Floor  
Toronto, Ontario  
M4V 1P5*

**\* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or [www.elto.gov.on.ca](http://www.elto.gov.on.ca)**

*This instrument is subject to Section 38 of the Environmental Bill of Rights, 1993, that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek leave to appeal within 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry at [www.ero.ontario.ca](http://www.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 13th day of November, 2020

A handwritten signature in black ink that reads "Fariha Pannu." The signature is written in a cursive, slightly slanted style.

Fariha Pannu

Director

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

c: Neil Blinco

The following schedules are a part of this environmental compliance approval:

# SCHEDULE 1

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Environmental Compliance Approval Application for Industrial Sewage Works uploaded and certified by Neil Blinco, of ITECH PRECISION GROUP INC., dated July 24, 2020, and all supporting documentation and information.

## SCHEDULE 2

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The following Items form Schedule 2 of the Approval:

### FORM 1

#### NOTICE OF INTENDED LOCATION

##### FORM 1: NOTICE OF INTENDED LOCATION

**Name of Owner/Operator:**

**Address of Owner/Operator:**

**Name of Contact person(s):**

**Telephone number(s) of Contact Person(s):**

**Environmental Compliance Approval Number & Date of Issuance:**

**Proposed Location of Mobile Groundwater Treatment Unit:** (street address and municipality or lot and concession number)

**Land use in the immediate vicinity of the Site:**

**Identify the Source of Contamination:**

**Listing of Parameters Present and Concentrations:**

**Date of Commencement of Operation:**

**Estimated Duration of Operation:**

Will additional public consultation in compliance with S. 28(1) of the *Environmental Bill of Rights* be conducted within **five (5) days** prior to the commencement of operation of the Works?

Must attach a **Scaled Site Plan** indicating the location of the equipment relative to all on-site structures, all property lines, drainage ditches, wells and surface water courses and the discharge location of the Works.



## SCHEDULE 3

### Effluent Limits Tables

**Table 1 - Effluent Limits**

Column 1	Column 2
<b>Effluent Parameters</b>	<b>Effluent Concentration</b> (micrograms per litre unless otherwise indicated)
<b>Petroleum Hydrocarbons</b>	
Benzene	5
Ethylbenzene	2.4
Methyl Ethyl Ketone	400
Toluene	0.8
Total Petroleum Hydrocarbons (Light) (F1+F2)	900
Total Petroleum Hydrocarbons (Heavy) (F3+F4)	1000
m&p-Xylene	32
o-Xylene	40
Total Xylene	72

Effluent Limits in general based on Provincial Water Quality Objectives, Ontario Drinking Water Standards and/or Full Depth Generic Site Condition Standards in a Potable Ground Water Condition (Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA).

**Table 2 - Effluent Limits**

Column 1	Column 2
<b>Effluent Parameters</b>	<b>Effluent Concentration</b> (micrograms per litre unless otherwise indicated)
<b>Poly-Aromatic Hydrocarbons</b>	
Acenaphthene	4.1

Acenaphthylene	1
Benzo(a)pyrene	0.01
Naphthalene	7
Phenanthrene	0.03
Effluent Limits in general based on Provincial Water Quality Objectives, Ontario Drinking Water Standards and/or Full Depth Generic Site Condition Standards in a Potable Ground Water Condition (Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA.	

**Table 3 - Effluent Limits**

Column 1	Column 2
Effluent Parameters	Effluent Concentration (micrograms per litre unless otherwise indicated)
<b>Chlorinated Solvents</b>	
1,1-Dichloroethane	5
1,2-Dichloroethane	5
1,1-Dichloroethylene	1.6
1,2-Dichloroethylene [cis + trans]	1.6
Methylene Chloride	50
2, 3 Dichlorophenol	0.2
2, 4 Dichlorophenol	0.2
2, 5 Dichlorophenol	0.2
2, 6 Dichlorophenol	0.2
3, 4 Dichlorophenol	0.2
3, 5 Dichlorophenol	0.2
1,1,1,2-Tetrachloroethane	1.1
1,1,2,2-Tetrachloroethane	1
Tetrachloroethylene	1.6



1,1,1-Trichloroethane	10
1,2 Dichloropropane	0.7
1,3-Dichloropropene	0.5
1,1,2-Trichloroethane	4.7
Trichloroethylene	1.6
Carbon Tetrachloride	0.79
Styrene	10

Effluent Limits in general based on Provincial Water Quality Objectives, Ontario Drinking Water Standards and/or Full Depth Generic Site Condition Standards in a Potable Ground Water Condition (Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA).

**Table 4 - Effluent Limits**

Column 1	Column 2
<b>Effluent Parameters</b>	<b>Effluent Concentration</b> (milligrams per litre unless otherwise indicated)
<b>Other</b>	
Total Suspended Solids	25
Polychlorinated Biphenyls (PCB) (Total PCBs)	0.003
Lead	See condition 9.2

Effluent Limits in general based on Provincial Water Quality Objectives, Ontario Drinking Water Standards and/or Full Depth Generic Site Condition Standards in a Potable Ground Water Condition (Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA).

**Table 5a - Effluent Limits**

Column 1	Column 2
<b>Effluent Parameters</b>	<b>Effluent Concentration</b> (micrograms per litre unless otherwise indicated)
<b>Metals</b>	

Aluminum	<p>*At pH 4.5 to 5.5 the limit is 15 micrograms per litre based on inorganic monomeric aluminum measured in clay-free samples.</p> <p>*At pH &gt;5.5 to 6.5, no condition should be permitted which would increase the acid soluble inorganic aluminum concentration in clay-free samples to more than 10 percent (%) above natural background concentrations for waters representative of that geological area of the Province that are unaffected by man-made inputs.</p> <p>*At pH &gt;6.5 to 9.0, the limit is 75 micrograms per litre based on total aluminum measured in clay-free samples.</p> <p>*If natural background aluminum concentrations in water bodies unaffected by man-made inputs are greater than the numerical Interim PWQO (above), no condition is permitted that would increase the aluminum concentration in clay-free samples by more than 10 percent (%) of the natural background level.</p>
Arsenic	5
Antimony	6

Effluent Limits in general based on Provincial Water Quality Objectives, Ontario Drinking Water Standards and/or Full Depth Generic Site Condition Standards in a Potable Ground Water Condition (Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA.

**Table 5b - Effluent Limits**

Column 1	Column 2
<b>Effluent Parameters</b>	<b>Effluent Concentration</b> (micrograms per litre unless otherwise indicated)
<b>Metals</b>	
Barium	1,000
Beryllium	11 (If Hardness is less than 75 milligrams per litre) 1100 (If Hardness is greater than 75 milligrams per litre)
Boron (total)	200
Cadmium	0.1 (If Hardness is less than 100 milligrams per litre) 0.5 (If Hardness is greater than 100 milligrams per litre)
Chloride	640,000 (short term) 120,000 (long term)

Chromium 3	8.9
Chromium 6	1
Cobalt	0.9
Copper	1
Iron	300
Manganese	50
Mercury	0.2
Methyl Mercury	0.15
Molybdenum	40
Nickel	25
Selenium	10
Silver	0.1
Thallium	0.3
Tungsten	30
Uranium	5
Vanadium	6
Zinc	30

Effluent Limits in general based on Provincial Water Quality Objectives, Ontario Drinking Water Standards and/or Full Depth Generic Site Condition Standards in a Potable Ground Water Condition (Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA.

**Table 6 - Effluent Limits**

Column 1	Column 2
Effluent Parameters	Effluent Concentration (micrograms per litre unless otherwise indicated)
<b>Others</b>	
Acetone	2700

Chloroform	2.4
Dibromochloromethane	25
Dichlorodifluoromethane	590
Ethylene Dibromide	0.2
Fluorene	0.2
Hexane	51
Methyl Isobutyl Ketone	640
Phenol	1
Nonyl phenol	1
Vinyl Chloride	0.5
Trichlorofluoromethane	150
Fluoride	1.5 milligrams per litre
Cyanide	0.2 milligrams per litre
Nitrate as Nitrogen	10 milligrams per litre
Nitrite as Nitrogen	1 milligrams per litre
Effluent Limits in general based on Provincial Water Quality Objectives, Ontario Drinking Water Standards and/or Full Depth Generic Site Condition Standards in a Potable Ground Water Condition (Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA).	

**Table 7a - Effluent Limits**

Column 1	Column 2
<b>Effluent Parameters</b>	<b>Effluent Concentration</b> (micrograms per litre unless otherwise indicated)
<b>Volatile Organic Compounds</b>	
Bromodichloromethane	16
Bromoform	25
Bromomethane	0.89

Chlorobenzene	15
Chloromethane	700
1,2-Dichlorobenzene	2.5
1,3-Dichlorobenzene	2.5
1,4-Dichlorobenzene	1
3,3'-Dichlorobenzidine	0.6
1,2-Dichloropropane	0.7
Methyl-tert-butyl-ether (MTBE)	15
Trans-1,3-Dichloropropylene	7
1,2,4-Trichlorobenzene	0.5
Diethylhexylphthalate [Bis(2-ethylhexyl)phthalate]	0.6
Dibutylphthalate [Di-n-butyl phthalate]	4
1-Methylnaphthalene	2
2,4,5-Trichlorophenol	5
2,4,6-Trichlorophenol	2
2,4-Dimethylphenol	10
2,4-Dinitrophenol	10
2,4-Dinitrotoluene	4
2,6-Dinitrotoluene	5
2-Chlorophenol	8.9
2-Methylnaphthalene	2
3,3'-Dichlorobenzidine	0.5
Anthracene	0.01
Benz[a]anthracene	0.01
Benzo[b]fluoranthene	0.1
Benzo[g,h,i]perylene	0.01

Benzo[k]fluoranthene	0.01
Biphenyl	0.2
Dioxin / Furan (TEQ)	0.000015
Effluent Limits in general based on Provincial Water Quality Objectives, Ontario Drinking Water Standards and/or Full Depth Generic Site Condition Standards in a Potable Ground Water Condition (Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA).	

**Table 7b - Effluent Limits**

Column 1	Column 2
Effluent Parameters	Effluent Concentration (micrograms per litre unless otherwise indicated)
<b>Volatile Organic Compounds</b>	
Bis(2-chloroethyl)ether	5
Bis(2-chloroisopropyl)ether	120
Chrysene	0.01
Dibenz(a,h)anthracene	0.01
Diethyl Phthalate	0.2
Dimethylphthalate	0.2
Fluoranthene	0.01
Indeno(1,2,3-cd)pyrene	0.2
p-Chloroaniline	10
Pentachlorophenol	0.5
Pyrene	4.1
Methylnaphthalene, 2-(1-)	2
1,4-Dioxane	20
Nitrobenzene	0.02

Effluent Limits in general based on Provincial Water Quality Objectives, Ontario Drinking Water Standards and/or Full Depth Generic Site Condition Standards in a Potable Ground Water Condition (Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA).

**Table 8 - Effluent Limits**

Column 1	Column 2
<b>Effluent Parameters</b>	<b>Effluent Concentration</b> (micrograms per litre unless otherwise indicated)
<b>Others</b>	
DDD	0.003
DDE	0.003
DDT	0.003
Endosulfan	0.003
Aldrin	0.002
Chlordane	0.06
Dieldrin	0.002
Endrin	0.005
Heptachlor	0.002
Heptachlor Epoxide	0.002
Hexachlorobenzene	0.0065
Hexachlorobutadiene	0.009
Hexachloroethane	1
Methoxychlor	0.04
Lindane	0.01

Effluent Limits in general based on Provincial Water Quality Objectives, Ontario Drinking Water Standards and/or Full Depth Generic Site Condition Standards in a Potable Ground Water Condition (Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA).

**Table 9a - Effluent Limits**

Column 1	Column 2
	<b>Effluent Concentration</b>

<b>Effluent Parameters</b>	(becquerels per litre unless otherwise indicated)
<b>Radionuclides</b>	
Radionuclides (grouped):	<p>If two or more radionuclides affecting the same organ or tissue are found to be present, the following relationship based on ICRP Publication 26 should be satisfied:</p> <p><b><math>(c_1 / C_1) + (c_2 / C_2) + \dots + (c_i / C_i)</math> is less than or equal to 1</b></p> <p>where <b>c1, c2</b> and <b>ci</b> are the observed concentrations and <b>C1, C2</b> and <b>Ci</b> are the maximum acceptable concentrations for each contributing radionuclide.</p>
Cesium	50.0
Iodine	10.0
Radium	1.0
Strontium	10.0
Tritium	7000.0
Beryllium-7	4000
Bismuth -210	70
Lead-210	0.1
Polonium-210	0.2
Radium-224	2.0
Radium-226	0.6
Radium-228	0.5
Thorium-228	2.0
Thorium-230	0.4
Thorium-232	0.1
Thorium-234	20.0
Uranium-234	4.0
Uranium-235	4.0
Uranium-238	4.0
Americium-241	0.2



Antimony-122	50.0
Antimony-124	40.0
Antimony-125	100.0

Effluent Limits in general based on Provincial Water Quality Objectives, Ontario Drinking Water Standards and/or Full Depth Generic Site Condition Standards in a Potable Ground Water Condition (Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA.

**Table 9b - Effluent Limits**

Column 1	Column 2
Effluent Parameters	Effluent Concentration (becquerels per litre unless otherwise indicated)
<b>Radionuclides</b>	
Barium-140	40.0
Bromine-82	300.0
Calcium-45	200.0
Calcium-47	60.0
Carbon-14	200.0
Cerium-141	100.0
Cerium-144	20.0
Cesium-131	2000.0
Cesium-134	7.0
Cesium-136	50.0
Cesium-137	10.0
Chromium-51	3000.0
Cobalt-57	40.0
Cobalt-58	20.0
Cobalt-60	2.0
Gallium-67	500.0

Gold-198	90.0
Indium-111	400.0
Iodine-125	10.0
Iodine-129	1.0
Iodine-131	6.0
Iron-55	300.0
Iron-59	40.0
Manganese-54	200.0
Mercury-197	400.0
Mercury-203	80.0
Molybdenum-99	70.0
Neptunium-239	100.0
Niobium-95	200.0
Phosphorus-32	50.0
Plutonium-238	0.3
Plutonium-239	0.2
Plutonium-240	0.2

Effluent Limits in general based on Provincial Water Quality Objectives, Ontario Drinking Water Standards and/or Full Depth Generic Site Condition Standards in a Potable Ground Water Condition (Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA.

**Table 9c - Effluent Limits**

Column 1	Column 2
<b>Effluent Parameters</b>	<b>Effluent Concentration</b> (becquerels per litre unless otherwise indicated)
<b>Radionuclides</b>	
Plutonium-241	10.0
Rhodium-105	300.0

Rubidium-81	3000.0
Rubidium-86	50.0
Ruthenium-103	100.0
Ruthenium-106	10.0
Selenium-75	70.0
Silver-108m	70.0
Silver-110m	50.0
Silver-111	70.0
Sodium-22	50.0
Strontium-85	300.0
Strontium-89	40.0
Strontium-90	5.0
Sulphur-35	500.0
Technetium-99	200.0
Technetium-99m	7000.0
Tellurium-129m	40.0
Tellurium-131m	40.0
Tellurium-132	40.0
Thallium-201	2000.0
Tritium	7000.0
Ytterbium-169	100.0
Yttrium-90	30.0
Yttrium-91	30.0
Zinc-65	40.0
Zirconium-95	100.0

Effluent Limits in general based on Provincial Water Quality Objectives, Ontario Drinking Water Standards and/or Full Depth Generic Site Condition Standards in a Potable Ground Water Condition (Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA.

## SCHEDULE 4

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### Effluent Monitoring Table

**TABLE 11 - Monitoring Requirements**

Sampling Port (Location #1): sampling port at the system inlet.

Sampling Port (Location #2): effluent discharged from the Work.

Where more than one mobile treatment unit is deployed sampling ports shall be established at the same locations as above with samples measuring average values of the parameters coming out of the different train combinations; provided internal controls are established to detect when break through occurs in any vessel.

<b>FREQUENCY</b>	Location # 1: Once a day for the first week of operation then once a week thereafter. Location #2: in accordance with <b>condition 10.(3)</b>
<b>SAMPLE TYPE</b>	Grab
<b>PARAMETERS</b>	All parameters identified pursuant to <b>condition 6.(1) (a)</b>