

# APPENDIX



## ENVIRONMENTAL PROTECTION PLAN (EPP)





PROJECT NO.: 211-06686-00

# ENVIRONMENTAL PROTECTION PLAN PEATLAND NO. 6 PROJECT

FEBRUARY 2022









# ENVIRONMENTAL PROTECTION PLAN PEATLAND NO. 6 PROJECT THERIAULT & HACHEY PEAT MOSS LTD.

FINAL VERSION

PROJECT NO.: 211-06686-00  
DATE: FEBRUARY 2022

WSP CANADA INC.  
1135 LEBOURGNEUF BOULEVARD  
QUÉBEC, QUEBEC G2K 0M5  
CANADA

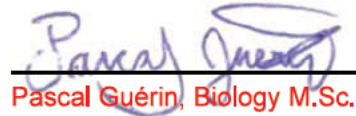
TELEPHONE: +1-418-623-2254  
FAX: +1-418-624-1857  
WSP.COM



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# SIGNATURES

PREPARED BY

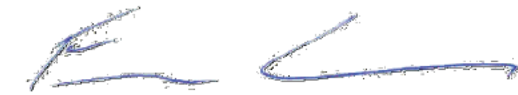


Pascal Guérin, Biology M.Sc.  
Environment Specialist

2022-02-15

Date

REVIEWED BY



François Quinty, Geography M.Sc.  
Project Director

2022-02-15

Date



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# PRODUCTION TEAM

## THERIAULT & HACHEY PEAT MOSS LTD

Vice-President Sales & Logistics	Jody Williston
Vice President Operations	Matthew Theriault
Advisor	Andreas Avenriep

## WSP CANADA INC. (WSP)

Project Director	François Quinty
Biologist	Pascal Guérin
Geomatic	Emmanuel Rémillard Jean-Marc Tremblay
Editing	Cathia Gamache

### *Reference to be cited:*

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WSP, 2022. *PEATLAND NO. 6 DEVELOPMENT PROJECT. PEATLAND DEVELOPMENT ENVIRONMENTAL PROTECTION PLAN (EPP)*. REPORT PREPARED FOR THERIAULT & HACHEY PEAT MOSS LTD. 27 PAGES AND APPENDIX.





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# 1 INTRODUCTION

Theriault & Hachey Peat Moss Ltd. (hereinafter “Theriault & Hachey”) was awarded the Peat Exploration Licence 2021-1 for Peatland No. 6 (PEL 2021-01) and is in the process of obtaining a Peat Lease to develop the peatland for peat harvesting. That project will allow Theriault & Hachey to replace and rebuild its own production capacity and have a better control over its supply. The peat will solely be used for the production of value-added horticultural growing mix products.

Peatland No. 6 is located on Crown land 20 km southeast of Miramichi and it covers 301 ha including 206 ha with over 1 m of peat depth. An area of 176 ha will be developed over a 9-year period using standard peat harvesting methods. The life expectancy of the operation is estimated to be 50 years. Theriault & Hachey will comply with all applicable regulations including the Peat Mining Policy that states that peatlands must be reclaimed or restored at cessation of harvesting activities to re-establish their natural functions and services.

This Environmental Protection Plan (EPP) has been prepared in accordance with Appendix 3 of the *Additional Information Requirements for Peat Development Projects* (Department of Environment and Local Government, 2022a), which is a supplement to *A Guide to Environmental Impact Assessment in New Brunswick* (Department of Environment and Local Government, 2022b) as required by subsection 5 (2) of the Environmental Impact Assessment Regulation (N.B. Reg. 87-83).

The EPP includes Contingency Plans for use by managerial personnel who have decision-making responsibility related to the environment (production manager, site engineer, environmental inspectors/monitors, environmental emergency responses team). The Plan provides guidance and protocol for fuel spills and fire events.



# 2 MITIGATION AND PROTECTION MEASURES FOR CONSTRUCTION AND OPERATION ACTIVITIES

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## 2.1 PROTECTION MEASURES FOR WILDLIFE

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### 2.1.1 MIGRATORY BIRD REGULATION AND FISH AND WILDLIFE ACT

The Site Manager must inform all people who will be performing work on site:

- That under Section 6 of the Migratory Birds Convention Act (MBR), no person shall disturb, destroy or take a nest or egg of a migratory bird, or be in possession of a live migratory bird, or its carcass, skin, nest or egg.
- That under Section 5.1 of the Migratory Bird Convention Act : 1) no person or vessel shall deposit a substance that is harmful to migratory birds, or permit such a substance to be deposited in waters or an area frequented by migratory birds or in a place from which the substance may enter such waters or such an area, and 2) no person or vessel shall deposit a substance or permit a substance to be deposited in any place if the substance, in combination with one or more substances, results in a substance — in waters or an area frequented by migratory birds or in a place from which it may enter such waters or such an area — that is harmful to migratory birds.
- If nests containing eggs or young of migratory birds are located or discovered during operations, all disruptive activities in the nesting area should be halted until nesting is completed. Any nest found should be protected with a buffer zone determined by a setback distance appropriate to the species, the intensity of disturbance and the surrounding habitat until the young have naturally and permanently left the vicinity of the nest.

### 2.1.2 CONSTRUCTION SCHEDULE TO PREVENT WILDLIFE DISTURBANCE

The Site Manager must schedule major construction activities in order to avoid all activities involving vegetation clearing between mid-April and late August to avoid the breeding period for numerous bird species of C3 Region<sup>1</sup>.

The following is a summary of planned construction activities:

- Culvert installation on watercourses: June 1<sup>st</sup> - September 30.
- Vegetation clearing (for field or road construction): throughout the year, except between mid-April and late August.
- Bog road construction: throughout the year, except for vegetation clearing.
- Ditch and sedimentation pond construction: throughout the year except for the spring freshet, but excluding vegetation clearing.

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<sup>1</sup> [https://www.canada.ca/fr/environnement-changement-climatique/services/prevention-effets-nefastes-oiseaux-migrateurs/periodes-generales-nidification.html#\\_04](https://www.canada.ca/fr/environnement-changement-climatique/services/prevention-effets-nefastes-oiseaux-migrateurs/periodes-generales-nidification.html#_04). Accessed on January 27, 2022.

- Peat field preparation: throughout the year, except for vegetation clearing.
- Harvesting (conditions permitting): spring-summer-early fall.

Peat field development will be performed annually as proposed in the development plan (Map 1) throughout the development period that should extend over 9 years after the onset of the project. All activities involving vegetation clearing will typically be performed between August and mid-April inclusively. If activities involving vegetation clearing must be performed outside that period, that is during the breeding period, a nest survey will be performed by an ornithologist, or other qualified professionals, in order to identify any active nests that may exist in the work area. Occupied nests will be marked and protected by a buffer zone determined by a setback distance appropriate to the species, until the end of work or nesting period. Nests found in the targeted work area will be monitored on a regular basis for activity.

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## 2.2 SEQUENCING OF CONSTRUCTION ACTIVITIES

The development of Peatland No. 6 comprises several components that will be constructed according to the following schedule split into five main activities:

### 1 Access Road

The construction of the 4.1 km access road starting from Weldfield-Collette Road and leading toward Peatland No. 6 will combine upgrading of existing forest roads over 2.56 km and construction of new road sections over 1.51 km.

### 2 Service Area

The service area will cover approximately 4 ha that will be located southwest of the peatland (Figure 2-1). It will link the access road to bog roads. The construction of the service area includes:

- Water well
- Water reservoir
- Septic tank
- Trailer for office and employee facility
- Repair and maintenance garage
- Generator
- Fuel tank
- Equipment parking
- Employee parking
- Peat storage area

### 3 Drainage network

The construction of ditches and sedimentation basins will proceed all along the 9 years of development process. It comprises main (collector) and secondary ditches, sedimentation ponds, and diffuse overland flow discharge outlets.

#### 4 Construction of bog roads

The construction of bog roads will proceed all along the 9 years of development process. Bog roads will link harvest areas to the service area. Outside the peatland, these roads will be built on mineral foundation. Within the peatland on organic soil, a base layer of non-commercial timber or woody debris collected during site preparation will be used for the bog roads.

#### 5 Preparation of peat fields and stockpiling areas

The preparation of peat fields and stockpiling areas will proceed all along the 9 years of development process. Peat fields preparation consists in tree removal, shredding of the surface vegetation and dome-shaped contouring of peat fields to facilitate drainage.

No facilities for peat processing or administrative activities will be constructed at Peatland No. 6. Harvested peat will be transported by truck to the Theriault & Hachey Baie-Sainte-Anne facility for processing.

The construction phase is scheduled to begin in 2022 and extend until 2031. Approximately 20 ha will be developed each year.

Environment Canada recommends avoiding vegetation clearing and other construction activities between mid-April and the end of August to avoid the breeding period for numerous bird species. As far as possible, Theriault & Hachey will avoid this period to conduct field opening and infrastructure construction.

Clearing and grubbing operations for peat field development, construction of access road and excavation for the drainage network will take place between late August and mid-April.

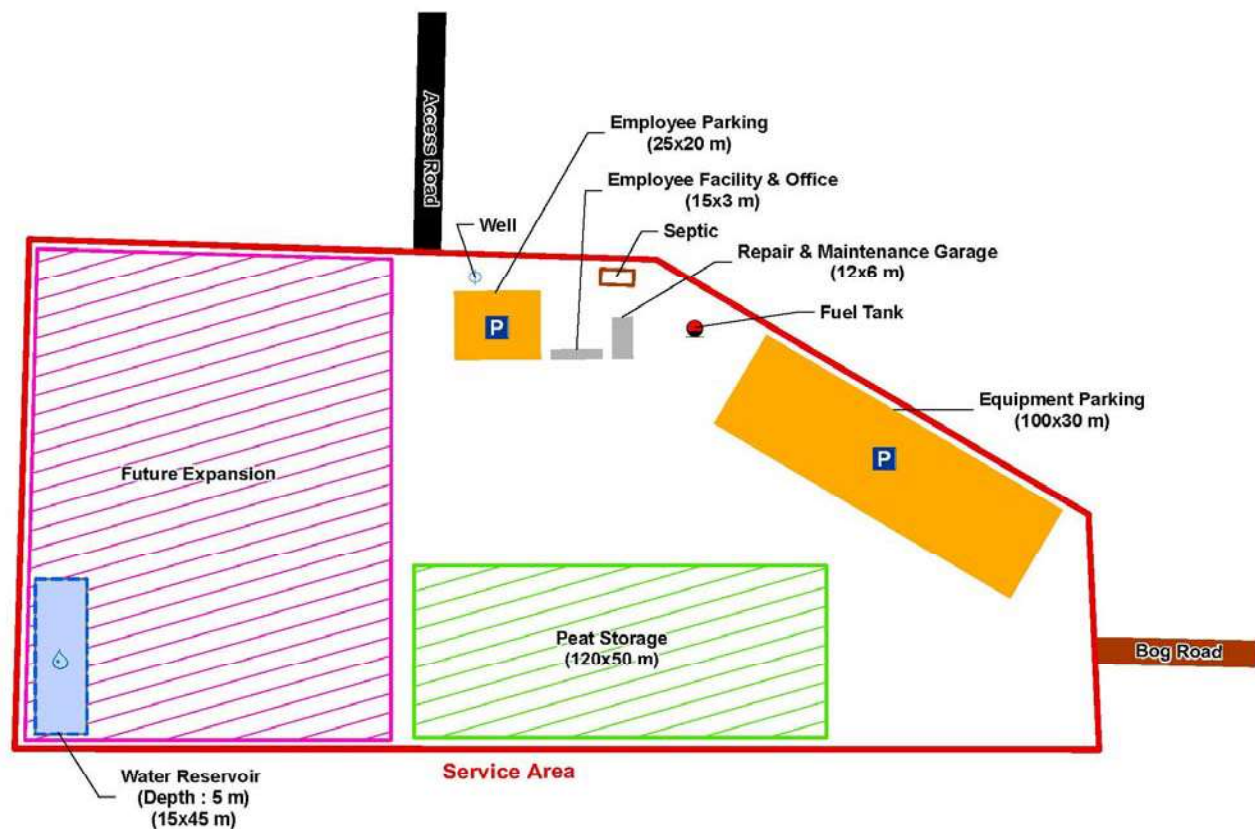


Figure 2-1 Preliminary Layout of the Service Area

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## 2.3 EROSION CONTROL MECHANISMS AND SURFACE WATER MANAGEMENT

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### 2.3.1 GENERAL MEASURES

Industry-standard best management practices and standard operating procedures for erosion control will be applied during construction activities, including ditching, grubbing, access road construction, and culvert installation.

Theriault & Hachey will apply generic erosion and sedimentation control measures included in the *Guidelines for Roads and Watercourse Crossing* (Natural Resources, 2004) where appropriate, at the discretion of the Site Manager.

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### 2.3.2 SCHEDULING TO AVOID SEASONAL CONSTRAINTS

Theriault & Hachey will schedule construction activities to avoid seasonal constraints such as periods of heavy precipitation when possible. Snowmelt/spring freshet runoff is presumed to occur from late March through late April. The maximum extreme daily rainfall at Miramichi A weather station was recorded in July; the lowest extreme daily rainfall was recorded in June and December. Theriault & Hachey will plan annual construction activities (particularly ditching) for the February-May period if possible, except for the spring freshet period. Initial clearing, grubbing, excavation and road construction are planned for winter.

Annual shutdown and stabilization of the work site will be performed in advance of the winter season, generally during the month of December.

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### 2.3.3 TEMPORARY SURFACE WATER DRAINAGE

Theriault & Hachey elaborated a development plan that minimizes watercourse crossing. If necessary, installation of diversion ditches, diversion berms, or similar measures will be included in the construction specifications to ensure that surface water is diverted around areas where grubbing and excavation activities are taking place.

Silt fencing will be installed on the downgradient side of active work zones that are likely to generate silt, or where soil will be exposed close to a watercourse, at the discretion of the Site Manager. However, there is little topographic variation within the project study area and there is no deep excavation work planned except for the digging of the sedimentation pond. So there are few probabilities that silt fences need to be used except inside of sedimentation ponds.

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### 2.3.4 PERIMETER CONTROL STRUCTURES

Most construction work will occur in areas where surface runoff is collected by the drainage network. All drainage water will flow through sedimentation ponds to remove suspended sediments. These ponds will be constructed prior to ditching and will receive runoff water during main and secondary ditch construction.



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### 2.3.5 SOIL STABILIZATION

All construction activities will take place in peatland area and no mineral soil is expected to be exposed and subject to erosion.

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### 2.3.6 CONSTRUCTION AND MAINTENANCE OF SEDIMENT CONTROL STRUCTURES

Three groups of sedimentation ponds will be constructed progressively on the area of the peat bog that will be developed. The size and the location of those ponds are presented on Map 1, in Table 2-1 and on Figure 2-2. These ponds will be constructed before the digging of the main and secondary drainage ditches of the new developed bog area. A geotextile barrier will be added inside the pond to avoid floating debris from getting out of the pond. The outlet will be stabilized if needed by adding concrete blocks, riprap, wooden structure or geotextile and rockfill.

All sedimentation ponds will be inspected during and following heavy rainfall events, and daily during periods of prolonged rainfall. Any deterioration due to major storm events will be rectified as soon as possible to the satisfaction of the Site Manager. During the operational phase, each sedimentation pond will be cleaned 1) in spring time, before the beginning of the harvest season, and 2) in the middle of the harvesting season. They will also be inspected and cleaned at the end of the harvesting season if necessary.

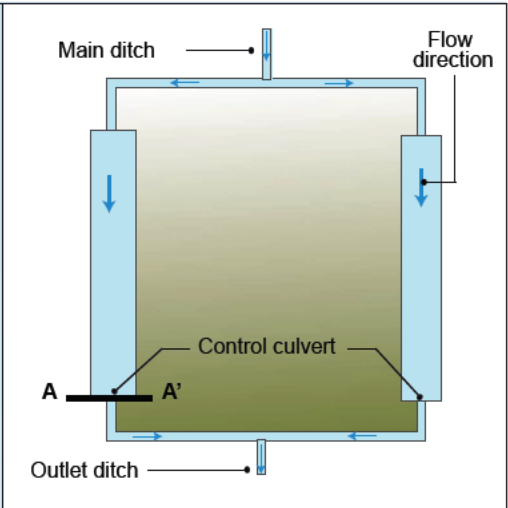
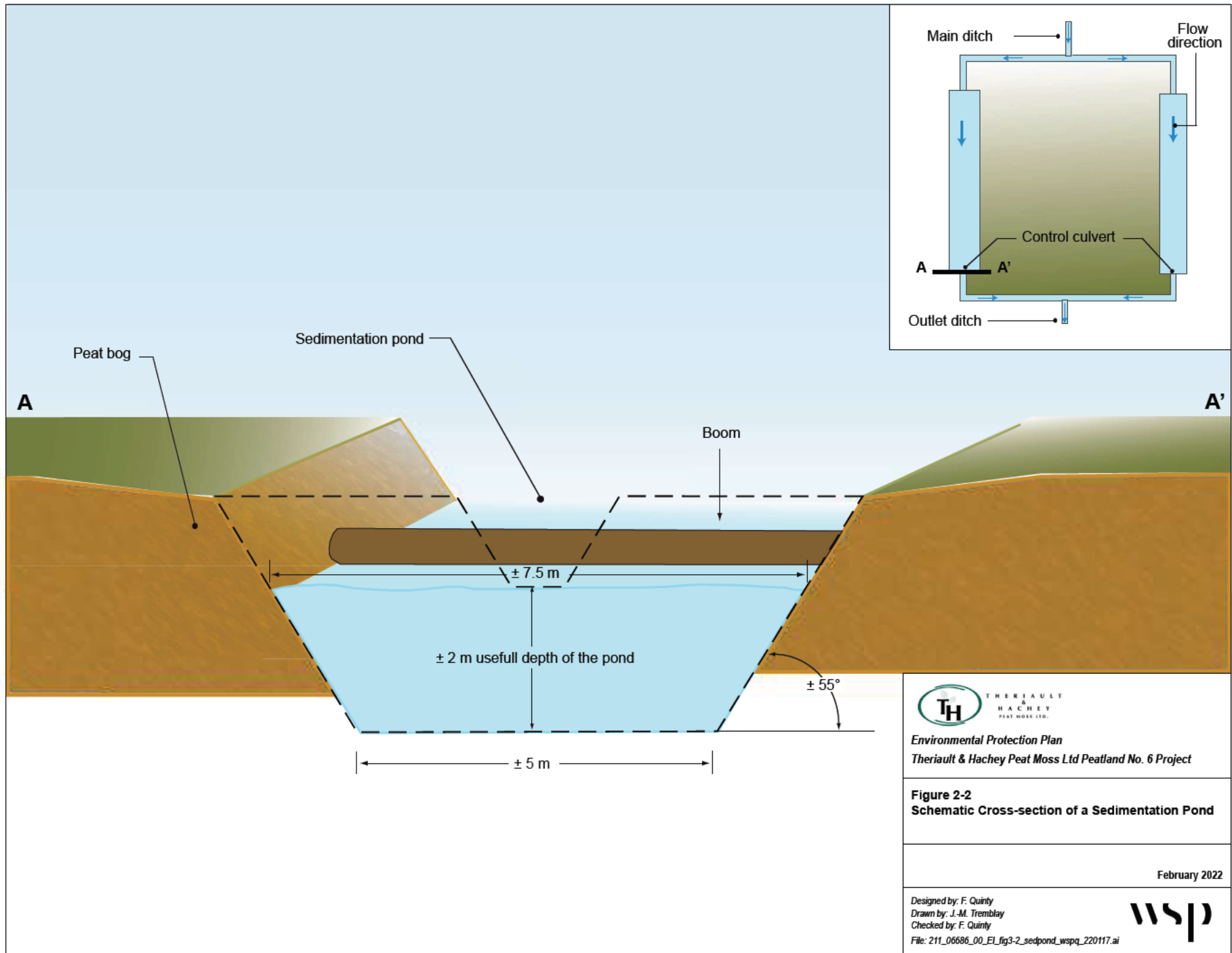
**Table 2-1 Sedimentation Ponds Specification for Each Drainage Subnetwork**

DRAINAGE SUBNETWORK Sedimentation Pond No.	HARVEST AREA	DRAINED AREA (ha)	EFFECTIVE REQUIRED RETENTION VOLUME (m <sup>3</sup> )	ACTUAL POND VOLUME - ADJUSTED 20% (m <sup>3</sup> )	THEORETICAL LENGTH IF 1 POND (m)	ADJUSTED POND LENGTH ACCORDING TO THE NUMBER OF PONDS (m)	NUMBER OF PONDS REQUIRED (-)	POND WIDTH (m)	POND LENGTH (m)	LENGTH/ WIDTH RATIO (-)
1	1, 2 and 9	61.5	1,538	1,845	123	62	2	7.5	62	8.2
2	7 and 8	44	1,100	1,320	88	88	1	7.5	88	11.7
3	3, 4, 5 and 6	71	1,775	2,130	142	71	2	7.5	71	9.5

The amount of sediments accumulated in sedimentation pond No. 3 located upstream of watercourses will also be verified at time of water sampling for water quality monitoring, approximately every two weeks or after a significant windy or rainy event. Cleaning will be done if required and a structural inspection will be performed.

Sediments are removed as required using an excavator or a sludge pump and are piled at a minimal distance of 5 m from the ponds. Piles are protected or moved to a safe place when climatic conditions present a risk for these sediments to be transported in the drainage system.

Main ditches are inspected in spring time and repaired or cleaned if needed. They are cleaned at least once in the harvesting season or more when required. The secondary ditches are cleaned in spring time, in fall and if needed such as after strong wind events.




**THERIAULT & HACHEY**  
 PEAT MOSS LTD.  
 Environmental Protection Plan  
 Theriault & Hachey Peat Moss Ltd Peatland No. 6 Project

**Figure 2-2**  
**Schematic Cross-section of a Sedimentation Pond**

February 2022

Designed by: F. Quinty  
 Drawn by: J.-M. Tremblay  
 Checked by: F. Quinty  
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### 2.3.7 WATER QUALITY, MONITORING PROGRAM AND STANDARD OPERATIONAL PROCEDURES REGARDING WATER QUALITY INCIDENT

All on-site drainage water will be directed through ditches toward sedimentation ponds that will discharge water as diffuse overland flow. Theriault & Hachey will collect water samples from the outlet of sedimentation ponds on a regular basis or after a significant windy or rainy event for analysis of total suspended solids (TSS). In addition, the water quality of the ponds and watercourses located in or near Peatland No. 6 will be monitored visually to ensure there is no peat sediment entering into them whenever a construction or operational activity will take place close to them.

In case visual inspection or water sample analysis TSS results exceed 25 mg/L or show the presence of peat particles accumulating in waterbodies, immediate investigation will be conducted by the Site Manager to identify the cause of the problem and implement appropriate solutions. For example, if the cause is a “dirty” sedimentation pond, the pond will be cleaned. If the erosion problem happens at a specific location, erosion control measures will be put in place such as soil stabilization (if applicable), geotextile, rock fill, etc. If a water quality issue occurs in the surrounding waterbodies or watercourses, the Site Manager must notify the DELG at once. In such case, Theriault & Hachey will put in place additional protection measures to avoid the reiteration of the situation. If the incident involves chemical or petroleum products, the Site Manager should follow the spill protocol included in the present document.

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### 2.3.8 BUFFER ZONES

Conservation areas and buffer zones will be preserved within Peatland No. 6. A total of 125 ha will remain at their natural state. This includes zones protected by Theriault & Hachey and the Candidate Conservation Area (CCA) No. 0683, borrow areas, and areas that will not be developed at the margin of the bog. The CCA comprises a large peatland area around Rosaireville lake that will be protected by Theriault & Hachey even if the CCA does receive its conservation status.

Buffer zones (undisturbed peatland) of 30 m will be left untouched between the outflow of the sedimentation basins and the watercourses downstream. Where existing, a treed buffer zones of at least 50 m wide will be left around the harvested area. These treed buffer zones will limit wind erosion and contribute to trap airborne peat particles.

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## 2.4 CLEARING AND GRUBBING

Residual material from clearing and grubbing will be used as fill for road construction or maintenance within the site. No burning is anticipated. Surface vegetation mainly composed of moss, forbs and small shrubs will be chipped and mixed with the underlying peat to be harvested later.

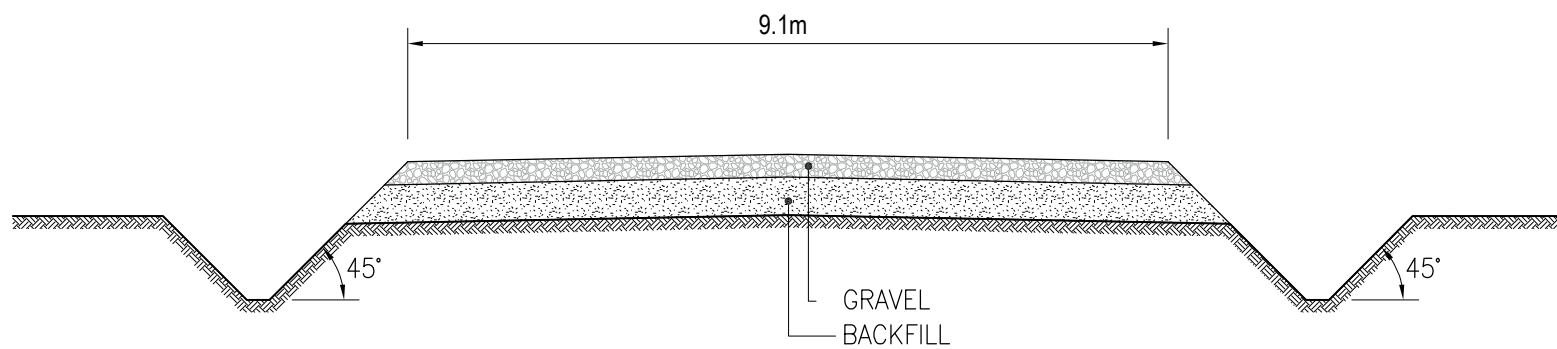
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## 2.5 BOG ROADS

All road construction in the bog must comply with the typical road layout exposed in Figure 2-3. Small culverts may be installed over main and secondary ditches where access roads will cross them. These will be installed using standard peat industry best management practices.

No watercourse crossing is expected within the lease limit as no watercourse is present.

An access road will be constructed between Welfield-Collette Road and the service area in compliance with the *Guidelines for Roads and Watercourse Crossings* (Natural Resources, 2004). It will be located entirely on Crown land. The access road will be constructed at first and will be subject to a Watercourse and Wetland Alteration Permit.



**Environmental Protection Plan**  
**Theriault & Hachey Peat Moss Ltd Peatland No. 6 Project**

**Figure 2-3**  
**Access Road Cross-section**

February 2022

Designed by: F. Quinty  
 Drawn by: J.-M. Tremblay  
 Checked by: F. Quinty  
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## 2.6 STOCKPILING OF PEAT

In the peat harvest area, the bog roads will be widened to allow temporary stockpiling of the harvested peat before it is transferred to the service area. The bog roads and bordering stockpiling areas will be made of woody material removed during field preparation. No mineral material will be used.

Peat piles that are expected to be kept on the field for a longer period, especially after October 31, will be covered to prevent rewetting and peat being blown away by the wind if no natural crust forms at their surface.

Peat stockpiles located at the end of peat fields will be oriented as much as possible in the axis of dominant winds that are SW-NE for most of the peat harvesting season to minimize peat being blown away.

Temperature of peat piles is also monitored to avoid heating and quality loss, as well as for fire prevention.

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## 2.7 AIRBORNE EMISSION CONTROL MEASURES

Theriault & Hachey will apply the following measures to limit airborne particle emissions:

- The Site Manager must ensure compliance with the protocol that obliges operators to shut down the PTO of tractors when harvester is full or when driving to the storage area or to the stockpile.
  - The Site Manager must order that peat piles that stay on the field be covered after October 31 to prevent peat being blown away by the wind if no natural crust has formed at their surface.
  - The Site Manager must ensure that the 15 km speed limit is complied with in the service area to limit dust emission.
  - If the wind gusts to more than 45 km/h, vacuum harvesting and harrowing should be suspended until the speed of wind drops below 35 km/h.
  - If the wind speed is 50 km/h or higher, all peatland operations (vacuum harvesting, harrowing, loading and transport) should be suspended until the speed of wind drops below 35 km/h.
- 

## 2.8 MITIGATION MEASURES TO REDUCE GHG EMISSIONS

The Site Manager should ensure that the following measures are complied with or applied in order to reduce GHG emissions:

- Machinery operators are required to minimize vehicles idling time as much as possible.
- Plant manager should ensure that adequate maintenance of mechanical equipment is performed.
- If possible, peat fields should be reclaimed within 3 years after the cessation of harvesting activities.

The Site Manager must also adhere to all new protocols and procedures that Theriault & Hachey may develop to reduce its energy consumption in its daily operation, and therefore, its GHG emissions.

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## 2.9 ARTIFACTS DISCOVERY AND PROTECTION PROTOCOL

Any worker who discovers an archaeological object, paleontological object, burial object or human remains should notify the Site Manager at once, who shall report the discovery to the Archaeological Services (1-506-453-3115) as soon as possible, stating the nature, location (GPS) and date of the discovery and also provide pictures of the discovery and its surroundings. In the case that peat is present, the organic material should also be preserved with the archaeological resource.

All work in progress within a perimeter of 15 m around the location of the discovery must stop at once until further instructions from the Minister. The Site Manager may extend the protection perimeter depending on the importance of the discovery.

If there is to be ground disturbance within 80 m of a watercourse/waterbody and 100 m of a confluence, the Site Manager must notify the operators of the archaeological potential of that area and remind them of the Protocol for accidental discovery of archaeological resources.

# 3 STORAGE, HANDLING AND TRANSFER OF FUELS AND OTHER HAZARDOUS MATERIAL

The service area is the only place within the project footprint that will be used for fuel storage and refueling. Diesel fuel will be stored in a 9,090 L dual wall steel aboveground storage tank (AST) located in a dedicated section of the service area (Figure 2-1), which will comply with CAN/ULC S601 standards. It will be installed near the equipment storage area, on a 20 cm thick concrete platform surrounded by 15 cm posts spaced every 60 cm. A portable double walled diesel fuel tank with a capacity of 2,420 L will also be on site. This tank will be equipped with an electric pump with a capacity of 90 L/min. Gasoline will be stored in 20 L portable containers and placed in a designated area, which will be chosen to create the least possible impact on the local environment.

Installation, operation and maintenance of AST will follow the *Environmental Code of Practice for Aboveground Storage Tank Systems Containing Petroleum Products* of the Canadian Council of the Ministers of the Environment (CCME, 2015). Other petroleum products will be stored in a designated area, as described above. The storage area will meet local, provincial and federal standards and the DELG. The current development plan includes no other storage of fuel within the proposed project limits.

Theriault & Hachey shall submit an application for site approval to New Brunswick DELG, as required under the New Brunswick *Petroleum Product Handling and Storage Regulation* for tanks with a capacity of 2,000 L or more. In that case, upon receipt of the site licence, Theriault & Hachey will apply for an Environmental Approval for the design/construction phase of the project. Upon receipt of the Environmental Approval, Theriault & Hachey will notify the New Brunswick DELG Regional Office Inspector of the installation, and arrange for an inspection date.

Theriault & Hachey will follow the New Brunswick *Construction Standards for Installation and Removal of Petroleum Storage Systems* for installation of petroleum storage tanks. All work related to the installation will be supervised by a licensed petroleum tank installer. The tank installed will be manufactured and installed in accordance with applicable CSA/ULC standards.

Waste oil collection systems and storage systems for lubricants and other products used in vehicle and equipment maintenance will comply with CSA/ULC standards where applicable.

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## 3.1 APPLICABLE LOCAL, PROVINCIAL AND FEDERAL REQUIREMENTS

### **Federal Statutes:**

- Transportation of Dangerous Goods Act, 1992 (1992, c. 34)

### **New Brunswick Statutes:**

- Clean Environment Act (S.N.B., chap. C-6)
- Clean Air Act (S.N.B., chap. C-5.2)
- Transportation of Dangerous Goods Act (S.N.B. chap. 232)

**New Brunswick Regulations:**

- Petroleum Product Storage and Handling Regulation - Clean Environment Act (NB Reg. 87-97, O.C. 87-646)
- Used Oil Regulation - Clean Environment Act (N.B. Reg. 2002-19, O.C. 2002-95)
- Designated Materials Regulation - Clean Environment Act (N.B. Reg. 2008-54, O.C. 2008-180)
- Air Quality Regulation - Clean Air Act (N.B. Reg. 97-133, O.C. 97-923)  
Specific provisions regarding sulfur content of fuel, maximum permissible ground level concentrations, prohibitions respecting volatile compounds, and prohibitions respecting gasoline.

**CSA/ULC standards for tanks:**

- Aboveground tanks:
  - ULC-S601-14 Standard for Shop Fabricated Steel Aboveground Horizontal Tanks for Flammable and Combustible Liquids
  - ULC-S602 Standard for Aboveground Steel Tanks for Fuel Oil and Lubricating Oil
  - ULC-S653 Standard for Aboveground Steel Contained Tank Assemblies for Flammable and Combustible Liquids
  - ULC-S655-15-REV1 Protected Aboveground Tank Assemblies for Flammable and Combustible Liquids
  - ULC-S653:2016-REV1 Aboveground Steel Contained Tank Assemblies for Flammable and Combustible Liquids
- Overfill protection devices:
  - ULC 2583:2021 Standard for Fuel Tank Accessories for Flammable and Combustible Liquids
  - ULC-S663 Standard for Spill Containment Devices for Flammable and Combustible Liquid Aboveground Storage Tanks
- Leak detection equipment:
  - CAN/ULC-S675.1-14-REV2 Standard for Volumetric Leak Detection Devices for Underground and Aboveground Storage Tanks for Flammable and Combustible Liquids
  - CAN/ULC-S675.2-14-REV2 (Standard for Nonvolumetric Precision Leak Detection Devices for Underground and Aboveground Storage Tanks and Piping for Flammable and Combustible Liquids)

**ULC Standards for Waste Oil Collection Systems and Storage Systems for Lubricants and Other Products:**

- ULC-S652:2016-REV1 Standard for Tank Assemblies for the Collection, Storage and Removal of Used Oil
- ULC/ORD-C1275 Storage Cabinets for Flammable Liquid Containers
- ULC 2152:2021 Special Purpose Nonmetallic Containers and Tanks for Specific Combustible or Noncombustible Liquids

**Other:**

- National Fire Code
- Canadian Sphagnum Peat Moss Association Basic Firefighting Guidelines (Appendix A)
- NB DNR Fire Equipment Requirement on Peat Bog Operations



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### **3.1.1 STANDARD OPERATING PROCEDURES FOR PETROLEUM STORAGE AND HANDLING**

With the exception of vehicle and machinery, fuel tanks or vehicles transporting petroleum products, liquid petroleum products shall be prohibited within 10 m of any watercourse or water body (pond, drainage channel, stream, river).

Multiple containers placed together totaling more than 50 L shall be considered as exceeding 50 L (see directives below).

Any container that contains petroleum or petroleum residue must be equipped with a leak-proof cover or cap. The container must be sealed at all times when not in use. This measure shall also apply to empty containers, and containers to be disposed of in leak-proof waste or recycling bins.

#### **Quantities of 50 L or less**

- Quantities of 50 L or less of petroleum must be kept in a dedicated petroleum storage container.
- Containers must not be placed directly on exposed soil or other natural surfaces. Containers must be placed on a flat surface covered by a tarp or other impermeable material. Containers should be placed at the edges of work areas, or out of the way of vehicles or machinery.
- Containers must be stored overnight in a locked vehicle or shelter.
- Personnel responsible for petroleum must have a spill kit available in the area (within 10 minutes or less).
- Empty disposable or recyclable containers must be collected and placed in a large leak-proof container. These wastes must be removed from the site within a reasonable time period.

#### **Quantities greater than 50 L**

- Any fixed or mobile storage tank, or shelter designed to contain quantities of petroleum exceeding 50 L, must not be located within 30 m of any seasonal or permanent watercourse or water body (pond, lake, stream, river).
- Any 205 L drum must be placed on a pallet on a level surface covered by a tarp or other impermeable material.
- Any shelter for petroleum storage must be equipped with an impermeable floor covering.
- Quantities of hydrocarbons greater than 205 L must be stored in a fixed or mobile tank rather than a drum.
- Containers must not be placed directly on exposed soil or other natural surfaces. Containers must be placed on a flat surface covered by a tarp or other impermeable material.
- Containers should be placed at the edges of work areas, or out of the way of vehicles or machinery.
- Containers (including drums) must be stored overnight in a locked vehicle or shelter.
- Personnel responsible for petroleum must have a spill kit available in the area (within 10 minutes or less).

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### **3.1.2 STANDARD OPERATING PROCEDURES FOR VEHICLE AND EQUIPMENT FUELLING**

It is prohibited to fill the fuel tank of a vehicle, construction equipment or power tools within 25 m of any seasonal or permanent watercourse or water body (pond, lake, stream, river).

A tarp or another impermeable material at least 2 m x 2 m in size must be placed on the ground beneath any tank opening (including vehicle fuel tanks) or container when transferring petroleum by pumping or pouring.

Personnel responsible for petroleum must have a spill kit available in the area (within 10 minutes or less).

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### ***3.1.3 STANDARD OPERATING PROCEDURES FOR DISPOSAL OF FILTERS, ABSORBENT MATERIALS, AND OTHER MATERIALS IN CONTACT WITH HYDROCARBONS***

Any material that has come in contact with petroleum, including filters, absorbent materials, rags and paper towels, must be placed in a waste can or bin intended solely for this purpose, and not in a regular garbage container. The waste bin for petroleum-contaminated materials must be lined with a clear plastic bag at least 6 µm in thickness, which must be sealed to render it leak-proof when the waste is collected.

# 4 CONTINGENCY PLANS

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## 4.1 EMERGENCY TELEPHONE NUMBERS

### **Theriault & Hachey Peat Moss Ltd.:**

Mathieu Thériault, Vice-President Operations

Theriault & Hachey Peat Moss Ltd.

Phone: 506-228-4530

Cell: 506-625-1486

Fax: 506-228-4974

[matt@thpeat.com](mailto:matt@thpeat.com)

### **9-1-1:**

For all human health and safety emergencies. May also serve as coordinator for other agencies required to respond to environmental emergencies.

### **Royal Canadian Mounted Police (RCMP):**

General Emergency: 9-1-1

Rogerville Detachment: 506-775-0026

### **Local Police:**

None present in the municipalities involved.

### **Fire Services:**

Dial 9-1-1 (calls dispatched to local fire departments).

### **New Brunswick Department of Environment and Local Government Environmental (Regional Office):**

Miramichi Region: 506-778-6686

### **CANUTEC (Transport Canada Emergency Centre):**

613-996-6666 or \*666 (cellular)

Free 24-hour information service for questions related to chemical emergencies. Advance registration required. Collect calls accepted.

### **CHEMTREC (Chemical Product Transport Emergency Centre):**

1-703-741-5500 or 1-800-262-8200 (US)

Subscription fee-based 24-hour information service for questions related to chemical transportation emergencies. Advance registration required.

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## 4.2 FUEL SPILL OR LEAK PROTOCOL

Theriault & Hachey will adhere to Standard Operating Procedures for fuel storage and handling. If a spill or leak occurs, the fuel spill or leak protocol must be applied as soon as the spill is detected. **This protocol is applicable for fuel and other hazardous materials (e.g. lubricants, hydraulic oil, waste oil, anti-freeze).**

The spill or leak protocol should be available in a location readily accessible to workers on site. The **Site Manager** is responsible for applying the site cleanup and rehabilitation measures included in this protocol.

The priorities for protection (in order of decreasing importance) are:

- Assure human health and safety
- Reduce soil and water pollution risk
- Minimize the surface extent of the effect
- Minimize wildlife disturbance
- Minimize inconvenience to nearby operations during the cleanup

The main steps of the response plan include:

- Evaluate safety risks
- Control the leak
- Trigger the alert chain of command
- Check the extent of the spill
- Evaluate possible impacts and select a cleanup approach
- Contain the contaminant
- Site remediation
- Manage contaminated waste and materials according to applicable environmental and safety standards
- Complete an Environmental Incident Report

---

### 4.2.1 RESPONSE PLAN

In the event of a spill, the Site Manager will take immediate action to contain and absorb the material. A complete spill kit is to be kept on site at all times. The Site Manager will maintain a listing of emergency contact telephone numbers prominently displayed on a poster at the site.

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### 4.2.2 EVALUATE SAFETY RISKS

Anyone who becomes aware of a spill or leak must first evaluate the risk of explosion or fire due to volatile vapors, or other risks to human safety. If these risks are present, the only action is to evacuate the area and trigger the alert chain of command.

Appropriate safety equipment and training are also provided for workers. Theriault & Hachey adopted a safety policy and developed a complete Workplace Health and Safety Program in compliance WorkSafe NB requirements. Safety manuals are available at each workplace.

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#### **4.2.3 CONTROL THE SPILL**

Anyone who becomes aware of a spill or leak should try to stop and confine it immediately, if doing so does not pose a safety risk.

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#### **4.2.4 TRIGGER THE ALERT CHAIN OF COMMAND**

The Site Manager must be informed of any spill or leak immediately.

The Site Manager will inform the regulatory agencies that have responsibility for spills in accordance with applicable regulations. The DELG Miramichi Regional Office (506-778-6032) should be contacted for emergencies that are identified as being beyond the capabilities of the Environmental Emergency Response Team (EERT).

The Site Manager will assemble the EERT. He or she will choose the Site Incident Commander from among the individuals available onsite to deal with the spill or leak.

Minor drips and spills which can be easily contained and cleaned up with no potential to cause environmental damage do not need to be reported, but should be recorded. Any spills over 1 L should be reported without delay.

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#### **4.2.5 CHECK THE EXTENT OF THE SPILL**

The extent of the spill needs to be assessed and delineated by survey stakes, paint or other means, and notes taken for inclusion in the incident report.

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#### **4.2.6 EVALUATE POSSIBLE IMPACTS AND SELECT A CLEANUP APPROACH**

This step involves evaluating the possible impacts of various cleanup options and selecting an approach to be followed for the remainder of the cleanup.

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#### **4.2.7 CONTAIN THE CONTAMINANT**

The company has the authority to undertake necessary actions without delay. The goal is to prevent the spread of contamination beyond the initially impacted area. The urgency associated with spill response becomes greater if the spill is still moving, therefore it is critical to determine as quickly as possible whether the spill is contained or still moving. If it is contained, then plans for cleanup can be made. If it is still moving, the first priority is to take action to contain the spill. Spill containment methods vary depending on site conditions, topography, drainage, type of product spilled and the mobility of the product. Generally, land-based spills are first contained with trenches or bellholes, berms, natural barriers or absorbents (use the spill kits). Spills in water bodies may be contained with inverted weirs or booms of straw. Containment berms or booms should be placed at the boundaries of the contaminated zone to prevent the contamination from spreading.

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#### **4.2.8 SITE REMEDIATION**

Cleanup usually consists of vacuum trucks sucking up free fluids or use of absorbant material to contain, pickup and dispose of contaminated soils in a waterproof containers (drums, special metal bin for contaminated soil or product) until no contaminated material is left on site. In case there is no special bin available on site at the moment, put the contaminated material on wide tarpaulin made of thick and durable plastic and cover it with the same type of tarpaulin to avoid any leakage. The contaminated soils should be stockpiled on a stable surface at least 15 m from a watercourse for subsequent removal.

For spills that end up in a water body, special equipment such as booms, skimmers, pumps and boats may be required. In that case the Site Manager must request the intervention at once of an outside firm specialized in this kind of spill.

After the decontamination measures have been implemented, soils or water in place must be sampled to confirm there is no residual contamination on site. In case there is some left, proceed again with the appropriate decontamination measures and sample the contaminated site again.

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#### **4.2.9 MANAGE CONTAMINATED WASTE AND MATERIALS ACCORDING TO APPLICABLE ENVIRONMENTAL AND SAFETY STANDARDS**

In order to dispose of the contaminated soils, first contact licensed disposal/treatment facility to validate the type, and the number of analyses they demand to accept the contaminated material. Evaluate the volume of the contaminated material, proceed with the required analysis and dispose of the contaminated material. Ensure that manifesting, transportation, and disposal of contaminated materials is managed according to all applicable regulations.

---

#### **4.2.10 SUBMIT AN INCIDENT REPORT**

An incident report should be completed by the Site Manager and submitted to the Production Manager the day of the incident.

The Production Manager will submit an incident report (if required) to the DELG. Contents and timeframe for submission shall be in accordance with applicable regulations.

The report will include:

- A description of the source, including the name of the operating company
- The nature, extent, duration and environmental impact of the release
- A description of measures taken to contain the contaminant and manage contaminated waste
- The cause or suspected cause of the release

The Production Manager will also evaluate the risk of recurrence of a similar incident and change standard operating procedures as required to minimize the risk of future incidents of the same type.

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## 4.3 FIREFIGHTING PROCEDURES

Firefighting procedures are designed to ensure that all reasonable steps are taken to preserve life, environment and property from exposure to fire hazards. All employees must observe basic fire-prevention precautions. Employees will be made aware of the common fire hazards of the workplace upon initial employment, as well as anytime there is a change affecting this plan. The following requirements identify the basic elements of the fire prevention plan:

- Maintain communications with Site Manager, loader, tractor and office at all times.
- Peat dust, especially when inside a building, is generally very dry and therefore does not absorb water.
- A strong water flow only spreads the burning peat. The strong water flow accelerates the fire by bringing extra oxygen to the fire.
- The strong water flow could also increase the risk of a peat dust explosion.
- The water should feature as small droplets as possible, with reduced pressure.
- Use substances that reduce the surface tension of the water for fire extinguishment. Surfactants (e.g. wetting agents) can reduce the surface tension of water by a factor of 3 or more.

Firefighting equipment requirements are listed in Section 4.4. The firefighting equipment should be available at all times, and should be centrally located. Use of this equipment for other than firefighting is not permitted.

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### 4.3.1 PEAT BOG FIRE

During a fire occurring on a bog, employees must observe the following guidelines:

- Ask for immediate assistance in order to get sufficient staff to fight the fire.
  - Use all the people available, with pails, shovels, extinguishers, hoses, etc.
  - Immediately have all equipment brought to the fire scene, such as water wagons, tooth harrows, loaders, shovels, pails, etc.
  - Always have your back to the wind to fight the fire.
  - Get water onto the fire as soon as possible.
  - Dig deeply using the tooth harrow, bring wet peat to the surface around the fire. If the ground is dry and wet peat is deep, use profiler to bring wet peat to the surface.
  - Make sure the extinguishers and hoses are used properly not to disperse the flying embers. Adjust the spray so to obtain a fine mist instead of a more powerful spray.
  - Use water to soak the surface around the fire to avoid spreading the fire.
  - Bring in the loader to carefully deposit wet peat on the fire.
- 

### 4.3.2 PEAT PILE FIRE

Peat piles are or might be found in stockpiling areas and the service area. The following procedures, calling for “bringing wet peat to the surface and using it to prevent the spread of fire as well as to assist in extinguishing the fire”, are only applicable to fires in the bog.

- Make sure that no one opens the burning pile.

- Ask for immediate assistance in order to get sufficient staff to fight the fire.
  - Use all the people available, with pails, shovels, extinguishers, hoses, rakes, etc.
  - Immediately have all equipment brought to the fire scene, such as water wagons, tooth harrows, loaders, shovels, pails, etc.
  - Always have your back to the wind to fight the fire.
  - Get water onto the fire as soon as possible.
  - Dig deeply using the tooth harrow, bring wet peat to the surface around the fire. If the ground is dry and wet peat is deep, use profiler to bring wet peat to the surface.
  - Make sure the extinguishers and hoses are used properly not to disperse the flying embers. Adjust the spray so to obtain a fine mist instead of a more powerful spray.
  - Use water to soak the surface around the fire to avoid spreading the fire.
  - Slowly rake the peat in order to completely soak the pile.
  - On a calm and rainy day, use the loader to spread the pile while other members mist water on it.
  - On any other day, bring in the loader downwind to carefully deposit wet peat on the pile while other team members mist water on it.
  - Use the loader carefully, in order not to allow air entries into the pile.
  - Small embers and sparks are extinguished by picking up small quantities with the leather gloves on, then rubbing the hands together until the embers / sparks are extinguished.
- 

## 4.4 EQUIPMENT

The Site Manager shall provide an updated list of materiel available and its location to the Production Manager on a regular basis. The Production Manager is responsible for ensuring that the items and quantities listed below are available at all times (New Brunswick Natural Resources, 2006). During the operational phase, a designated storage location of the materiel should be added to this section of the EPP.

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### 4.4.1 SPILL KIT

The spill kit must be available on each active worksite, as well as all storage locations for fuels, lubricants, or bulk liquid products. The spill kit includes:

- A 205 L drum with a lid for storing the spill kit components (below), as well as for disposal of contaminated materials following a spill
- 100 quilted absorbent sheets (17" x 19" x 3/8")
- Two 2-cubic-foot bags of peat fiber treated to absorb petroleum products
- 20 absorbent booms (3" x 48")
- Bags of liquid absorbent granules (Sorb-All brand or equivalent)
- Bags of vermiculite
- 1 plastic basin for catching spills



- 2 m x 2 m tarpaulin (non-woven, 6 µm polyethylene vapor barrier)
  - Rolls of paper towels
  - A shovel, trowels, and mini-tool kit
  - Personal protective equipment (safety goggles, respirators, masks, nitrile gloves)
- 

#### **4.4.2 FIREFIGHTING EQUIPMENT**

The firefighting equipment should be available at all times, and should be centrally located. Use of this equipment for other than firefighting is not permitted.

- Water tank truck equipped with hoses (for dust control and firefighting)
  - Multiple ABC and BC type fire extinguishers (min. 10 pounds; number required varies with size of site)
  - Hoses (minimum 500 feet of 1½ inch hose)
  - Shovels (10)
  - Rakes (10)
  - Pails (20)
  - Water filled back-packs, with pumps (7)
  - Leather gloves (10 pairs)
  - Minimum, one (1) 500 gallon mobile tank, or two (2) 250 gallon mobile tanks with a pump for each unit having a minimum pressure of 50 pounds per square inch (psi)
  - A kit containing one (1) of each: spark plug for the pump, wrench, screwdriver, vise grip, pliers
  - Any communication equipment (radio or other) required to maintain communications between Site Manager, loader tractor and office
- 

#### **4.4.3 MECHANICAL EQUIPMENT**

- Gasoline or diesel-powered water pumps
  - 4 x 4 pickup trucks
  - Tracked excavator
  - Tractors
- 

#### **4.4.4 EROSION CONTROL MEASURES**

- Burlap sand bags
- Straw bales (covered / protected from the elements)

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#### **4.4.5 CONSTRUCTION MATERIALS**

The following materials intended for environmental emergency response should be stockpiled separately from other construction materials.

- Steel posts (T-section)
- Plastic snow fencing (in rolls)
- Survey stakes
- Empty drums

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#### **4.4.6 TOOLS AND HARDWARE**

- Shovels
- Rakes
- Sledgehammer
- Buckets
- Tarps
- Roll of plastic vapor barrier (6 µm polyethylene sheeting)
- Baling wire
- Wire cutters

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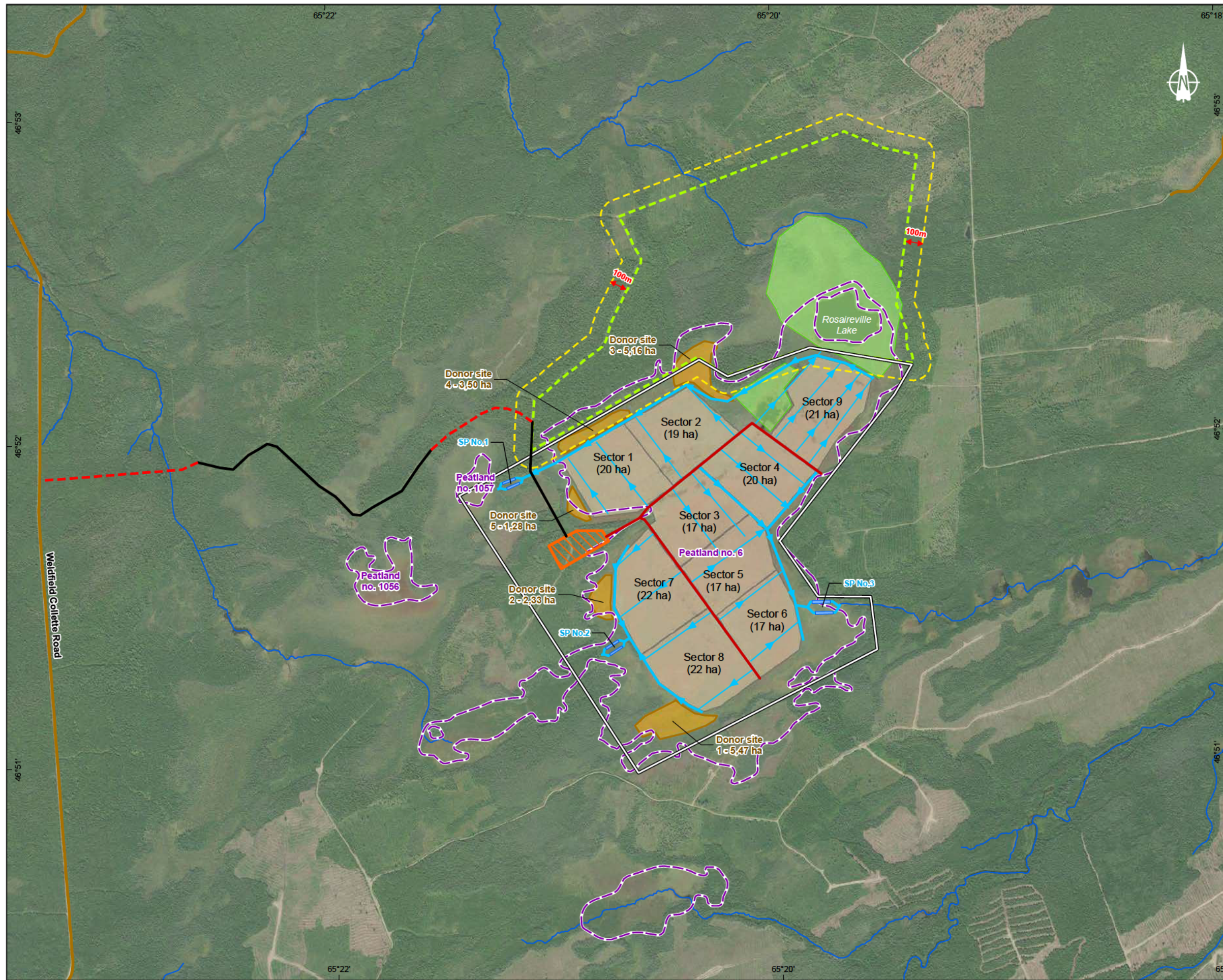
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**MAP**







- Project Layout**
- Lease Limit
  - Harvest Field
  - Service Area (4 ha)
  - Sedimentation Pond (SP)
  - Donor Site
  - Conservation Area (Theriault & Hachey)
  - Proposed Candidate Conservation Area (ID 0683) with 100 meter Buffer

- Road**
- Access Road To Be Constructed
  - Bog Road
  - Existing Access Road
  - Public Road

- Drainage**
- Main Ditch
  - Secondary Ditch

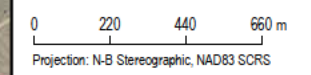
- Basemap**
- River
  - Peatland Boundary



**Environmental Protection Plan**  
 Theriault & Hachey Peat Moss Ltd Peatland No. 6 Project

**Map 1**  
**Development Plan**

**Sources:**  
 Basemap: SNB GeoNB, Data Extraction on December 7, 2020 ;  
 World Imagery, Maxar 2018



January 2022

Designed by: F. Quinty  
 Drawn by: J.-M. Tremblay  
 Checked by: F. Quinty  
 211\_06686\_00\_EPP\_c1\_devplan\_wspq\_220209.mxd









# APPENDIX

**A**

**FIRE PREVENTION  
GUIDELINES (CSPMA, 2006)**



# Fire Prevention Guidelines

*Developed by the members of the*  
Canadian Sphagnum Peat Moss Association  
(CSPMA)

November 2006

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Important information for local fire departments:

- **General information**
- **Plant area**
- **Buildings**
- **Bog area**
- **Fire department visits**
- **Other suggestions**

# CSPMA Fire Preventive Guidelines

## WHAT INFORMATION SHOULD BE PROVIDED TO LOCAL FIRE DEPARTMENTS?

The CSPMA recommends that peat producers plan a visit from their local fire department at least once a year and immediately following any major renovations. The production plant visit could occur anytime during the year but the tour of the bog should take place in the spring. During the tour, the following should be provided to the visiting official:

### 1. General

- Provide a list of contact people, their phone numbers and a hierarchy of the company so that there is no confusion as to who is in charge. (For the both the fire dept and the peat employees, and keep each other informed of changes to key personnel).
- Ensure that fire fighters are aware of any unique characteristics of a peat fire. For example,
  - Burning peat will float.
  - High-pressure sprays may worsen the situation. The flow of air that precedes a high-pressure water spray can sometime cause a small peat-dust fire to ignite rapidly; almost like an explosion.
- Do not perform any unusual housekeeping procedures prior to a fire department visit. Allow them to see your premises as they usually are. It could save you an expensive claim.
- Ensure that the fire department has keys or access codes to all areas of your property.
- Ensure that the fire department has easy-to-read instructions (large fonts on laminated paper) that they can carry with them to a fire that include sites maps, floor maps, bog layout, and access codes. (See #2, 3 and 4 below.)
- Ensure that the emergency call list is POSTED at each telephone in your company.
- Key employees should carry a short-list of emergency numbers (of others in the company and of the fire and police departments).
- Ensure that any changes in your plant facility or layout of buildings, yard, etc. are forwarded to fire department in a timely fashion.
- Ensure that management as well as the day and nighttimes personnel have all the information below on hand. (i.e. fertilizers, fire fighting equipment, etc.).

### 2. Plan area

- Site map that shows:
  - The plant layout, including access points to the plant or bog site. Make sure it includes where the fences are and where the best access is to each building (include any blocked off areas – either temporary or permanent).
  - The location of any water sources.
  - The location of hazardous or flammable material storage such as gasoline, propane, oxygen, acetylene, plastic bags, etc.
  - The location of any buildings that might have peat dust in them.
  - The location of the firefighting equipment.

- The location of propane tanks, natural gas buildings, electrical transformer and electrical panel.
- Higher risk areas such as conveyors and dusty areas.
- The location of fertilizers, including the names, types, and amounts.
- The location of fire fighting equipment, including the type and size (e.g. 10 or 20 pounds fire extinguisher).
- Each building should be labelled with large easy to read numbers.
  - These numbers could also be color-coded and universal. For example:
    - **Office** – number 1,
    - **Maintenance building** – number 2,
    - **Screening plant and baling area** – number 3, with the number painted in, for example, *orange*, which would indicate that firefighters should use special techniques when fighting fire in this building. Special techniques mean that when there is peat dust in a building, do not spray with high-pressure hoses – it tends to inflame the peat fire (apparently, the rush of air that is ahead of the high-pressure spray ignites the peat and spreads it further throughout the building). A low pressure near-drizzle usually works better on peat dust fires. This is a technique that the fire departments should practice during a fire drill/training exercise.
    - **Hazardous material**, number 4, with the number painted *red*.
    - Etc.

### 3. Floor Map of buildings

- Within each building there should be an indication of the following:
  - Access points to each building (including locks or areas with access codes).
  - Water sources.
  - Location of any hazardous or flammable material including gasoline, propane tanks, oxygen and acetylene, paint, empty bags, etc.
  - Location where there is a possibility of peat dust present.
  - Electrical panel.
  - The location of fertilizers, including the names, types, and amounts.
  - The location of fire fighting equipment, including the type and size (e.g. 10 or 20 pound fire extinguisher).

### 4. Bog area

- Make sure there is a map of the bog area that shows:
  - Bog layout including the field numbers (the number of each field should be easily recognized from a fast-moving fire truck).
  - Access points (including any blocked off areas – temporary or permanent).
  - Gates and fences (including any locked areas that need keys or access codes to gain access).
  - Water sources.
  - A list of fire fighting equipment the company has available on the bog.
  - How much weight the bog roads will carry (to give fire fighters confidence that their trucks won't get stuck).

## **HOW OFTEN SHOULD THE FIRE DEPARTMENT VISIT?**

- Fire departments should visit at least once a year. In regions where there are both fire departments and natural resources fire fighters, have each of them come. Natural resource fire fighters should come in the spring. Regular fire department personnel should come at the beginning of the production season and immediately following a major renovation or a change in personnel at the fire department.
- At least once every three years, fire department officials should be on site and do a walk around of the entire area when a fire drill is performed.

## **MISCELLANEOUS SUGGESTIONS**

- Fire department should be asked to help train employees in fighting certain types of fires.
- Prepare guidelines on how to fight a peat fire.
- Ask the Fire Chief for the hierarchy within the local fire department.
- Ask the Department of Natural Resources (where applicable) for the hierarchy within their fire-fighting department.
- Create a written plan showing who within your company is responsible during an emergency.
- If there is more than one fire department that could possibly respond to a fire alarm at your plant or bog, organize a meeting with all fire departments to determine who is in charge when more than one department responds to a fire.
- Encourage employees to be volunteer fire fighters.
- Cultivate relationships with the Chief and the fire prevention officer of your company.
- Ask your local government for assistance if you are having trouble scheduling a meeting with your local fire departments.
- Make a donation for fire fighting equipment.