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PCL Construction
49 Auriga Drive
Ottawa, Ontario
K2E 8A1

Attention: **Mr. David Wroblewski**

Subject: **Surface Barrier System – Operation & Maintenance Plan**
University of Ottawa Health Sciences Building
200 Lees Avenue
Ottawa, Ontario

Dear Sir,

Further to your request and authorization, Paterson Group (Paterson) has prepared the following operation and maintenance plan for a surface barrier system installed at the aforementioned site.

Background

The subject property is located on the south side of Lees Avenue, between the O-Train Confederation Line railway tracks and Ontario Highway No. 417, in the City of Ottawa, Ontario. The property was formerly occupied by three buildings and is currently being replaced with one single building.

The historical presence of a former landfill on the subject site as well as several industrial facilities in the area were considered to pose a potential risk to the environmental conditions of the subject property. As a result, numerous soil and groundwater investigations have been carried out over the years to assess any potential contamination resulting from activities associated with the aforementioned potentially contaminating activity.

The results of the investigation identified poor quality fill material beneath the subject sit, with a thickness ranging from approximately 4.5 m to 5.5 m. Since it was considered impractical to remove all of the waste, a HHERA was completed for the proposed redevelopment.

A risk mitigation measure of the HHERA was to provide 0.5 m of clean soil over a geotextile in softscaped areas of the site surface (outside of the proposed building footprint). This is referred to as the surface barrier cap, which will require on-going monitoring, and maintenance if required, as described below.

Surface Barrier Systems

Overview

The potential exposure risk to receptors by direct contact with, inhalation of, or ingestion of soil at the subject site can be effectively managed through ensuring a barrier is present to eliminate contact with the soil exposure pathways. These capping layers must be maintained as long as the contamination is present.

For the subject site, the surface barrier systems will consist of 0.5 m of either uncontaminated soil cover over a light duty geotextile (i.e. soil that meets either the MECP Table 3 Site Condition Standards (SCS) or the lowest of the human health or ecological health-based criteria), or a layer of asphalt (min. 75 mm asphalt, or as needed for supporting vehicular traffic), and/or concrete (min. 75 mm, or as needed for supporting vehicular traffic) underlain by 150 mm of clean, compacted granular base. The various capping methods are collectively referred to as “surface barrier” systems. Such capping layers will eliminate direct contact with impacted soil for both ecological receptors and human receptors. The surface barrier systems will also include the future building.

Capping Requirements

Fill Cap Barriers:

0.5 m of fill meeting MECP Table 3 SCS, or the lowest of the human health or ecological effects-based standards underlain by a suitable demarcation layer (i.e., a non-woven geotextile or similar layer for example a gravel anti-intrusion layer). The fill cap is overlain by topsoil or planting media as required to establish growth of plants/grasses, or other landscape or other landscape ornaments.

Hard Cap Barriers:

A minimum of 75 mm of asphalt, concrete (or equivalent, for example, landscape pavers, etc.) placed on top of a minimum of 150 mm of granular base installed over existing soil caps (to establish grade) installed over the impacted soils present at the site.

Post-Installation Monitoring Plan

A monitoring plan for the subject site must be put in place to ensure the RMMs related to the surface barrier systems are properly maintained. Monitoring is recommended to be conducted on a semi-annual (spring and late fall) basis. It shall consist of a thorough inspection of the measures, as noted below:

- Assessment of any visual evidence of disturbance to the RMMs such as through loss of hard capping layers or soil cover in landscaped areas;
- Inspection to detect and assess cracks in pavement or other hard surface treatments, as necessary; and
- Consideration of any unusual site conditions that may result in damage to the RMMs such as future site alterations or development on, or adjacent to, the property.
- The surface barrier systems must be maintained at the site, and if excavated or disturbed, the cap layers must be replaced.

Inspection and maintenance activities related to the surface barrier systems must be recorded in a logbook or similar electronic record. The records shall be completed by the property owner or their designated consultant/engineer. The records shall be kept as a permanent record and shall be available to the MECP or other agencies for their review, if requested.

The logbook or similar electronic record shall identify the following:

- The name of the person and/or firm designated to conduct the monitoring and maintenance activities;
- The signature of the person who conducted the monitoring activities;
- The date of the monitoring activities;
- Identification of any areas which require maintenance based on the criteria noted above (i.e. noting of any deficiencies in the capping observed during the inspection or any other time);
- The documentation of the repair forthwith of any such deficiencies and a complete description of the date of repair and nature of any repair activities required to maintain an RM measure; and

- ❑ The recording of inspections, deficiencies and repairs in a logbook maintained by or on behalf of the Owner and available for review by the MECP upon request.

We trust that this report satisfies your requirements.

Paterson Group Inc.

Nick Sullivan, B.Sc.

Mark D'Arcy, P.Eng., QP$_{ESA}$

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