

**DATE** 8 December 2016

**REFERENCE No.** 0914360032-698-TM-Rev0-6100

**TO** Ministry of Environment

**FROM** Ian Hers, PEng

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## **PERFORMANCE VERIFICATION PLAN**

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**Site ID:** 11788, 11789 and 11790

**Site Location:** 4111 Boundary Road, Richmond, BC

**Author:** Ian Hers

**Name of firm preparing the PVP:** Golder Associates Ltd.

**Site Type:** 2

### **Required Risk Controls:**

- a) A ventilation system capable of providing ten air exchanges per hour must be operational in the Maintenance Building, including the basement.

### **Required actions to implement the required risk controls:**

- a) The Maintenance Building heating ventilation and air conditioning (HVAC) system must be constructed as designed.
- b) The HVAC system must operate continuously as per current building code requirements.
- c) The HVAC system should be operated and maintained in accordance with the facility procedures.
- d) Changes to the HVAC system ventilation rate (air exchanges) must be reviewed by a contaminated sites Approved Professional.

### **Summary rationale for selecting required PVP elements:**

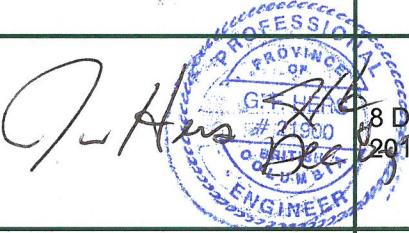
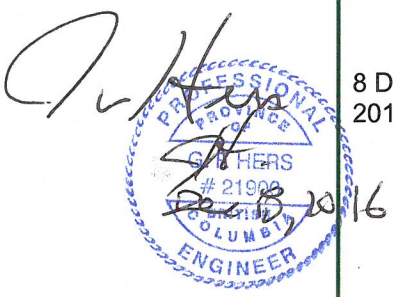
- a) Post remediation vapour data indicates vapour contamination is present within 30 metres of the Maintenance Building basement. The risk assessment for the site indicates that worker related exposure to this contamination can be effectively risk managed by the watertight concrete basement walls and the HVAC system that was part of the original building design.
- b) No immediate risk to worker health would result in improper operation or failure of the HVAC system; however, the system is required to mitigate potential long-term exposure effects.



- c) Ten air exchanges per hour provide adequate risk mitigation including a large factor of safety. Lower ventilation rates may also provide acceptable mitigation of vapour intrusion risk. If modifications to the HVAC system are desirable in the future, the new ventilation rates must be reviewed by an Approved Professional to ensure no unacceptable risks result from the modifications.

**Professional signatures:**

The opinions, advice and recommendations expressed in this performance verification plan have been made in accordance with generally accepted principles and practices as recognized by members of the applicable profession or discipline practising at the same time and in the same or similar locations.

PVP Component	Name of Approved or Qualified Professional	Signature of Approved or Qualified Professional	Date
Screening level risk assessment	N/A	-	-
Risk Assessment other than screening level risk assessment	N/A	-	-
Intrinsic risk control	Ian Hers, PEng (Qualified Professional)		8 December 2016
Engineering risk control	N/A	-	-
Institutional risk control Notification in Schedule B of the Certificate of Compliance of the following risk controls: a) Adequate ventilation of the Maintenance Building as provided by the HVAC system. b) An HVAC system operations and maintenance plan to ensure continued operation of the system as designed	For a) and b) Ian Hers, PEng (Qualified Professional)		8 December 2016

WB/IH/lmk