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May 21, 2015

Project 130323

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ATTENTION: John Driedger, P.Eng.
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REFERENCE: **Performance Verification Plan, City Management Area Adjacent to the Former Shell Service Station, 4000 Main Street, Vancouver, BC, Location Code: C01211**

The Environment & Water business unit of SNC-Lavalin Inc. (SNC-Lavalin) has prepared this Performance Verification Plan (PVP) in support of an application for a Certificate of Compliance (CofC) for the City Management Area, portions of Main Street and laneways adjacent to the former Shell service station, 4000 Main Street, Vancouver, BC, Location Code: C01211, BC Ministry of Environment (MoE) site ID # 0195 (herein referred to as the “MA”). The PVP presents the principal risk controls that apply at the MA to ensure the MA CofC remains valid (i.e., the key risk controls of Schedule B). The PVP was prepared in accordance with MoE Procedure 12: Procedures for preparing and issuing contaminated sites legal instruments (2013) and Administrative Guidance 14: Performance Verification Plans, Contingency Plans and Operations and Maintenance Plans (2014).

PRINCIPAL RISK CONTROLS

A Human Health and Ecological Risk Assessment (HHERA) was conducted for the MA, and the results are presented in the SNC-Lavalin report, *Human Health and Ecological Risk Assessment, Management Area Adjacent to Former Shell Service Station, 4000 Main Street, Vancouver, BC, Location Code: C01211*, prepared by SNC-Lavalin, dated May 21, 2015, (SNC-Lavalin, 2015a). The HHERA was prepared based on the findings and conclusions presented in the SNC-Lavalin report, *Updated Stage 1 Preliminary Site Investigation (PSI), Detailed Site Investigation (DSI) and Confirmation of Remediation, Management Area Adjacent to Former Shell Service Station, 4000 Main Street, Vancouver, BC, Location Code: C01211*, dated April 1, 2015 (SNC-Lavalin, 2015b).

The principal risk controls on which the SNC-Lavalin (2015a) risk assessment was based, as presented in Schedule B of the CofC, is as follows:

- Groundwater at the MA must not be used for drinking water; and
- A worker health and safety plan must be in place if trenches (excavations that are deeper than they are wide, > 1.5 m bgs suitable for human entry) are advanced at the City MA.



DETERMINATION OF PROCEDURE 12 REMEDIATION TYPE

Based on the principal risk controls for the MA (i.e., the use of institutional control to mitigate/eliminate risks at the MA and lack of imminent risks in the event that control was either not implanted or were rendered ineffective), the Remediation Type applicable at the MA is considered to be Type 2.

Under a Remediation Type 2 scenario, MoE (2013; 2014) indicates that a PVP is required, while an operations and maintenance plan may be required.

PERFORMANCE VERIFICATION PLAN

A PVP is required to ensure that the principal risk controls upon which the HHERA is based are being met at the MA.

This includes the maintenance of up-to-date records of performance verification actions and results for the MA being maintained by the responsible person (or their agents). If requested by the Director, the responsible person (or their agents) will provide these records to the MoE. As well, if requested by the Director, responsible person(s) will provide a signed statement on whether conditions set out in this Schedule B are being met.

Performance verification actions for the MA include the following:

- Communication with the owner/operator that groundwater at the MA must not be used for drinking water purposes. The MA is located in a commercial/residential developed area and drinking water to the surrounding area is currently supplied by a municipal water distribution system. Consequently, groundwater is not being used as a drinking water source. Given the developed nature of the surrounding area and the presence of an alternate drinking water supply, future use of groundwater at the MA as a drinking water supply is considered unlikely.

Based on the above, an advisory for the MA that groundwater must not be used for drinking water purposes is considered appropriate to meet this risk control. The listing of this risk control in Schedule B of the CofC meets this requirement.

- Communication with the MA owner/operator that a worker health and safety plan must be in place if trenches (excavations that are deeper than they are wide, > 1.5 m below ground surface [bgs] suitable for human entry) are advanced at the City MA. The worker health and safety plan will include measures to mitigate trench vapour inhalation exposures. It is unknown if trench work is required at the MA, and if any such work will be undertaken in the future.

Based on the above, an advisory for the MA that a worker health and safety plan must be developed and implemented in the event that trenches (as per the above definition) are advanced at the MA is considered appropriate to meet this risk control. The listing of this risk control in Schedule B of the CofC meets this requirement.

In summary, it is our opinion that the advisories in Schedule B of the CofC are sufficient for addressing the principal risk control at the MA.



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REFERENCES

- MoE. 2013. Procedure 12. Procedures for preparing and issuing contaminated sites legal instruments. BC Ministry of Environment, Victoria, BC, February, 2013.
- MoE. 2014. Administrative Guidance 14: Performance Verification Plans, Contingency Plans and Operations and Maintenance Plans. BC Ministry of Environment, Victoria, BC, February, 2014.
- SNC-Lavalin. 2015a. *Human Health and Ecological Risk Assessment, Management Area Adjacent to Former Shell Service Station, 4000 Main Street, Vancouver, BC, Location Code: C01211*, prepared by SNC-Lavalin Inc., dated May 21, 2015.
- SNC-Lavalin. 2015b. *Updated Stage 1 Preliminary Site Investigation (PSI), Detailed Site Investigation (DSI) and Confirmation of Remediation, Management Area Adjacent to Former Shell Service Station, 4000 Main Street, Vancouver, BC, Location Code: C01211*, prepared by SNC-Lavalin Inc., dated April 1, 2015.

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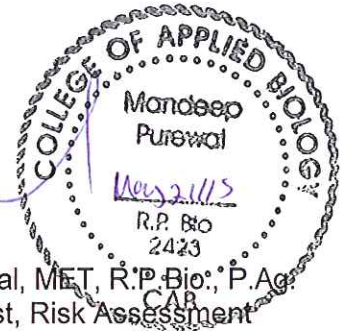
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