



SNC • LAVALIN

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November 28, 2014

Project 511134

Suncor Energy Products Partnership
P.O. Box 100, 1155 Glenayre Drive
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ATTENTION: Mr. Paul Gordon
Senior Advisor, Site Remediation

REFERENCE: **Performance Verification Plan for Certificate of Compliance at
1471 Quesnel-Hixon Road, Quesnel, BC**

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 a leased portion of 1471 Quesnel-Hixon Road, Quesnel, BC (*hereinafter referred to as the "Property"*). The PVP presents the risk controls that are to be undertaken at the Property, as presented in Schedule B of the CofC for the Property, for the CofC to remain valid (i.e., the principal risk controls listed in Schedule B which must be in place at the Property). 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). It is our opinion that an advisory on Schedule B of the CofC is sufficient to meet the requirements of the PVP for the Property, as further discussed below.



PRINCIPAL RISK CONTROLS

A human health and ecological risk assessment (HHERA) was conducted for the Property and the results were presented in the SNC-Lavalin¹ report, *Human Health and Ecological Risk Assessment, 1471 Quesnel-Hixon Road, Quesnel, BC* (SNC-Lavalin, 2014). The principal risk controls on which the risk assessment was based, as presented in Schedule B of the CofC, are as follows:

- Excavations that are wider than they are deep at the Property must be limited to depths of 7 m below ground surface (bgs), such that a minimum 1 m separation is maintained between impacts and the base of an excavation.
- Trenches (i.e., excavations that are deeper than 1.5 m bgs, deeper than they are wide and intended for human entry) advanced at the Property must not extend beyond a depth of 2 m bgs. In the event that trenches are advanced to depths > 2 m bgs and intended for human entry, a worker health and safety plan with provisions to prevent inhalation exposures must be developed.

DETERMINATION OF PROCEDURE 12 REMEDIATION TYPE

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

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

PERFORMANCE VERIFICATION PLAN

The PVP presents the principal risk controls for the Property.

Performance verification actions for the Property must include the following:

- Communication with the Property owner/operator that excavations that are wider than they are deep must be limited to a depth of 7 m bgs such that a 1 m separation is maintained between impacts and the base of the excavation. An advisory in the form of listing this as a condition in Schedule B of the CofC is considered sufficient to meet this principal risk control based on the following.

¹ SNC-Lavalin Inc., Environment Division (SLE), now known as the Environment & Water business unit of SNC-Lavalin Inc. (SNC-Lavalin).



The Property is currently vacant, is zoned light industrial and is located in a commercial/light industrial area in Quesnel, BC. Buildings in the area are primarily slab-on-grade, and there is no reason to believe that future buildings at the Property would include subsurface structures. Excavations to depths of greater than 7 m bgs would typically only be conducted during the construction of a large building with a two level basement/parkade, or during a large scale remediation project, neither of which are planned for the Property. In addition, utilities at the Property are limited to depths of ≤ 1.2 m bgs. Based on the above, it is considered improbable that excavations at the Property will be advanced to depths greater than 7 m bgs.

- Communication with the Property owner/operator that trenches (i.e., excavations that are deeper than 1.5 m bgs, deeper than they are wide and intended for human entry) advanced at the Property must not extend beyond a depth of 2 m bgs. In the event that trenches are advanced to depths > 2 m bgs and intended for human entry, a worker health and safety plan with provisions to prevent inhalation exposures must be developed.

An advisory in the form of listing this as a condition in Schedule B of the CofC is considered sufficient to meet this principal risk control based on the following.

If trenches are advanced at the Property, it is considered likely that they will be located within 2 m of ground surface based on future buildings at the Property being limited to slab-on-grade construction, as well as the general depth of utilities. This is considered a conservative depth as trenches would likely be shallower given that the only utility encountered during the excavation at the Property was a gas line at 1.2 m bgs. No other utilities, including utility main lines, are located at the Property, and service connections installed to service future buildings at the Property are unlikely to be installed beyond a depth of 2 m bgs.

In summary, listing the above risk controls in Schedule B of the CofC and communicating the risk controls with the Property owner/operator are sufficient to meet the requirement of the PVP for the Property.

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 Inc., (SNC-Lavalin), 2014. *Human Health and Ecological Risk Assessment, 1471 Quesnel-Hixon Road, Quesnel, BC*. November 2014.



NOTICE TO READER

This report has been prepared and the work referred to in this report have been undertaken by the Environment & Water business unit of SNC-Lavalin Inc. (SNC-Lavalin) for the exclusive use of Suncor Energy Products Partnership (SEPP), who has been party to the development of the scope of work and understands its limitations. The methodology, findings, conclusions and recommendations in this report are based solely upon the scope of work and subject to the time and budgetary considerations described in the proposal and/or contract pursuant to which this report was issued. Any use, reliance on, or decision made by a third party based on this report is the sole responsibility of such third party. SNC-Lavalin accepts no liability or responsibility for any damages that may be suffered or incurred by any third party as a result of the use of, reliance on, or any decision made based on this report. Should this report be submitted to the BC Ministry of Environment (MoE) by SEPP, the MoE is authorized to rely on the results in the report, subject to the limitations set out herein, for the sole purpose of determining whether SEPP has fulfilled its obligations with respect to meeting the regulatory requirements of the MoE.

The findings, conclusions and recommendations in this report (i) have been developed in a manner consistent with the level of skill normally exercised by professionals currently practicing under similar conditions in the area, and (ii) reflect SNC-Lavalin's best judgment based on information available at the time of preparation of this report. No other warranties, either expressed or implied, are made as to the professional services provided under the terms of our original contract and included in this report. The findings and conclusions contained in this report are valid only as of the date of this report and may be based, in part, upon information provided by others. If any of the information is inaccurate, new information is discovered, site conditions change or applicable standards are amended, modifications to this report may be necessary. The results of this assessment should in no way be construed as a warranty that the subject site is free from any and all contamination.

Any soil and rock descriptions in this report and associated logs have been made with the intent of providing general information on the subsurface conditions of the site. This information should not be used as geotechnical data for any purpose unless specifically addressed in the text of this report. Groundwater conditions described in this report refer only to those observed at the location and time of observation noted in the report.

This report must be read as a whole, as sections taken out of context may be misleading. If discrepancies occur between the preliminary (draft) and final version of this report, it is the final version that takes precedence. Nothing in this report is intended to constitute or provide a legal opinion.

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We trust this provides you with the information you currently require. If you have any questions, please contact the undersigned at your earliest convenience.

A handwritten signature in blue ink, appearing to read "Tara Siemens Kennedy". The signature is written in a cursive style and is enclosed within a blue circular stamp or seal.

Tara Siemens Kennedy, MET, PChem, CSAP
Senior Project Specialist, Environmental Toxicology
Environment & Water

SNC-LAVALIN INC.

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