



June 4, 2021

Attention First Nations Leaders,

Letter of Intent: Ground Penetrating Radar – Residential School Sites

We are all Treaty people and, given the recent discovery of the burial site at Kamloops, we see that we have a part to play in bringing forward answers.

To that end, SNC-Lavalin is offering without charge our expertise and assistance in Ground Penetrating Radar (GPR) technology to your community. This technology is an important way to identify other possible locations, and we would like to make it available to you and offer our support in the search to identify possible locations for burials.

Description of Ground Penetrating Radar Technology and Deliverables

- › GPR is used in searches of areas of ground to identify changes in the layers and distribution of soils and different types of soils. GPR is a non-destructive technique to explore the ground, it does not damage the ground or require excavations to provide a picture of the ground to several metres' depth. The radar travels from a transmitter in a survey unit and passed through different soil types and is reflected of changes in the soil, water boundaries or if it finds an obstruction, similar to conventional radar which reflects off objects while transmitting through the air.
- › The machine receives these reflections and measures the time from transmission to return. To gain greater knowledge of the ground different wavelengths or radar is used to explore deeper into the soil and to identify or clarify different types of buried materials (such as groundwater level or different material types).
- › The GPR unit can be walked across an area of ground in a grid, often on a sled or a trolley. Ideally, these surveys can be of focused areas identified through the knowledge of those who were at residential school or any records available. But the method allows relatively large areas to be surveyed in a day and in an 8-10 hour survey an area of 100m by 100m could be surveyed by a team.
- › The reflections gathered in the survey are then interpreted using computer software and by trained professionals, and from this we can identify changes in the ground or hard inclusions like pipes. GPR can identify areas of gravel and clays and how they vary with depth and across a site; it is also possible to identify anomalies at different depths. These anomalies may have many causes including excavations and filling for many ordinary purposes.
- › GPR is relied upon for engineering, archaeology and for identifying unmarked graves. GPR is very reliable at finding anomalies in the top 2m which is the depth range most likely to have excavated for a grave. The anomalies may provide a clue as to where to look with trained experts for forgotten or hidden graves. Many anomalies will likely be identified in an area where human occupation has occurred;



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through experience and knowledge, we will be able to identify the likely cause of some of these anomalies (in-filled drainage ditches, utilities, etc.). However, in search of large areas, it will reduce the number and extent of areas that will need to be examined by physical excavation. A physical investigation will be required to confirm what each anomaly is.

- › SNC-Lavalin will provide a report which will include plots of our findings and interpretation of what we can identify. Diagrams within the report will identify anomalies we identify and any clarification we can provide. All the data gathered provided to the Community (First Nation, band, or other officials) with all the digital data so that those who take up the next stage will have information to work with.

We are committed to help in the ongoing investigations where we can assist, although we may not be suited for the physical investigation, we may be able to provide other assistance and it is our intent to help where we can be beneficial. If after our study the Chief, Council, Elders, or other members of the community have questions or seek clarity, we can offer to help in explaining our findings. During the work, we can work with community members to do the survey and perhaps help community members who may have the desire and background skills learn how to do the field work and perhaps the interpretation.

We do not wish to raise unnecessary concerns with the ongoing investigations, we hope to offer to assist in answering questions that trouble members of your community and perhaps allow some degree of closure and peace for families and those who experienced the injustice of the residential school system. The use of GPR may provide one of the first steps in this long journey and allow later investigations to be focused on smaller areas identified by this method.

Our team in SNC-Lavalin are here and available for you. Please contact **Ruby Littlechild, National Director – Indigenous Relations** at ruby.littlechild@snclavalin.com or 587-334-8078. If you have any questions or wish to discuss this matter and/or additional details.

Best Regards,

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