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February 10, 2021
Project No.: 2155001

Miriam Padolsky, Ph.D.
Impact Assessment Agency of Canada
Place Bell; 160 Elgin Street
Ottawa, Ontario K1A 0H3

Dear Ms. Padolsky,

Re: External Technical Review of the Boat Harbour Remediation Project – Plain Language Summary

BGC Engineering Inc. is pleased to present this Plain Language Summary that briefly describes our findings associated with the External Technical Review of the Boat Harbour Remediation Project.

We trust that this Plain Language Summary meets your current needs. Please feel free to contact us if you would like to discuss any portion of the document herein.

PLAIN LANGUAGE SUMMARY

The goal of the Boat Harbour Remediation Project (the Project) is to remediate Boat Harbour, known as A'se'k in Mi'kmaq, and the lands associated with the existing Boat Harbour Effluent Treatment Facility to restore it to its natural tidal conditions. Waste to be removed as part of the Project's remediation is proposed to be stored on-site, in an existing storage cell that would be expanded. The Project is located near Pictou, Nova Scotia and the provincial government agency, Nova Scotia Lands Inc., is the Project's Proponent.

Objectives of the Review

As part of the Project's federal Environmental Assessment, the Impact Assessment Agency of Canada (the Agency) retained BGC Engineering Inc. (BGC) to provide an External Technical Review (the Review). The Review was conducted to fulfil two objectives, which are detailed in the full technical report, and summarized as:

- Review how Nova Scotia Lands Inc. selected the remediation approach for the waste.
- Assess if the designed approach would achieve the remediation goals of safely disposing of the waste.

How was the Review conducted?

The Review was based on information provided by the Agency, which included documents submitted to the Agency as part of the Project's Environmental Assessment submission and did

not include additional detailed studies nor research by BGC. The reviewed documents described how Nova Scotia Lands Inc. identified options to remediate the site, how the options were evaluated to select the preferred approach, and a description of the preferred approach, including how it would be designed, permitted and constructed.

What are the main results of the Review?

In general, BGC found that the remediation options assessment process presented within the reviewed documents was reasonable. The stepwise process involved identifying a wide range of remediation options, removing those that would not work for the site, and scoring the shorter list of workable options to identify the best approach.

However, Nova Scotia Lands Inc. did not show all the options considered and how some were eliminated from further consideration; therefore, BGC could not determine if all reasonable options were looked at to the same level of detail. In addition, the outcome of the selection process identified a waste management option with a score slightly higher than another (i.e., within 10%), of which the higher scored option (expansion of existing waste storage cell) was "selected". As this process was conducted at a high-level, BGC considers the scores to be similar and is of the opinion that carrying forward a "short list" of options to a more detailed assessment is needed to confirm the best approach for Project implementation.

The preferred approach identified by Nova Scotia Lands Inc. proposes to modify the existing onsite waste storage cell to accommodate the disposal of the dredged waste. However, the Project is proposing to store a significantly larger volume of waste in the cell compared to what the original cell was designed for (i.e., from 220,000 m^3 to greater than 1,000,000 m^3). Nova Scotia Lands Inc. proposes to place dredged waste as a slurry in permeable fabric containment tubing (called Geotubes®) to remove the water associated with the dredging and thus reducing the volume of stored waste.

BGC has identified several design assumptions and data gaps that have implications on the construction, stability and storage capacity of the proposed waste storage cell design:

- Potential for Insufficient Storage Capacity: should a larger volume of waste be dredged than anticipated and/or the method of waste storage (i.e., Geotubes®) not reduce the waste volume as much as assumed.
- Cell Stability: the stored waste may extend as high as 25 m above the base and assessment of the stability of side slopes, and the final cover system was not available for review.
- Construction: given the concerns described in the first two bullets above, BGC considers the construction of this design to be potentially challenging and the details of how it will be built were not available for review.

Based on the potential for insufficient storage capacity described above, and stability and construction details that were not available for review, BGC considers that other storage or disposal options, which were part of the options assessment process but not selected (i.e., additional on-site cell, off-site containment/disposal), may require reconsideration.

The remediation is expected to produce and treat over five million cubic meters (5,000,000 m^3) of water. An on-site water treatment plant is proposed, and the approach was tested at the site. However, this approach has not yet been confirmed to work at the volume of water to be treated; nor has it been shown that it can meet water quality guidelines (as these have not yet been selected). These factors should be assessed in more detail at the present stage of the project and confirmed once the detailed design and operation regulations have been developed. The actual responsible party for the design and operation of the treatment plant is not clear from the documents reviewed by BGC

Summary:

1. BGC considers the method and process used by Nova Scotia Lands Inc. to identify and select a remediation approach to be reasonable. However, we have offered comments with respect to the previous elimination of several options and the suggestion to reconsider those options.
2. BGC has identified several aspects of the storage cell design that would require further information and clarification prior to providing an assessment of the design's ability to achieve its intended outcome.

CLOSURE

BGC Engineering Inc. (BGC) prepared this document for the account of the Impact Assessment Agency of Canada. The material in it reflects the judgment of BGC staff in light of the information available to BGC at the time of document preparation. Any use which a third party makes of this document or any reliance on decisions to be based on it is the responsibility of such third parties. BGC accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this document.

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Yours sincerely,

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per:

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