

May 4, 2018

Mr. Kevin McLeod  
Director - Inuvik to Tuktoyaktuk Highway Project  
GNWT Department of Infrastructure  
P.O. Box 1320  
Yellowknife, NT X1A 2L9

Dear Mr. McLeod:

**RE: WATER LICENCE N7L1-1835 – GOVERNMENT OF THE NORTHWEST TERRITORIES, DEPARTMENT OF INFRASTRUCTURE – MODIFICATIONS TO THE INUVIK TO TUKTOYAKTUK HIGHWAY 2016 CONSTRUCTION PLAN – EMBANKMENT DESIGN AND SURFACE GRAVEL MODIFICATIONS**

The Inuvialuit Water Board (IWB) acknowledges receipt of the Government of the Northwest Territories (GNWT), Department of Infrastructure (Developer) undated letter received via email on March 1, 2018 regarding the long-term impacts of the design change on permafrost and adjacent water bodies. Based on the information received to date, the following provides a summary of our review and subsequent requirements:

1. The May 16, 2016 IWB letter required submission of a map indicating locations of the thermistors at the redesigned embankment sections with kilometer (km) and associated Global Positioning System (GPS) locations. The Developer's May 26, 2016 response included a list of proposed thermistor locations. The Developer's March 2018 response informed that ground temperature instrumentation was installed in March 2017. The IWB requires the following be provided in the 2017/2018 Annual Report (due June 30, 2018), as required in Part B, Item 2:
  - a. The actual locations (GPS) of the thermistor locations be provided and compared to the May 26, 2016 proposed locations.
  - b. A map of the thermistor locations identified on a map with the redesigned road sections.
2. The May 16, 2016 IWB letter noted that submission of annual thermistor data per Part B, Item 2j) was to include a summary, conclusion and recommendations. The Developer's 2016/2017 Annual Report included ground temperature data for the Research Station, Stream Crossing 35a, and Stream Crossing 15abc. The 2016/2017 Annual Report did not include the ground temperature information for the March 2017 installations associated with the redesigned sections. The IWB requires the following be provided in the 2017/2018 Annual Report, as required in Part B, Item 2:

- a. The March 2017 ground temperature installation logs and data collected since installation.
  - b. Update(s) to the Permafrost Monitoring Plan, and any other relevant plans, to reflect the 2017 monitoring locations and their monitoring frequency.
3. The Developer's March 2018 response notes that a "comprehensive inspection and monitoring instrument" will be developed in the spring of 2018 and updated as needed. The IWB understands this "instrument" will be used to inform the completion of observations and reporting regarding long-term potential impacts of the redesigned sections. The Developer aims to submit a memo of the observations and comments regarding long-term impacts by December 31, 2018. The IWB requires the following:
- a. Within 30 days, a detailed description of the "comprehensive inspection and monitoring instrument" and how this relates to the Permafrost Monitoring Plan, or other monitoring programs, for the project. Additionally, as required, update the Permafrost Monitoring Plan to reflect the post-construction phase of the project.
  - b. By December 31, 2018, submit a memorandum that presents the results of the studies and observations completed regarding the impact the redesigned road has on the underlying and adjacent permafrost and waterbodies, and if applicable, actions required to protect and preserve the permafrost and waterbodies. The memorandum shall include for each redesigned road section, the baseline conditions and key attributes that will be compared to future road conditions to assess potential impacts.
4. The May 16, 2016 IWB letter noted the requirement to submit construction records, as-built documentation and a summary of the modifications within ninety (90) days of the completion of the Modifications (N7L1-1835 Part F, Item 3). The Developer's 2016/2017 Annual Report noted completion of the road construction in the Fall of 2017. The requirements of Part F, Item 3 have not been received by the IWB and notes that the timeframe for submission has expired. Within 30 days the Developer shall submit the required information to fulfill Part F, Item 3 regarding the redesigned sections.

Should you have any questions regarding the requested information, please do not hesitate to contact Mardy Semmler at 867.678.8609 or [semmlerm@inuvwb.ca](mailto:semmlerm@inuvwb.ca).

Sincerely,



Roger Connelly  
Chairperson

Copied to: Lloyd Gruben – Water Resources Officer, ENR – Inuvik  
Dean Ahmet – Senior Project Manager - ITH, INF - Inuvik