General Water Licence Application
(Application for a new Water Licence)

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OFFICE DES EAUX DU NUNAVUT

DOCUMENT MANAGEMENT

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DOCUMENT AMENDMENTS

	Description	Date
(1)	Updated for public distribution as separate document from NWB Guide 4	June 2010
(2)	Updated NWB logos and reformatted table to allow rows to break across page	May 2011
(3)	Update NWB logo	April 2013
(4)		
(5)		
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GENERAL WATER LICENCE APPLICATION
(APPLICATION FOR NEW WATER LICENCE)

The applicant is referred to the NWB's Guide 4: *Guide to Completing and Submitting a Water Licence Application for a New Licence* for more information about this application form.

LICENCE NO:
(for NWB use only)

1. APPLICANT (PROPOSED LICENSEE) CONTACT INFORMATION (name, address)

Reid Campbell
Environmental Officer – Contaminated Sites
Transport Canada
344 Edmonton St. Winnipeg, MB
R3C 0P6

Phone: 204-984-2720
Fax: 204-983-5048
e-mail: reid.campbell@tc.gc.ca

2. APPLICANT REPRESENTATIVE CONTACT INFORMATION if different from Block 1 (name, address)

Phone: _____
Fax: _____
e-mail: _____
(Attach authorization letter.)

3. NAME OF PROJECT (including the name of the project location)

Monitoring Well Installation and Groundwater Sampling at Iqaluit Airport – Iqaluit, NU

4. LOCATION OF UNDERTAKING

Project Extents

NW: Latitude: (63° 45' 4" N) Longitude: (68° 33' 22" W)
NE: Latitude: (63° 45' 4" N) Longitude: (68° 32' 24" W)
SE: Latitude: (63° 44' 46" N) Longitude: (68° 32' 24" W)
SW: Latitude: (63° 44' 46" N) Longitude: (68° 33' 22" W)

The project is to take place on Iqaluit Airport property.

Camp Location(s): N/A

Latitude: (° ' " N) Longitude: (° ' " W)

5. MAP - Attach a topographical map, indicating the main components of the undertaking.

NTS Map Sheet No.: 025N Map Name: Site Location Plan Former Fire Training Area Iqaluit NU DWG 1
Map Scale: 1:50,000
See also Map: DWG 2 map titled Proposed Monitoring Well Location Plan

6. NATURE OF INTEREST IN THE LAND - Check any of the following that are applicable to the proposed undertaking (at least one box under the 'Surface' header must be checked).

Sub-surface

☐ Mineral Lease from Nunavut Tunngavik Incorporated (NTI)
Date (expected date) of issuance: _____ Date of expiry: _____

☐ Mineral Lease from Indian and Northern Affairs Canada (INAC)
Date (expected date) of issuance: _____ Date of expiry: _____

Surface

☐ Crown Land Use Authorization from Indian and Northern Affairs Canada (INAC)
Date (expected date) of issuance: _____ Date of expiry: _____

☐ Inuit Owned Land (IOL) Authorization from Kitikmeot Inuit Association (KIA)
Date (expected date) of issuance: _____ Date of expiry: _____

☐ IOL Authorization from Kivalliq Inuit Association (KivIA)
Date (expected date) of issuance: _____ Date of expiry: _____

☐ IOL Authorization from Qikiqtani Inuit Association (QIA)
Date (expected date) of issuance: _____ Date of expiry: _____

☐ Commissioner's Land Use Authorization
Date (expected date) of issuance: _____ Date of expiry: _____

☒ Other: Permission granted for monitoring well installation and groundwater sampling on Commissioner's Land
Date (expected date) of issuance: July 20, 2018 Date of expiry: _____

Name of entity(s) holding authorizations:
_____

7. NUNAVUT PLANNING COMMISSION (NPC) DETERMINATION

Indicate the land use planning area in which the project is located.

☐ North Baffin
☐ South Baffin
☐ Akunniq
☐ Keewatin
☐ Sanikiluaq
☐ West Kitikmeot

Is a land use plan conformity determination required?

☒ Yes ☐ No

If Yes, indicate date issued and attach copy May 28, 2019
If No, provide written confirmation from NPC confirming that a land use plan conformity review is not required.

NPC File # 149117

8. NUNAVUT IMPACT REVIEW BOARD (NIRB) DETERMINATION

Is an Article 12 Part 4 screening determination required?

☐ Yes ☒ No

If Yes, indicate date issued and attach copy _____
If No, provide written confirmation from NIRB confirming that a screening determination is not required.

9. DESCRIPTION OF UNDERTAKING – List and attach plans and drawings or project proposal.

Background

A Former Firefighting Training Area (FFTA) is situated within the Iqaluit Airport, located between the terminal tarmac and the runway. Historical assessment and remediation programs have been completed at the FFTA. Transport Canada proposes the installation of three groundwater monitoring wells between the FFTA and the airport property boundary to assess the presence/absence of contaminants associated with the FFTA. The proposed monitoring wells are centered at Latitude 63°45'4.91"N and Longitude 68°31'58.84"W.

Proposed Activity

The proposed activities at the Iqaluit Airport will include:

- Drilling 3 boreholes and completing as monitoring wells (downgradient of the FFTA);
- Collecting groundwater samples from each of the newly installed monitoring wells;
- Submitting groundwater samples and soil collected during drilling to an accredited laboratory for analysis.

Proposed Schedule

The proposed field program is anticipated to take place in summer 2019, upon receipt of all permits and approvals. The drilling activity is expected to be conducted in one day.

Environmental Impacts and Mitigations

The drilling program is not expected to result in any significant environmental effects. The quantity of water involved with this undertaking will be minimal, extracted only for sampling purposes.

Wastes generated from the drilling program would be limited to drill cuttings (soil from boreholes), purged groundwater from the sampling process, and domestic wastes (e.g., sample gloves, filters).

The following mitigation will be applied during the field program:

- Environmental drilling activities will be done in accordance with industry standards;
- Purged water and soil from drilling will be sampled for contamination and disposed of according to those results.

Fuel Use

The drill rig will have an onboard fuel tank and will be refilled with diesel fuel from a tank contained in the accompanying service truck. Refueling will follow established procedures.

10. **OPTIONS** – Provide a brief explanation of the alternative methods or locations that were considered to carry out the project.

The project is location specific. Project activities are being carried out by a qualified engineering consultant according to applicable industry standards.

11. **CLASSIFICATION OF PRIMARY UNDERTAKING -** Indicate the primary classification of undertaking by checking one of the following boxes.

☐ Industrial ☐ Agricultural
☐ Mining and Milling (includes exploration/drilling/exploration camps)
☐ Conservation
☐ Municipal (includes camps/lodges) ☐ Recreational
☐ Power ☒ Miscellaneous (describe below):
Environmental Groundwater Sampling

See Schedule II of *Northwest Territories Waters Regulations* for Description of Undertakings.

Information in accordance with applicable Supplemental Information Guidelines (SIG) must be submitted with a New Water Licence Application. Indicate which SIG(s) are applicable to your application.

☐ Hydrostatic Testing
☐ Tannery
☐ Tourist / Remote Camp
☐ Landfarm & On-Site Storage of Hydrocarbon Contaminated Soil
☐ Onshore Oil and Gas Exploration Drilling
☐ Mineral Exploration / Remote Camp
☐ Advanced Exploration
☐ Mine Development
☐ Municipal
☐ General Water Works
☐ Power

12. **WATER USE -** Check the appropriate box(s) to indicate the type(s) of water use(s) being applied for.

☐ To obtain water for camp/ municipal purposes
☐ To obtain water for industrial purposes ☐ To divert a watercourse
☐ To cross a watercourse ☐ To modify the bed or bank of a watercourse
☐ To alter the flow of, or store water ☐ Flood control
☒ Other: To obtain water for sampling purposes

13. **QUANTITY AND QUALITY OF WATER INVOLVED -** For each type of water use indicated in Block 12, provide the source of water, the quality of the water source and available capacity, the estimated quantity to be used in cubic meters per day, method of extraction, as well as the quantities and qualities of water to be returned to source.

Name of water source(s) (show location(s) on map):

Near-surface groundwater (see proposed well location map)

Describe the quality of the water source(s) and the available capacity:

Samples will be taken from near-surface groundwater on airport property. Presuming groundwater is encountered, the portion withdrawn relative to available capacity will be small.

Provide the overall estimated quantity of water to be used: 0.1 m^3/day

Provide the estimated quantity(s) of water to be used from each source:

An estimated 0.1 m^3 (up to 0.3 m^3) of ground water will be collected for sampling purposes in one or two days of sampling. A similarly small amount of water may be required from an airport tap water source for rinsing of drilling equipment. Any water used for this purpose would be collected, stored and disposed of with the purge water.

Indicate the estimated quantities to be used for each purpose (camp, drilling, etc.):

An estimated 0.1 m^3 of groundwater will be drawn for environmental sampling purposes. The majority of this water will be drawn for groundwater parameter stabilization purposes as purge water. A similarly small amount may be required from an airport tap water source (depending on need and availability) for rinsing drilling equipment between boreholes.

Describe the method of extraction(s):

Groundwater will be extracted via monitoring wells through low-flow tubing and a peristaltic pump.

Estimated quantity(s) of water returned to source(s): 0 or 0.1 m^3

Describe the quality of water(s) returned to source(s):

Purge water collected from the installed monitoring wells as part of the sampling process will be containerized and analyzed for contamination to determine an appropriate disposal method. If it is determined the water meets all applicable environmental criteria, and the quality of the water is considered above environmental standards, it will be returned to the groundwater at the point of withdrawal.

14. **WASTE** – Check the appropriate box(s) to indicate the types of waste(s) generated and deposited.

- ☐ Sewage
- ☐ Solid Waste
- ☐ Hazardous
- ☐ Bulky Items/Scrap Metal
- ☐ Animal Waste
- ☐ Waste oil
- ☐ Greywater
- ☐ Sludges
- ☒ Potential for Contaminated soil and/or water
- ☒ Other (describe): Domestic Waste (filters, nitrile gloves, food and packaging waste)

15. **QUANTITY AND QUALITY OF WASTE INVOLVED** – For each type of waste indicated in Block 14, describe its composition, quantity in cubic meters/day, method of treatment and method of disposal.

See Waste Management Plan for additional detail. The waste management plan includes additional procedures for wastes that are not expected to be produced during the course of this project.

Type of Waste	Composition	Quantity Generated	Treatment Method	Disposal Method

Domestic and Construction waste	Food packaging, nitrile gloves etc.	<0.1 m^3/day		Stored in designated section, disposed of at approved facility
Potentially contaminated drill cuttings/purge water	Soil from drilling on site, groundwater taken from site	0.1 m^3/day		Sampled prior disposal, any contaminated drill cuttings/purge water will be disposed of offsite at an approved facility.

16. OTHER AUTHORIZATIONS – In addition to the sub-surface and surface land use authorizations provided in Block 6, indicate any other authorizations required in relation to the proposed undertaking. For each provide the following:

Authorization: _____

Administering Agency: _____

Project Activity: _____

Date (expected date) of issuance: _____ Date of expiry: _____

17. PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION MEASURES – Describe direct, indirect, and cumulative impacts related to water and waste.

The following three possible impacts are outlined below with their associated mitigation technique.

Impact 1: Drilling and removal of soil from the ground in the form of borehole drilling could negatively affect soil stability and quality. Using the same pieces of equipment in different areas increases the risk for cross-contamination to occur.
Mitigation 1: After the boreholes have been drilled, they are instrumented with 2" PVC piping and backfilled around the outside of the PVC with a mixture of silica sand and bentonite clay. The backfilling ensures stabilization of the hole and prevents potential collapses. The augers, if re-used for drilling, are cleaned between each hole to prevent any potential cross-contamination from occurring.

Impact 2: Removing potentially contaminated material during drilling contained in the drill cuttings could cause further contamination of the surrounding area and could potentially impact flora and fauna.
Mitigation 2: Soil cuttings will be contained onsite during the drilling process and sampled for possible contamination, thereby preventing any migration of contaminants. Upon project completion, soil cuttings will be disposed of offsite at a licensed facility, or returned to drill area depending on sampling results.

Impact 3: Drilling into the water table could negatively impact groundwater quality and increase the risk of introducing surface contaminants. These potential contaminants could pose a risk for any organisms that rely on the groundwater for survival.
Mitigation 3: The augers, if re-used for drilling, are cleaned between each hole to prevent any potential cross-contamination from occurring. Bentonite clay will be used to seal the borehole from the ground surface to just above the top of the well screen. The bentonite clay provides a watertight seal, preventing surface contamination from migrating down through the borehole. In addition, all material used in the well installation is new and free of contamination.

18. WATER RIGHTS OF EXISTING AND OTHER USERS OF WATER

Provide the names, addresses and nature of use for any known persons or properties that may be adversely affected by the proposed undertaking, including those that hold licences for water use in precedent to the application, domestic users, in-stream users, authorized waste depositors, owners of property, occupiers of property, and/or holders of outfitting concessions, registered trapline holders, and holders of other rights of a similar nature.

Advise the Board if compensation has been paid and/or agreement(s) for compensation have been reached with any existing or other users.

Due to the limited amount of water use proposed, and the above mitigation measures presented, neither the use of water or deposit of waste is expected to have an adverse effect on another person entitled to use water in precedence to this application. The owner of airport property (Gov. Nunavut) has agreed to the proposed land use and access.

19. INUIT WATER RIGHTS

Advise the Board of any substantial affect of the quality, quantity or flow of waters flowing through Inuit Owned Land (IOL), and advise the Board if negotiations have commenced or an agreement to pay compensation for any loss or damage has been reached with one or more Designated Inuit Organization (DIO).

This project is not expected to affect the quality, quantity or flow of waters through IOL.

20. CONSULTATION – *Provide a summary of any consultation meetings including when the meetings were held, where and with whom. Include a list of concerns expressed and measures to address concerns.*

Emails were sent to the Iqaluit Airport/Government of Nunavut asking for permission to access the site and updating the project status August 10th, 2018 and October 15th, 2018.

21. SECURITY INFORMATION

Provide an estimate of the total financial security for final reclamation equal to the total outstanding reclamation liability for land and water combined sufficient to cover the highest liability over the life of the undertaking. Estimates of reclamation costs must be based on the cost of having the necessary reclamation work done by a third party contractor if the operator defaults. The estimate must also include contingency factors appropriate to the particular work to be undertaken.

Where applicable, the financial security assessment should be prepared in a manner consistent with the principals respecting mine site reclamation and implementation found in the Mine Site Reclamation Policy for Nunavut, Indian and Northern Affairs Canada, 2002.

The decommissioning of the three wells to industry standards is estimated to cost ***up to*** $20,000 CAD.

22. FINANCIAL INFORMATION

Provide a statement of financial responsibility.

Transport Canada recognizes that by undertaking the project under the Nunavut Water Board Water License, it is responsible for:

- The completion of the appurtenant undertaking;
- Such measures as may be required in mitigation of any adverse impact; and
- The satisfactory maintenance and restoration of the site upon closing of the undertaking, specifically as it relates to decommissioning the monitoring wells.

23. STUDIES UNDERTAKEN TO DATE - List and attach copies of studies, reports, research, etc.

No studies have been completed to date for this project.

24. PROPOSED TIME SCHEDULE – Indicate the proposed start and completion dates for each applicable phase of development (construction, operation, closure, and post closure).

Construction
Proposed Start Date: ____August 2019__ (month/year) Proposed Completion Date: ___August 2019____ (month/year)

Operation
Proposed Start Date: _____ (month/year) Proposed Completion Date: _____ (month/year)

Closure
Proposed Start Date: _____ (month/year) Proposed Completion Date: _____ (month/year)

Post - Closure
Proposed Start Date: _____ (month/year) Proposed Completion Date: _____ (month/year)

For each applicable phase of development indicate which season(s) activities occur.

Construction
☐ Winter ☐ Spring ☒ Summer ☐ Fall ☐ All season

Operation
☐ Winter ☐ Spring ☐ Summer ☐ Fall ☐ All season

Closure
☐ Winter ☐ Spring ☒ Summer ☐ Fall ☐ All season

Post - Closure
☐ Winter ☐ Spring ☐ Summer ☐ Fall ☐ All season

Estimated project dates are subject to permitting acceptance and consultant availability.

25. PROPOSED TERM OF LICENCE

Number of years (maximum of 25 years): _____5_____ years

Requested Date of Issuance: ___August/2019__ (month/year) Requested Expiry Date: ___August/2024_ (month/year)

(The requested date of issuance must be at least three (3) months from the date of application for a type B water licence and at least one (1) year from the date of application for a type A water licence, to allow for processing of the water licence application. These timeframes are approximate and do not account for the time to complete any pre-licensing land use planning or development impact requirements, time for the applicant to prepare and submit a water licence application in accordance with any project specific guidelines issued by the NWB, or the time for the applicant to respond to requests for additional information. See the NWB's *Guide 5: Processing Water Licence Applications* for more information)

26. ANNUAL REPORTING – If not using the NWB's *Standardized Form for Annual Reporting*, provide details regarding the content of annual reports and a proposed outline or template of the annual report.

The consultant awarded the contract is required to compile an annual report, which details the project activities and results. This report can be made available to the NWB. A report/technical memo detailing the final reclamation of the site upon decommissioning can also be provided to the NWB.

27. CHECKLIST – The following must be included with the application for the water licensing process to begin.

Written confirmation from the NPC confirming that NPC's requirements regarding land use plan conformity have been addressed.

☐ Yes ☒ No If no, date expected _____May 28th, 2019_____

Written confirmation from the NIRB confirming that NIRB's requirements regarding development impact assessment have been addressed.

☐ Yes ☒ No If no, date expected _____

Completed General Water Licence Application form.

☒ Yes ☐ No If no, date expected _____

Information addressing Supplemental Information Guideline (SIG) , where applicable (see Block 11)

☒ Yes ☐ No If no, date expected _____

English Summary of Application.

☒ Yes ☐ No If no, date expected _____

Inuktitut and/or Inuinnaqtun Summary of Application.

☒ Yes ☐ No If no, date expected _____

Application Fee of $30.00 CDN (Payee Receiver General for Canada).

☐ Yes ☒ No If no, date expected ____N/A_____

Water Use Fee Deposit of $30.00 CDN (Payee Receiver General for Canada). The actual water use fee will be calculated by the NWB based upon the amount of water authorized for use in accordance with the Regulations at the time of issuance of the licence.

☐ Yes ☒ No If no, date expected _____N/A_____

SIGNATURE

Name (Print)	Title (Print)	Signature	Date