



APPLICATION TO AMEND CITY OF IQALUIT WATER LICENCE

Supplemental Drinking Water Supply from Apex River

The City of Iqaluit (the “City”) intends to apply to the Nunavut Water Board to amend its Municipal Type “A” water licence. The purpose of the amendment application is to allow withdrawal of water from the Apex River as needed to supplement (add to) the drinking water supply in the Lake Geraldine reservoir.

WHY IS ADDITIONAL WATER NEEDED?

Lake Geraldine is an engineered reservoir designed to contain the volume of water necessary to satisfy the drinking water needs of the City. The reservoir is refilled annually during spring and summer by natural inflows from snowmelt and precipitation (such as rain). It is estimated to have a capacity of approximately 1.8 million cubic metres, with up to 1.1 million cubic metres available during winter months. The City currently withdraws approximately 78% of this available water to meet its drinking water demands in a year. In years when natural inflows or precipitation are low, the reservoir does not fill to full capacity, resulting in a potential shortage of available drinking water for the City.

WHAT HAS BEEN DONE TO ADDRESS WATER SHORTAGE?

In 2018, following a winter of low snowmelt and little spring precipitation, a water shortage was predicted. To mitigate a potential shortage of drinking water in winter 2018-19, the City initiated:

- The identification and repair of leaks in the City’s freshwater distribution system
- Communications and actions for residents and businesses to reduce water consumption
- Investigations into permanent additional water supply
- A program for planning and managing water demands associated with future development approvals

In response to a public health emergency declared by the Chief Medical Health Officer, the City also sought and received approval to supplement the reservoir in 2018 with drinking water obtained from the Apex River.



ARE THERE OPTIONS FOR SUPPLEMENTING THE LAKE GERALDINE RESERVOIR?

The City is currently researching options for adding water to the reservoir on a permanent basis, such as obtaining water from alternate water sources such as the Sylvia Grinnell River and Unnamed Lake – a large lake northeast of the City. It will take several more years to complete these studies and to advance the best option through design, construction and commissioning. Until a permanent solution is identified, supplementary supply from the Apex River is a viable short-term solution.

HOW MUCH WATER IS NEEDED?

The City is seeking approval to withdraw water from the Apex River as needed. A study was conducted to predict the amount of water required in the reservoir to meet drinking water needs throughout winter (prior to recharge in spring), based on water levels and consumption rates. If a water shortage is predicted, a pumping program would be initiated during the fall season to fill the reservoir to capacity prior to freeze up. The amount of additional water needed from the Apex River to fill the reservoir at that time may be up to 400,000 cubic metres.

WHAT IT IS INVOLVED WITH PUMPING WATER FROM APEX?

The withdrawal of water from the Apex River during the open water season would require placement of two pumps in the river at a location approximately 1 km upstream of the bridge over the Apex River on the Road to Nowhere (see Figure). These pumps are equipped with screens to prevent harm to fish. Flexible hose or pipe would extend overland approximately 1 km to Lake Geraldine. Pumping would take place continuously over a period of several weeks at a rate of up to 100 litres per second, until the reservoir is filled, or as flow conditions within the Apex River allow.



ARE THERE POTENTIAL IMPACTS TO THE ENVIRONMENT?

Supplementary pumping from the Apex River was conducted in fall 2018. Environmental protection plans and monitoring were put in place to minimize effects to water and fish. No fish were observed during daily monitoring, and it is unlikely there were serious effects to fish or fish habitat. The environmental protection plan included conducting fish rescue if fish became stranded due to the water withdrawal; however, this was not required as no stranded fish were observed. Sedimentation and erosion control measures, such as silt fencing, and limiting work in and around water, along with measures to protect fish such as screening of intakes were used and if required, would be used again during future pumping programs. Daily monitoring of fish and fish habitat would again be used to initiate actions if required to prevent serious harm to fish, including reducing the rate of pumping.

WHAT IF I HAVE CONCERNS OR COMMENTS?

The City's application to amend its water licence will require a public review under the *Nunavut Planning and Project Assessment Act* and *Nunavut Waters and Surface Rights Tribunals Act*. The City will consider comments received from residents of Iqaluit prior to initiating the application process in December 2018.

If you would like to provide comments or feedback on the proposal to obtain supplemental drinking water from the Apex River, you can:

- Provide comments by email to: water@city.iqaluit.nu.ca prior to December 14, 2018
- Participate in the public review processes to be led by the Nunavut Impact Review Board and Nunavut Water Board once these processes are underway.