



# Application Form for Paragraph 35(2)(b) *Fisheries Act* Authorization (Emergency Circumstances)

I, the undersigned, hereby request authorization to carry on, without delay in response to an emergency circumstance, work, undertaking or activity which will result in serious harm to fish that are part of a commercial, recreational or Aboriginal fishery, or to fish that support such a fishery. I understand that the *Fisheries Act* Authorization, if granted, is only from the standpoint of the Minister of Fisheries and Oceans and does not release me from my obligation to obtain permission from other concerned regulatory agencies.

## 1. Applicant Contact Information

Applicant's Name:

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If applicable:

Authorized Representative's Name:

Erica Bonhomme

Address:

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DFO File Referral No. (if known):

## 2. Nature of the Matter of National Security, National Emergency or Emergency

Provide a detailed explanation of the nature of the matter of national security, national emergency or emergency and the reasons why the proposed work, undertaking or activity needs to be carried on without delay.

On July 27, 2018, the Government of Nunavut Department of Health (DOH) Chief Medical Officer declared that the City's inability to provide adequate domestic drinking water to the community over the coming winter season 2018/19 is viewed by the DOH as a health emergency. The DOH directed the City to immediately intervene to ensure the City has sufficient drinking water for the season. An emergency supplementary pumping program to supplement the Lake Geraldine Reservoir is being sought in response to this direction. The emergency supplementary pumping program has the potential to cause serious harm to fish.

## 3. Proposed Work, Undertaking or Activity

Provide a description of the proposed work, undertaking or activity and how it relates to the matter of national security, national emergency or emergency.

Please refer to document titled "3AM-IQA1626 Application for Amendment - Supporting Submission". The City proposes to withdraw and divert supplemental water from the Apex River watershed into Lake Geraldine Reservoir (reservoir) in two phases, beginning August 9 2018, until either onset of frozen conditions, or October 30, 2018 (Figure 2-1). The supplemental pumping may need to be conducted again in 2019 until a permanent, long-term solution is implemented.

Phase I, 2018:

Install two pumps on the south shore of the Apex River at a location approximately 1.3 km upstream of the bridge on the Road to Nowhere (the "upper Apex location"). These submersible drainage pumps (Figure 2-2) will be powered by a diesel operated power



generator (Figure 2-3) with integrated fuel storage and containment system. Flexible hose (Figure 2-4) will be connected to the pumps with a manifold. Hoses will be routed overland southwards to the reservoir.

Water withdrawal from the upper Apex location is proposed to be up to a daily average of 95 litres per second (L/s) or 8,200 (m<sup>3</sup>/d) as flow conditions allow. Withdrawal will be ramped up or down as required to address potential impacts to fish and fish habitat, as based on monitoring. Flow and water levels are currently monitored at the Water Survey of Canada (WSC) Apex River at Apex hydrometric station (10UH002), located downstream of the proposed Upper Apex pumping location. Flows will be scaled to the Upper Apex location using a simple drainage area ratio calculation: the Upper Apex location drains 60% of the drainage area measured at the WSC station. In addition to the streamflow, observations of isolated ponds and wetted perimeter will be monitored near the Bridge to Nowhere and as required by DFO.

To mitigate for fish entrainment, DFO's Freshwater Intake End-of-Pipe Fish Screen Guideline (1995) will be applied, with a screen area of 0.88 m<sup>2</sup>. To mitigate against excessive sediment entrainment, a free-standing, temporary modular or water-filled coffer dam may be installed to train water towards the pump location. This coffer will not impede overall flow and will not impact the bed of the watercourse.

Phase 2, 2018:

If and when flow levels in the upper Apex River decrease below 30% of mean annual discharge (MAD), pumping will commence at an Unnamed Lake approximately 1.6 km northeast of the end of the Road to Nowhere. This lake is part of the Apex River watershed and seasonally discharges to an intermittent stream that joins the Apex River approximately 100 m east of the bridge on the Road to Nowhere. This lake has a surface area of over 1 million square metres and documented to be greater than 18 m deep in places (A. Medeiros, pers. comm.), and therefore expected to be adequate as a source for the remainder of the required water withdrawal. Pumps and hose will be set up to lift water from the Unnamed Lake over the topographic barrier that prevents year-round discharge. Water may be directed by hose, or via free flow, down the remainder of the watercourse. Water will be intercepted upstream of the bridge on the Road to Nowhere using modular coffer dam or in a natural depression and redirected to the reservoir from there using additional pumps and hose.

Additional Sources:

Small waterbodies immediately north of the reservoir may be used as supplemental water sources if depth conditions indicate that they are unlikely to support overwintering fish.

Pumping and hose configuration may be modified if the supplementary pumping is needed to be conducted again during the open water period of 2019.

## 4. Timelines

Provide the timeline for carrying on the proposed work, undertaking or activity.

Approximately 60 days, between August 9, 2018 and October 30, 2018, or earlier at the onset of frozen conditions. The program may need to be conducted again in 2019.

Identify the start and end date of each proposed work, undertaking or activity for which you are seeking an authorization.

August 9 to October 30, 2018. The program may need to be repeated in 2019.

## 5. Location

Provide a description of the location of the proposed work, undertaking or activity, including the geographic co-ordinates of the work, undertaking or activity and the names of the water sources or water bodies that are likely to be affected.

See Figure 2-1.

## 6. Serious Harm to Fish

Provide a description of the serious harm to fish that are part of a commercial, recreational or Aboriginal fishery or to fish that support such a fishery that is likely to result from the proposed work, undertaking or activity.

The Apex River supports a resident population of Arctic char (*Salvelinus alpinus*). This resident population is unlikely to be part of a commercial, recreational or Aboriginal (CRA) fishery; due to the small size of the individual fish within the population which is common of resident populations. The Apex River has not been fished in the past. It is unknown whether individuals of this population support a CRA fishery. This would likely only occur during spring freshet if some individuals were flushed from the system into Koojesse Inlet. This supporting contribution would be negligible to other fisheries.

Serious harm to the resident population of char may occur by:



- reduction of fish habitat including overwintering habitat due to water withdrawal, and
- mortality of fish by stranding due to water withdrawal.

## 7. Other Relevant Information (Optional)

Are you providing any other information relevant to the review of your application? ☒ Yes ☐ No

If yes, please attach that information to your application.

The Apex River has a resident population of Arctic char (*Salvelinus alpinus*) as reported by Nunami-Stantec (2016). All fish of this population were collected at one site immediately below what is locally known as Swimming Lake. Two other reaches further downstream were sampled but no fish were captured. One site upstream at the Road to Nowhere bridge was also sampled with no fish captured. A barrier to fish passage exists just above the mouth of the Apex River where it enters Koojesse Inlet (Nunami Stantec 2016). For further information on fish collected and habitat at sampled sites along the Apex River please refer to Nunami Stantec 2016, attached.

Mitigation will follow DFO's measures to prevent harm to fish and fish habitat where applicable (i.e, sedimentation and erosion control, spill prevention and response) as well as and its Freshwater Intake end-of-Pipe Fish Screen Guideline. Where fish stranding is observed and where feasible, a fish rescue will be conducted and fish released further downstream.

A monitoring plan for the period of water withdrawal is proposed to include (see Section 5 of Supporting Submission)

- monitoring of water withdrawal against discharge
- monitoring of water levels and wetted perimeter
- observations of stranded pools and stranded fish
- enumeration of any fish mortalities.
- additional monitoring will be considered based on DFO recommendations


Nunami Stantec. 2016. Fish and Fish Habitat Assessment of the Niaqunguk (Apex) River, Lake Geraldine, and the Lake Geraldine Drainage Channel. Prepared for the City of Iqaluit.

Other types of information may include:

- Information about the fish and fish habitat at the site of the proposed work, undertaking or activity.
- Information on the potential effects on fish and fish habitat which may result from the proposed work, undertaking or activity.
- Details of any measures and standards to be implemented to avoid or mitigate impacts to fish and fish habitat during the carrying on the proposed work, undertaking or activity.

## Applicant Declaration

I solemnly declare that the information provided for this application are true, complete and correct, and I make this declaration conscientiously believing it to be true knowing that it is of the same force and effect as if made under oath. This declaration applies to all material submitted as part of this application for a Paragraph 35(2)(b) *Fisheries Act* Authorization.

 Team Lead Enviro Services  
Stantec

Applicant's signature (and corporate seal):

MM/DD/YYYY

Date

Information about the above-noted proposed work, undertaking or activity is collected by DFO under the authority of the *Fisheries Act* for the purpose of administering the Fisheries Protection Provisions of the *Fisheries Act*. Personal information will be protected under the provisions of the *Privacy Act* and will be stored in the Personal Information Bank number DFO PPU 680. Under the provisions of the *Privacy Act*, individuals have a right to, and on request shall be given access to, any personal information about them contained in a personal information bank. Instructions for obtaining personal information are contained in the Government of Canada's Info Source publications available at [www.info.gc.ca](http://www.info.gc.ca) or in Government of Canada offices. Information other than "personal" information may be accessible or protected as required by the provision of the *Access to Information Act*.

If you require additional space to provide relevant information, please attach that information and indicate the title of the form being used and the section to which you are responding.

