
TITLE	GSA Application for a Type A Water Licence
SECTION	7: Site-Specific Water Use
SUBJECT	1: Summary

INTRODUCTION

This section supports an application for approval to obtain water for site-specific use within the Gwich'in Settlement Area. It contains site-specific maps, describes the proposed undertaking, provides an estimate of the quantities of water required, and summarizes the schedule of activities.

TITLE	GSA Application for a Type A Water Licence
SECTION	7: Site-Specific Water Use
SUBJECT	2: Campbell Lake Infrastructure Site

LOCATION OF UNDERTAKING (PART 3)

The Campbell Lake infrastructure site coordinates and location of its likely water source are listed in [Table 7-1](#). [Figure 7-1](#) is a site-specific map of the Campbell Lake site.

Table 7-1: Location of the Campbell Lake Infrastructure Site

Location of Undertaking	Kilometre Post (KP)	Latitude (DD)	Longitude (DD)	Easting (m)	Northing (m)	UTM Zone
Campbell Lake Infrastructure Site	8.1	68.3115	-133.3238	569122	7578535	8
Water Source – Inuvik	-	-	-	-	-	-

DESCRIPTION OF UNDERTAKING (PART 4)

Campbell Lake Infrastructure Site

Development activities of the project will require a temporary construction camp to be located at the Campbell Lake infrastructure site.

Construction of a 120-person camp at the Campbell Lake site will begin in the winter of 2006-2007 and be completed in the summer of 2007.

Initial crews will reside at the Inuvik area facility in the winter of 2006-2007 and at the 120-person Campbell Lake camp as soon as it is commissioned in the summer of 2007.

In the summer of 2008, the 120-person Campbell Lake construction camp will be expanded to a capacity of about 1,350 personnel. The camp will require a support staff of about 120 people. These people are included in the 1,350-person total.

Construction personnel will occupy the camp over three winter construction seasons (2007-2008 for right of way clearing, 2008-2009 for pipeline construction and 2009-2010 for commissioning and reclamation). Numbers will peak in mid-winter and taper off toward spring. A reduced camp support staff will remain on the site between construction seasons. Water and sewage treatment facilities will be present in the camp.

A conceptual drawing of the camp layout is shown in [Section 3](#).

The camp will be used to feed and house construction personnel. The largest element of the operations will be catering and housekeeping for the camp residents. Other activities will include the maintenance operations of the camp and restocking of fuel and supplies by truck.

Water for the camp is expected to be sourced from Inuvik. The water will be transported by truck from the source to the camp site for use as camp water. Additional water supply might be required for fire suppression.

QUANTITY OF WATER INVOLVED (PART 7)

Daily water truck cycles will bring the necessary volume of water (about 227 L daily per person) to the camp. The quantity of water required for camp use will be dependent upon the number of persons occupying the camp.

An estimate of water requirements has been conducted and is based on the following assumptions:

- the camp will be at capacity during the winter months (122 days)
- the camp will be at about 8.0% capacity during the summer months (122 days)
- water usage during the shoulder months between summer and winter will be less
- camp use is based on an average water consumption of 227 L per person per day, which includes all uses
- camp capacity will be 120 persons, expanding to 1,350 persons

The estimate of water required based on the above assumptions is shown in [Table 7-2](#).

Table 7-2: Campbell Lake Infrastructure Site Water Requirements

Description	Water Requirements	
	Total Annual Volume	Average Daily Volume ^a
Site-specific water requirements Year 1	900 m ³ per year	3 m ³ per day
Site-specific water requirements Year 2	39,000 m ³ per year	107 m ³ per day
Site-specific water requirements Year 3	39,900 m ³ per year	109 m ³ per day
Total water requirements over Three Years	79,800 m ³	
NOTE: ^a The average daily volume is the total annual volume averaged over 365 days.		

SCHEDULE (PART 13)

Camp operations will be continuous, at varying rates of activity, from the summer of 2007 through the summer of 2010 (see [Section 3](#)).

Figure 7.1 has been moved to reduce file size. To view it, click on the link to the figure in the web page List of Figures for this document.

TITLE **GSA Application for a Type A Water Licence**
SECTION 7: Site-Specific Water Use
SUBJECT 3: Inuvik Area Facility

LOCATION OF UNDERTAKING (PART 3)

The Inuvik area facility site coordinates and location of its likely water source are listed in [Table 7-3](#). [Figure 7-2](#) is a site-specific map of the Inuvik area facility site.

Table 7-3: Location of the Inuvik Area Facility Site

Location of Undertaking	Kilometre Post (KP)	Latitude (DD)	Longitude (DD)	Easting (m)	Northing (m)	UTM Zone
Inuvik Area Facility Site	0.0	68.4132	-133.3238	568818	7589867	8
Water Source – Inuvik	-	-	-	-	-	-

DESCRIPTION OF UNDERTAKING (PART 4)

Infrastructure Site for the Inuvik Area Facility

A temporary construction camp will be required at the Inuvik area facility site. At full occupancy (about 250 personnel), this camp will require a camp support staff of about 25 people. These people are included in the 250-person total. The camp will be occupied year-round during construction.

The Inuvik area facility infrastructure pad and the 250-person construction camp will be completed during the winter of 2006-2007. Personnel constructing the processing plant will reside at the camp as soon as it is commissioned. The camp will be occupied until the summer of 2010.

A conceptual drawing of the camp layout is shown in [Section 3](#).

The camp will be used to feed and house construction personnel. The largest element of the operations will be catering and housekeeping for the camp residents. Other activities will include the maintenance operations of the camp and restocking of fuel and supplies by truck.

Water for the camp is expected to be sourced from Inuvik. The water will be transported by truck from the source to the camp site for use as camp water. Additional water supply might be required for fire suppression.

Inuvik Area Facility Site

A limited amount of water will be required for dust suppression, foundation work and pressure vessel testing. This water will be obtained from the supply source and transported to the infrastructure site and will be disposed of with the site

wastewater. This volume has been included in the estimated water volumes provided in Part 7.

QUANTITY OF WATER INVOLVED (PART 7)

Daily water truck cycles will bring the necessary volume of water (about 227 L daily per person) to the camp. The quantity of water required for camp use will be dependent upon the number of persons occupying the camp.

An estimate of water requirements has been conducted and is based on the following assumptions:

- the camp will be occupied year round during construction
- camp use is based on an average water consumption of 227 L per person per day, which includes all uses
- camp capacity is 250 persons

The estimated water requirements, based on the above assumptions and including the quantities required for the Inuvik area facility, are shown in [Table 7-4](#).

Table 7-4: Inuvik Area Facility Site Water Requirements

Description	Water Requirements	
	Total Annual Volume	Average Daily Volume ^a
Site-specific water requirements Year 1	200 m ³ per year	1 m ³ per day
Site-specific water requirements Year 2	9,200 m ³ per year	25 m ³ per day
Site-specific water requirements Year 3	9,400 m ³ per year	26 m ³ per day
Total water requirements over 3 Years	18,800 m ³	
NOTE: ^a The average daily volume is the total annual volume averaged over 365 days.		

Once construction of the facility is complete, the operations phase of the facility will begin. The duration of this phase will coincide with the commercial life of the upstream production fields and is projected to be about 30 years. Water consumption during operations is expected to be about 450 m³ per year for domestic water and about 130 m³ per year for process and utility water. This water will likely be sourced from Inuvik and be brought in by tanker truck.

SCHEDULE (PART 13)

Camp operations will be continuous, at varying rates of activity, during the facility construction period, which is currently planned to occur from late 2006 through the summer of 2010 (see [Section 3](#)).

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