HUMBER ARM CONTRACTING INC.
MOOSE POND QUARRY PERMIT

Environmental Assessment
Registration Document

Submitted by:
Humber Arm Contracting Inc.
PO Box, 201
Mount Moriah, NL
A0L 1J0

Prepared with the assistance of:
NCD Consulting Limited
34 Yellow Wood Drive
Paradise, NL
A1L 0X9

August 16, 2018

TABLE OF CONTENTS

LIST OF FIGURES

Page

LIST OF TABLES

Page

1.0 NAME OF UNDERTAKING

Moose Pond Quarry

- Quarry Permit Identification
  - File 711:12305 covering 15.0 ha

2.0 PROPONENT

2.1 Name of Corporate Body

Humber Arm Contracting Inc.

2.2 Address

PO Box 201
Mount Moriah, NL
A0L 1J0

2.3 Chief Executive Officer

Mr. Bill Perrett
Owner
PO Box 201
Mount Moriah, NL
A0L 1J0

2.4 Principal Contact Person

Mr. Bill Perrett
PO Box 201
Mount Moriah, NL
A0L 1J0
(709) 785-1540
humberrepair@nf.aibn.com

3.0 THE UNDERTAKING

3.1 Nature of the Undertaking

The proposed project is a 15.0 ha quarry site that will be developed for its sand and gravel resources to be used in road maintenance during winter for ice control, and for Class A/B material used in the construction industry for the public and private sectors. The site is located adjacent to Humber Arm Contracting Inc's (Humber Arm) existing quarry permits that serve the same purpose.

3.2 Purpose/Rationale/Requirement for the Undertaking

The main purpose and rationale for the proposed 15.0 ha quarry area is to develop additional sand and gravel resources similar in nature to Humber Arm's adjacent quarries to continue supplying material to the public and private sectors. The proposed quarry will replace the existing quarries as they are near depletion.

4.0 DESCRIPTION OF THE UNDERTAKING

4.1 Geographic Location

The proposed project is located in a rural area 2.5 km southeast of Gallants, and 30 km northeast of Stephenville, Newfoundland (**Figures 1 to 4**). The site is not located within any municipal boundaries but is within and surrounded by undeveloped Crown Land. The nearest sensitive human receptor is a cabin located on the eastern shore of Moose Pond, 0.61 km east of the project area. A few other cabins are also located further away along the same shoreline. To the west of the project, the nearest sensitive human receptors are buildings located 1.3 km and 2.5 km from the project (**Figure 4**).

4.2 Physical Features

4.2.1 Project Site Description

The southern boundary of the proposed quarry area is adjacent to 3 existing quarry permits, namely Johnson's Construction 3.5 ha quarry permit (File 711:9242), and Humber Arm's 5.0 ha and 2.5 ha existing quarry permits (File 711:8713; 711:10665; **Figure 3**). The primary physical feature of this project will be the quarry itself. This includes the quarrying of identified aggregate material and the stockpiling of material.

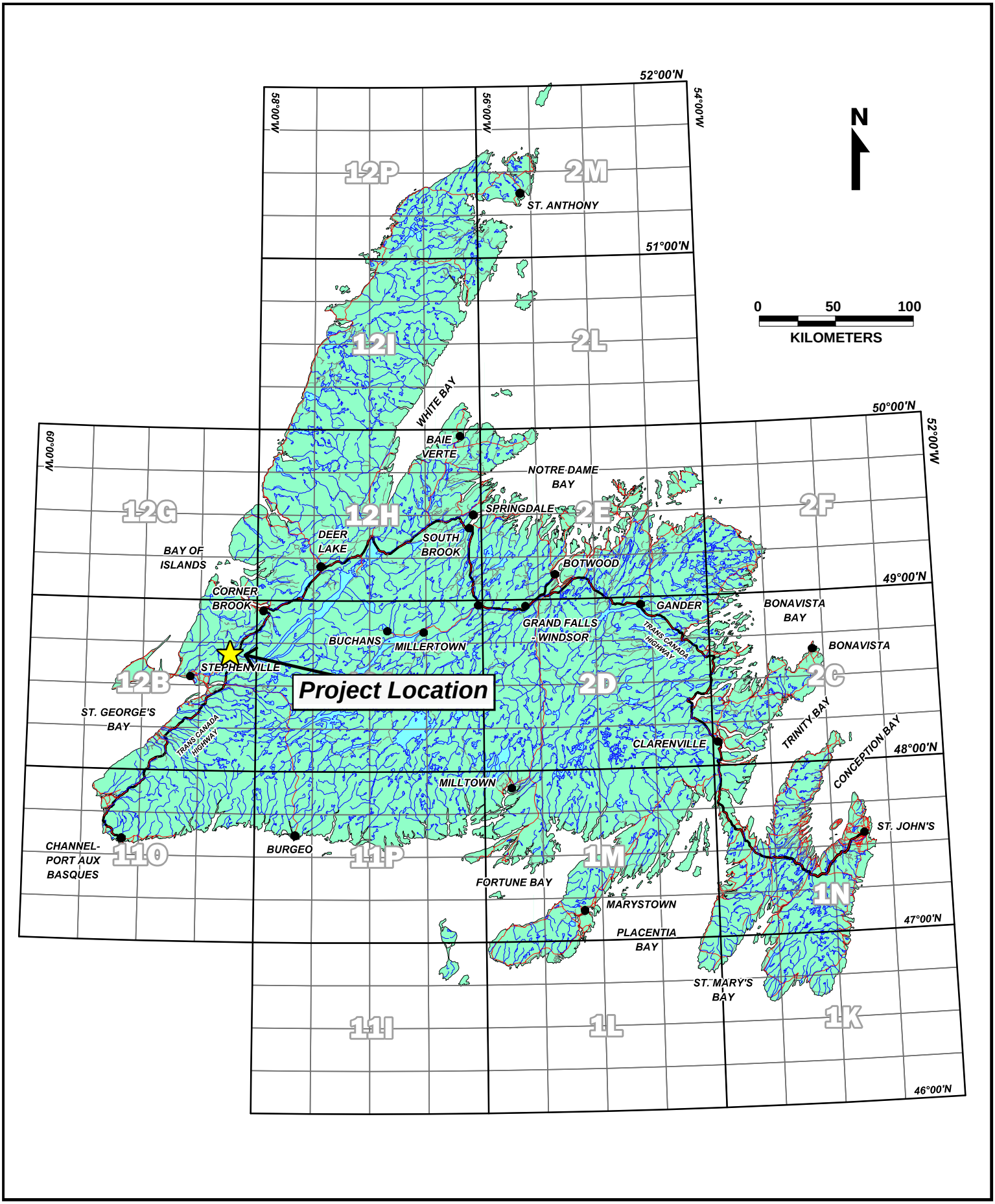

FIGURE 1: PROJECT LOCATION MAP (N.T.S. 12B/09)

FIGURE 2: DETAILED PROJECT LOCATION MAP

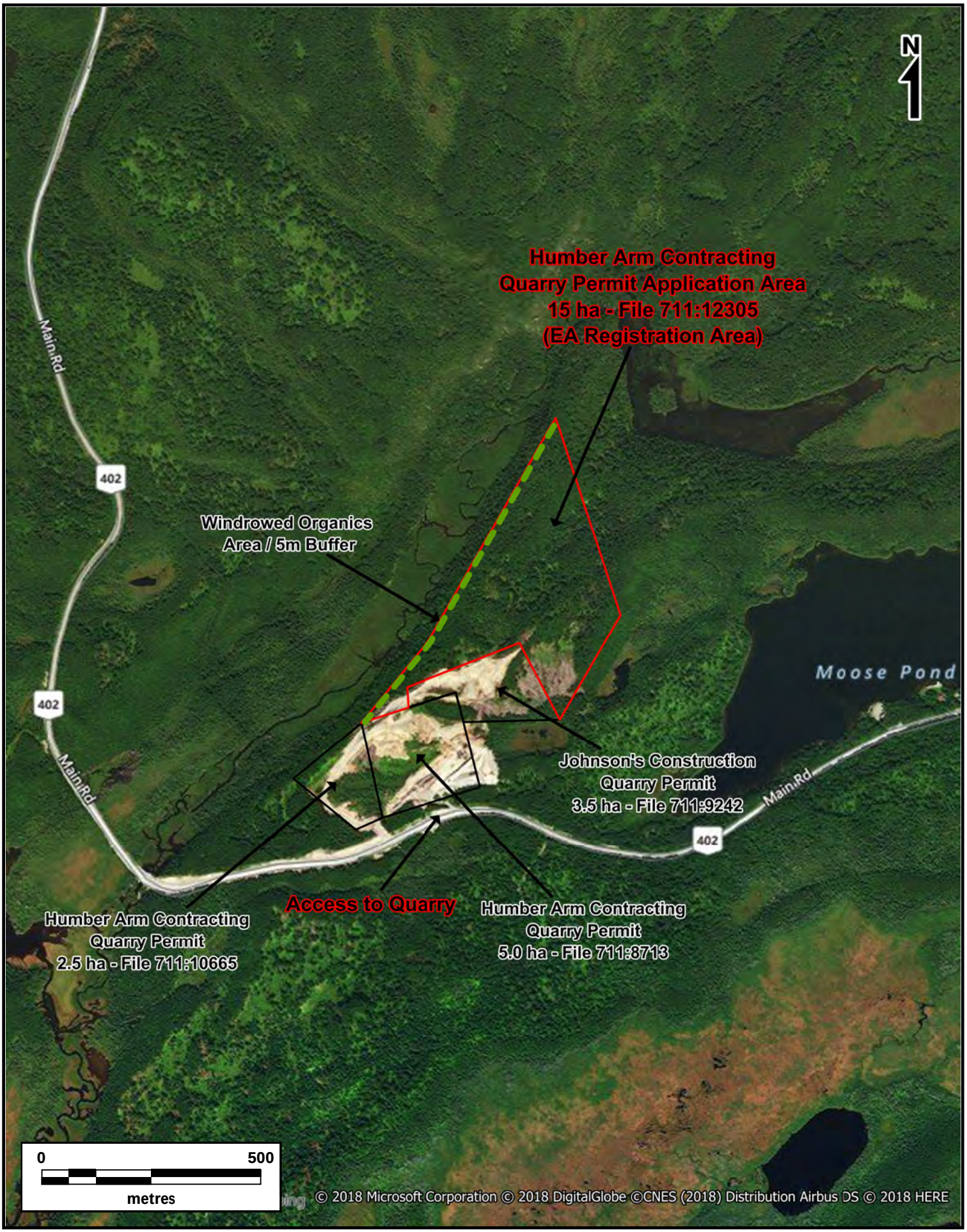

FIGURE 3: QUARRY PERMIT LOCATION MAP

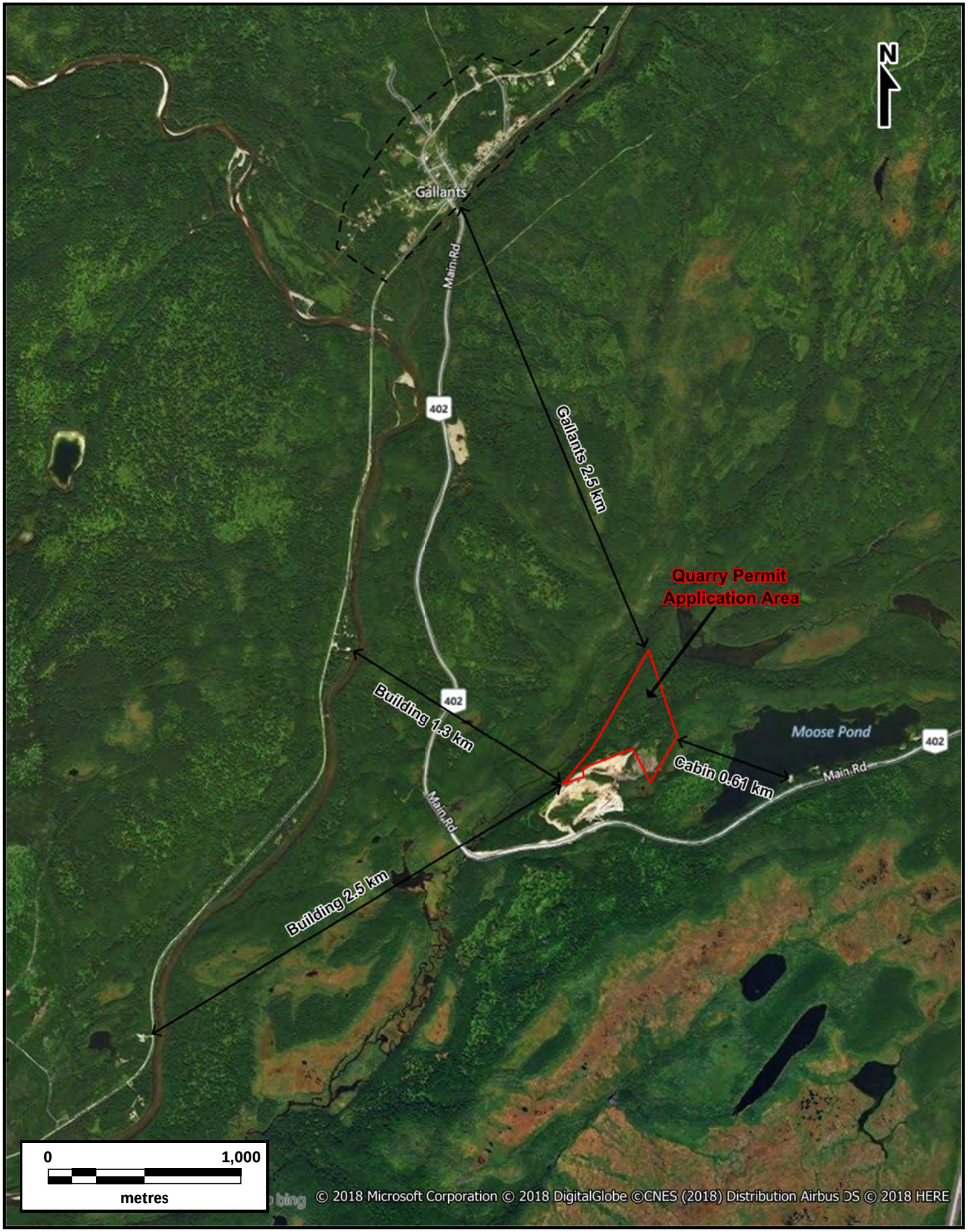

FIGURE 4: HUMAN RECEPTOR LOCATION MAP

4.2.2 Existing Biophysical Environment

The proposed quarry site is located near a narrow meandering brook, the Ahwachenjeech Brook, which runs parallel to the northwest boundary of the project area and at its closest point is 35 meters away from the quarry permit boundary. The Ahwachenjeech Brook drains towards the southwest into Harry's Brook and into the Gulf of St. Lawrence near the Town of Stephenville. Two ponds, including Moose Pond, are located north and east of the project area at a distance of 75 m and 165 m respectively from the quarry permit boundary. Aggregate resources within the permit boundary are contained within a mound/hill that is elevated to a maximum height of 65 m relative to the Ahwachenjeech Brook floor based on available elevation data.

The proposed quarry area is underlain by cobbly sand and gravel glaciofluvial material and is mostly devoid of finer material such as silt and clay. The material is covered by organic matter varying from generally 15 to 30 cm in thickness. Tree cover is present on the entirety of the permit area and consists primarily of balsam fir, black spruce, birch and aspen.

4.3 Construction and Operation

4.3.1 Site Access

The site is accessible through Humber Arm's existing 5.0 ha quarry permit (File 711:8713) by using the dirt access road extending from Route 402. A locked gate is located immediately at the entrance of the quarry to prevent unauthorized access to the site. The quarry entrance is located 4.4 km west of the Trans-Canada Highway along Route 402.

4.3.2 Site Clearing

Any merchantable timber will be initially cleared by utilizing a commercial harvester and will be made available to Corner Brook Pulp and Paper for use in the pulp and paper industry. Merchantable timber will be harvested under a cutting permit issued by the Department of Fisheries and Land Resources. The wood will be stacked in 6 to 8 feet lengths and subsequently removed from site. Surficial soils, subsoil and grubbing will be stripped and windrowed to the permit boundary. This windrowed material will be used to construct perimeter berms as required.

4.3.3 Quarry Development and Operation

The location of the 15.0 ha area boundary was defined as precisely as possible by estimating the location of aggregate resource from the trend observed within the currently active quarries. Development of the quarry will start from the north-northeast side of the

permit area where the highest quality material is located and will proceed to the south-southwest towards the proponent's existing quarries. The annual production from the site is anticipated to remain consistent with the average previous production by Humber Arm at approximately 6,000m^3 per year. Development activities to be undertaken will consist of the removal and stockpiling of organics to the perimeter of the site. Operational activities will consist of pit run removal and/or screening a stockpiling of aggregate material to produce materials of required specifications. This will be performed using heavy equipment such as excavators, front end loaders and dump trucks. Due to the clean nature, low silt content, of the aggregate present on site, no wash plant is required to process the aggregate. Quarrying activity will take place approximately between May and December of each year. However this will ultimately be dictated by the timing of seasonal spring melt and the onset of winter conditions.

4.4 Potential Sources of Pollution During Construction and Operation

The construction phase of the development will consist of the removal of trees and the subsequent removal and stockpiling of organic material. The equipment used for these activities will consist of a commercial harvester, chainsaws, front end loaders and excavators. This equipment represents a potential source of noise disturbance, exhaust emissions, the potential release of petroleum hydrocarbons, domestic waste and general refuse. Also, construction and operational activities introduce the possibility of erosion and transport of fine grained particles such as clay and silt.

Air pollution will be controlled by having all equipment on site fitted with the appropriate emission-control equipment. Noise levels associated with the work are not expected to reach harmful levels. As this is adjacent to an existing quarry site there will not be any additional equipment required as this project is an expansion of the existing quarry area. Site clearing will occur in phases, as previously done, and thus noise levels are not anticipated to exceed previous maximum levels reached. Also, this is a sand and gravel quarry and no blasting is required. There is no historical noise monitoring data available and there have been no documented complaints of noise being an issue in or around the quarry site area. Workers will have the proper hearing protection and the work site, as noted above, is a controlled work environment. Domestic waste generated during construction will be collected and disposed of in accordance with the Waste Material Disposal Act. Onsite sewage will be handled and maintained by an approved sewage service provider.

Fuel will not be stored on site but will be brought in as required by a petroleum product service company. The handling of petroleum products on site will comply with the Storage and Handling of Gasoline and Associated Products Regulations. Complete and regularly

checked emergency spill kits will be available on site at all times for containment and cleanup of any hydrocarbon leaks.

The erosion and transport of fine grained particles during construction and operational activities will be controlled by using appropriate mitigating measures such as erosion control ditches, hay bales, and silt fencing. Due to the natural nature of the aggregate containing very minor fine particles, there is little risk of erosion and transport of fine sediment by water to adjacent watercourses.

4.5 Potential Resource Conflicts During Operation

Potential resource conflicts during operations could include the use of the area for recreational purposes. There are currently no dirt roads or ATV trails inside the permit boundaries and the area is not historically known to be used for such purposes.

Sediment erosion and control is one of the more significant items to be addressed with this undertaking based on the the proximity of the Ahwachenjeech Brook, which could potentially be impacted by site runoff. Humber Arm's other quarries adjacent to the proposed project along the same brook have been successfully developed with no documented environmental concerns.

The closest point at which the quarry permit area is located to Ahwachenjeech Brook is 35 m. The Newfoundland and Labrador Mining Act guidelines state that a buffer zone of 30 m must be maintained between any new project and a watercourse. This project is beyond the 30 m buffer.

In order to prevent sediment runoff into the brook or any adjacent sensitive areas, the following design considerations and mitigation measures will be followed:

- The quarry floor will be sloped towards the center of the quarry area; any water will be directed to the east-southeast, away from Ahwachenjeech Brook. The aggregate material within the area is highly permeable, which allows water to drain naturally through the sand/gravel and prevents site runoff.
- Within the proposed 15.0 ha area, a 5 m wide buffer will be left inside along the northwest boundary where no resources will be excavated (**see Figure 3**). This 5 m buffer will also be maintained if other sensitive areas, if identified during development, and any wetland areas, if present, will have a 30 m buffer maintained around their perimeter. Berms constructed from the windrowed organics will be placed within the 5 m buffer area and will serve as additional protection against sediment runoff.

- The pit floor will be kept lower than the perimeter berms as it progresses so as to contain precipitation water within the quarry site and allow natural filtered drainage below the quarry floor.
- Should water runoff become a problem, erosion and sediment control measures in line with industry best management practices will be utilized. This will include silt fencing, hay bales and erosion control ditches to prevent drainage into Ahwachenjeech Brook or and any other sensitive area identified. Also, a settling pond may be constructed to temporarily hold water within the quarry and allow for natural seepage into the underlying permeable aggregate if required.

4.6 Occupation

The occupations required for the proponent's site are listed below and classified as per the National Occupational Classification (2011):

Construction

- 1 Site Foreman/Supervisor (7302)
- 1 Heavy Equipment Operator – Loader/Excavator (7521)
- 1 Heavy Equipment Operator – Tree Harvester (7521)

Operation

- 1 Pit Manager (7302)
- 1-2 Heavy Equipment Operators – Loader, Excavator, Screening (7521)
- 1 Heavy Equipment Operator (Humber Arm or Third Party) – Tandem, Tandem-Tandem and/or Semi Dump Trailers (7521)

Operation of the quarry will necessitate one full time employee, with one seasonal employee hired as needed who will be employed full time while working. These employees will be utilized to both clear the quarry site area (Construction Phase) and extract/process the aggregate material (Operation Phase). This dual role is possible based on the phased development of the site over years which enables the quarry site to operate efficiently. All required personnel will be hired and paid directly by Humber Arm Contracting excluding the transportation of aggregate resources in dump trucks from the project area, which will be typically completed by third parties. Tree harvesting operations will be contracted to a third-party entity.

The noted required occupations for the site will be filled with current staff based on the current demand. Should there be a significant increase in the requirement for development/extraction then either a new direct hire will be brought on or the work would be contracted out. This is dependent on the length of the requirement and urgency for the

supply of the aggregate material. There is no obvious increased demand in the immediate to near term future.

4.7 Reclamation and Closure

Upon completion of the project, the quarry will be rehabilitated within the Department of Natural Resources' quarry permit guidelines. Quarry faces will be resurfaced to implement 30 degree sloping. Subsequently, the previously windrowed and preserved organic material that was stripped during the construction phase will be re-spread to promote natural revegetation. Also, once the quarry reaches a development phase that will not require additional expansion than progressive reclamation will begin to allow for revegetation of the site as quickly as possible.

5.0 APPROVAL OF THE UNDERTAKING

Table 1 contains a list of referral agencies, responses received and possible permits required for the project. Some of these approvals/permits are already in progress.

Table 1: Referral Agencies, Responses and Possible Permits Required

Department/Regulatory Agency	Status	Possible Required Approvals/Permits
Works, Services & Transportation -Deer Lake	Conditional Approval	Access Permit
Tourism, Culture, Industry and Innovation -Historic Resources	Approved	
Government Service Center (Service NL) -Corner Brook	Conditional Approval	Preliminary Application to Develop Land (Development Permit) -Protected Road Zone Permit
Fisheries and Land Resources -Crown Lands	Approved	Permit to Occupy Crown Lands
Fisheries and Land Resources -Wildlife	Conditional Approval	
Fisheries and Land Resources -Forestry	Approved	Operating Permit Commercial Cutting Permit
Municipal Affairs and Environment -Water Resources Management Division	Conditional Approval	Water Use Licence Water Management Plan
Municipal Affairs and Environment -Environmental Assessment Division	Project Registration Required	Environmental Assessment Registration
Municipal Affairs and Environment -Land Use Planning	Approved	
Natural Resources Lands Division -Quarry Materials	Approved	Quarry Permit
Tourism, Culture, Industry and Innovation -Tourism	No Referral Response by the Deadline Response Date of March 27, 2018	
Corner Brook Pulp and Paper (CBPP)	Approved	Harvested Timber to be Made Available to CBPP

6.0 SCHEDULE

The proposed schedule for this project is as follows:

Submission of Registration Document	August 2018
Review of Submission Document by Government	Sept./Oct. 2018
Commencement of Construction and Operations	Oct./Nov. 2018

7.0 FUNDING

Funding for the construction and operation of project will be provided entirely by the proponent.

8.0 LIMITATIONS

This environmental registration document was prepared in consultation with Humber Arm Contracting Inc. by NCD Consulting Ltd. for their use under the terms defined in a written contract between the two parties. The information included in this document was provided by the client and relates to the scope of this project exclusively. NCD Consulting Ltd. has worked with the client and utilized NCD's combined extensive knowledge in quarry development and potential environment related concerns to as accurately as possible, with the information available, layout the development of the site.

Bill Perrett

Name: Mr. Bill Perrett
Position: Owner, Humber Arm Contracting Inc.

Aug 15/18
Date