

SHORELINE AGGREGATES INC. SOUTH BROOK QUARRY PERMIT

Environmental Assessment Registration Document

Submitted by:
Shoreline Aggregates Inc.
P.O. Box 184
Baie Verte, NL
A0K 1B0

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

February 25, 2020

TABLE OF CONTENTS

	Page
1.0 NAME OF UNDERTAKING	1
2.0 PROPONENT	1
2.1 Name of Corporate Body	1
2.2 Address	1
2.3 Chief Executive Officer.....	1
2.4 Principal Contact Person	1
3.0 THE UNDERTAKING	2
3.1 Nature of the Undertaking	2
3.2 Purpose/ Rationale/ Need for the Undertaking	2
4.0 DESCRIPTION OF THE UNDERTAKING	2
4.1 Geographic Location	2
4.2 Physical Features	2
4.2.1 Project Site Description	2
4.2.2 Existing Biophysical Environment	7
4.3 Construction and Operation	7
4.3.1 Site Access	9
4.3.2 Site Clearing	9
4.3.3 Quarry Development and Operation	9
4.3.4 Blasting	10
4.4 Potential Sources of Pollution During Construction and Operation	11
4.4.1 Air	11
4.4.2 Noise	11
4.4.3 Domestic Waste and Sewage	11
4.4.4 Fuel	12
4.4.5 Effluent	12
4.5 Potential Resource Conflicts During Operation	12
4.6 Occupation	13

4.7 Reclamation and Closure	14
5.0 APPROVAL OF THE UNDERTAKING	15
6.0 SCHEDULE	16
7.0 FUNDING	16
8.0 LIMITATIONS	16

LIST OF FIGURES

	Page
Figure 1: Project Location Map	3
Figure 2: Detailed Project Location Map	4
Figure 3: Human Receptor Location Map	5
Figure 4: Quarry Permit Location Map	6
Figure 5: South Brook Preliminary Quarry Phased Development Design...	8

LIST OF TABLES

	Page
Table 1: Referral Agencies, Responses and Possible Permits Required...	15

1.0 NAME OF UNDERTAKING

South Brook Quarry Permit Application Area

- Quarry Permit Identification
 - File 711:12700 covering 81.0 ha

2.0 PROPONENT

2.1 Name of Corporate Body

Shoreline Aggregates Inc.

2.2 Address

P.O. Box 184
Baie Verte, NL
A0K 1B0

2.3 Chief Executive Officer

Mr. Scott Bailey
CEO/President
PO Box 184, Baie Verte, NL
A0K 1B0
Telephone: 709-532-4642
Email: sbailey@guyjbailey.net

2.4 Principal Contact Person

Mr. Shannon Lewis
Project Coordinator
PO Box 184, Baie Verte, NL
A0K 1B0
Telephone: 709-532-4642
Email: slewis@guyjbailey.net

3.0 THE UNDERTAKING

3.1 Nature of the Undertaking

The proposed project, referred to as the South Brook Quarry, is an 81.0 ha quarry permit application area (File 711:12700) on the Baie Verte Peninsula that will be developed under a quarry lease for its rock resource.

3.2 Purpose/Rationale/Requirement for the Undertaking

The main purpose/rationale of this project is to expand on an existing rock aggregate quarry near Baie Verte Newfoundland for the potential purpose of supplying the eastern seaboard of the United States and international markets with high quality civil and construction aggregate material. The material would be shipped by boat utilizing the existing and nearby dock adjacent to Mining Lease 189 held by Anaconda Mining Inc. There is established access to the quarry area with a developed quarry site in a previously approved quarry area.

4.0 DESCRIPTION OF THE UNDERTAKING

4.1 Geographic Location

The project lies on the Point Rousse Peninsula in the northern portion of the Baie Verte Peninsula, 650 m inland from the coastline. It is located approximately 4.0 km east-northeast of the Town of Baie Verte on NTS Map Sheet 12H/16 (**Figures 1 and 2**). The area is zoned as Rural and is located within the municipal boundary and municipal planning area of the Town of Baie Verte. It is also located within a domestic cutting area and Corner Brook Pulp and Papers timber limits.

Sensitive receptors near the project are shown on **Figure 3**. The Anaconda Pine Cove Mine area is located 1 kilometer due north of the project. The closest human receptor is a dwelling/cottage located 1.8 km due east of the project's nearest boundary. The next closest dwelling is within the Town of Baie Verte and is located approximately 2.65 km due west of the project's nearest border.

4.2 Physical Features

4.2.1 Project Site Description

The 81.0 ha quarry permit application area is situated directly adjacent to two of the proponent's existing quarry permits (5.0 ha File #711:12238; 4.55 ha File #711:12289 - **Figure 4**). It is intended for these 2 quarry permit areas and the 81.0 ha application area to be further developed as a single project under a quarry lease.

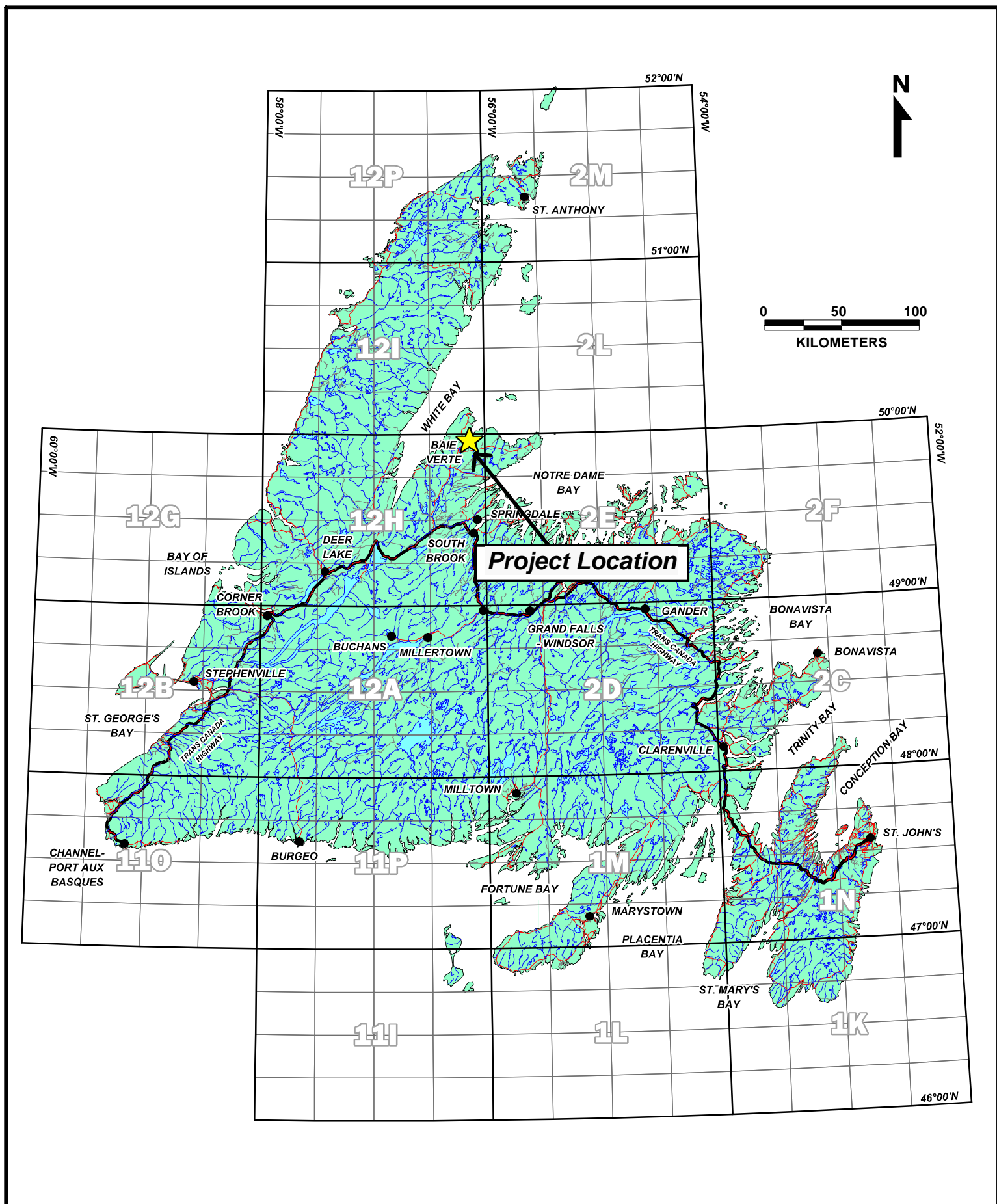


FIGURE 1: Project Location Map (N.T.S. 12H/06)



Figure 2: Detailed Project Location Map



Figure 3: Human Receptor Location Map

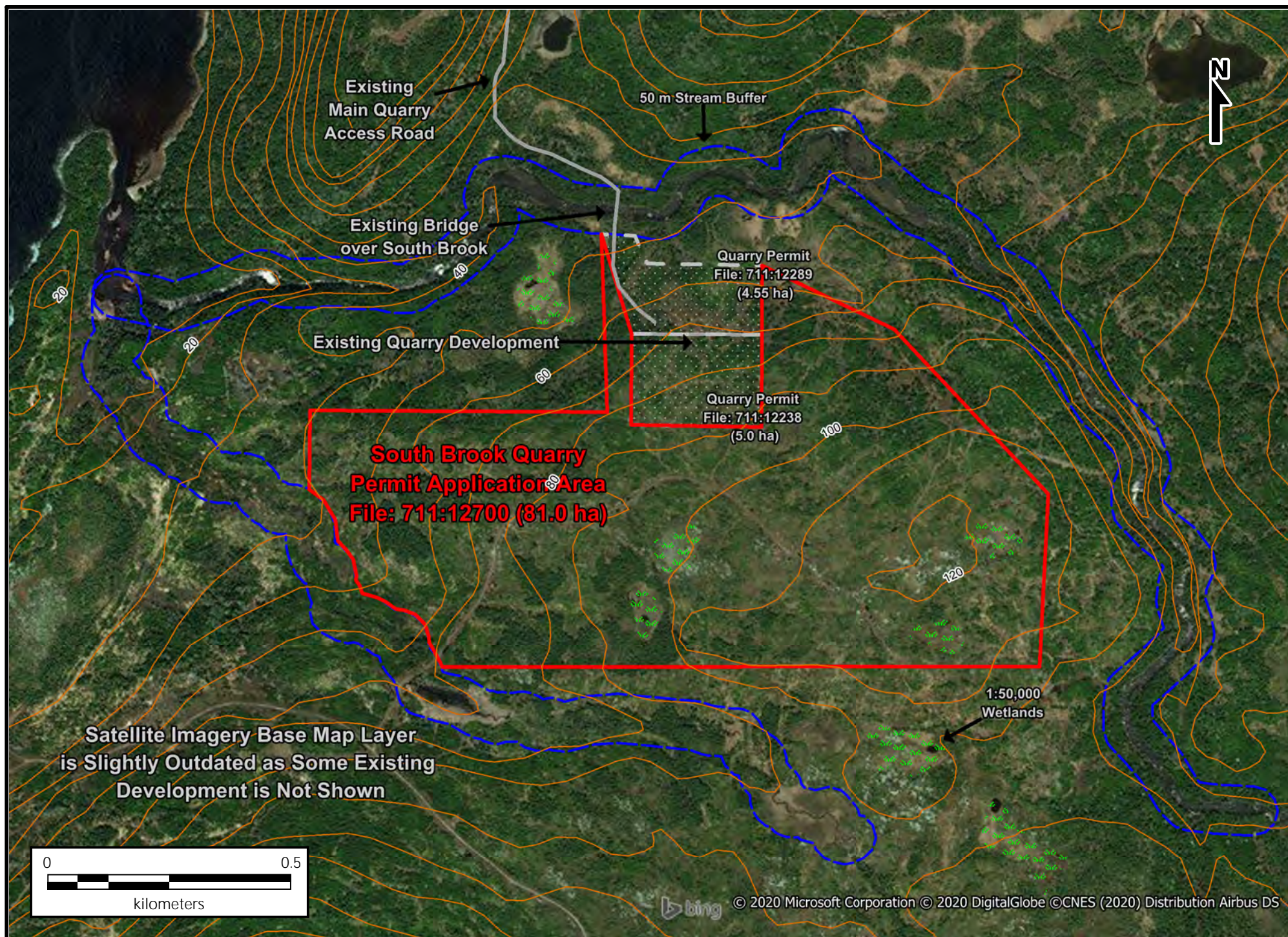


Figure 4: Quarry Permit Location Map

The quarry area is flanked by two watercourses, a small seasonal stream to the south and west of the quarry, located 50 m meters away from the closest permit boundary, and the larger South Brook watercourse also located 50 m from the nearest permit boundary. The headwaters of South Brook include an abandoned tailings pond and Little Rambler Pond, located 5.6 kilometers upstream from this project (see **Figure 2**). The tailings are from the former Rambler Mine, intermittently active between the 1950's to 90's.

Topography generally slopes down towards the northeast and to the west. A slight topographical high is situated in the southeast region of the permit area which rises to an elevation of approximately 120 m above sea level, the lowest point on the property is found to the extreme west, at 40 m above sea level. There are small isolated wetland areas located in proximity to and within the permit boundaries. The primary physical feature of this project will be the quarry itself.

4.2.2 Existing Biophysical Environment

The site is located within the *Northcentral Subregion* of the *Central Newfoundland Forest Ecoregion*. This region has higher summer maximum temperatures and lower rainfall than other portions of Newfoundland. Night frost can occur in any summer month and due to the warm summer and high evapo-transpiration losses, soils in the northern part of this ecoregion can be drier than in other portions of the Province. The rolling to undulating topography is characterized by shallow, medium quality till with a soil texture range from sandy loam to loam. Black spruce forests and aspen stands broadly dominate this area. Locally, vegetation consists of mature spruce and fir, largely cutover, with re-growth of alder, birch and young fir. Alders are prevalent in older stripped and damp areas. The project area specifically has been previously commercially clear cut and there are sporadic bedrock exposures throughout.

4.3 Construction and Operation

The quarry is currently designed to be developed in 6 to 7, five-year development phases for a total quarry life of approximately 30-35 years. **Figure 5** shows the anticipated phased development of the quarry area. Each section/block corresponds to 5 years of quarry development, the number of years for which the Department of Natural Resources requires an updated set of quarry lease plans for any quarry lease with bonding requirements for reclamation updated every five years.

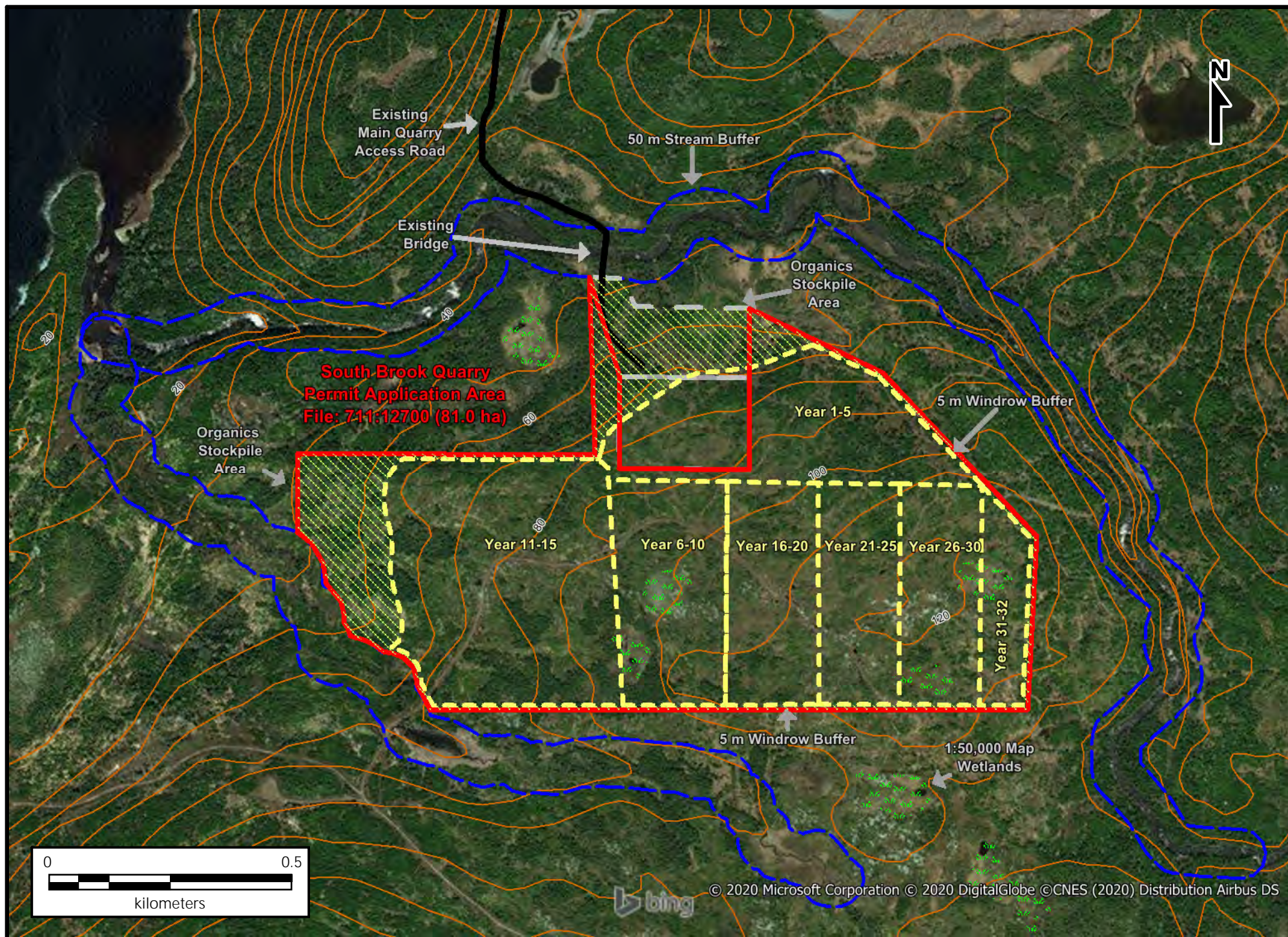


Figure 5: South Brook Preliminary Quarry Phased Development Design

4.3.1 Site Access

The main access to the project site will be by the existing gated access road that extends from the Pine Cove Anaconda Mine Site to the quarry area with an established bridge over South Brook. Access to the Pine Cove site is gained from the main road leading to the Town of Baie Verte (Route 410) via the La Scie Road (Route 414), and by taking Route 418 towards Ming's Bight. The entrance to the Pine Cove site access road is 8 km along Route 418 on the west side. The mine itself is located 5.5 km along the access road; a 1.5 km gravel road extends towards the south from the mine area and into the developed portion of the quarry. A separate public forest access road, the Rocky Pond Road, is located 230 m south of the quarry boundary with an isolated dead-end branch extending into the permit area. The portion of the road within the quarry area will be blocked along the quarry boundary by the placement of armourstone and windrowed organics to restrict access by the general public and to prevent potential safety issues and illegal dumping. Since this project will be developed in phases, this means that the point of restriction will likely move south in time as development progresses in Years 11-15.

4.3.2 Site Clearing

The land within the quarry permit application area has previously been commercially harvested for trees, most recently during the 1990's. It is estimated that there is currently 20% of the land covered in mature trees with the remainder consisting of stump growth and shrubs with no recent silviculture work. The land will be cleared in phases as development proceeds either by handheld chainsaws or mechanical harvesting equipment. This will be completed under a commercial cutting permit issued by the Department of Fisheries and Land Resources. Merchantable timber will be made available to the Corner Brook Pulp and Paper mill in Corner Brook for use as pulp or hog fuel. Surficial soils, subsoils and grubbing will be stripped and windrowed to the permit boundary within the dedicated 5 m buffer zones and will be used to construct perimeter berms as required to restrict access and develop a safe closed quarry development area. Surficial soils, subsoils and grubbing will also be stockpiled in designated areas. Any significant topsoil will be stockpiled separately and together with the windrowed/stockpiled grubbing material will be used for progressive reclamation in the future.

4.3.3 Quarry Development and Operation

The location of the quarry permit application area boundary was determined by the location of the highest quality rock resource in the area and based on avoiding and

buffering adjacent watercourses. Development of the quarry will expand from the proponent's existing quarry faces, located inside the approved and issued quarry permits.

The length of the construction aspect of this project will be minimal as it will be carried out in a phased approach over decades with anticipated annual clearing to be at ~2.5 ha. The work will consist of clearing the site from trees and grubbing while removing and stockpiling organics as mentioned in **Section 4.3.2**. Operational activities will consist of quarrying of the rock resources by drilling, blasting and ripping. Both the construction and operation stages of the quarry will employ the use of heavy equipment such as excavators, front end loaders and dump trucks.

Processing activities will include the use of an excavator to separate oversized material. This oversized material will be stockpiled within the quarry while the remainder of the rock resource will be transported out of the quarry permit area by rock/dump truck and into the Anaconda Mining Lease where it will undergo additional processing. The material will then be stockpiled in the Mining Lease area until it is potentially shipped to international markets. The use of water for secondary processing and/or crushing will not be required within the South Brook quarry area.

Typical quarrying activities will take place between April and February of each year corresponding to an approximately 9-month production cycle. The timing of the production cycle will be defined and limited mostly by the timing of ocean ice flow which can restrict product shipment. The approximate 3-month shut down period will allow for equipment maintenance and annual quarry development planning.

4.3.4 Blasting

Blasting will be completed through a certified third-party subcontractor capable of producing the required rock size per blast, with quarry benches blasted on <10m lifts. Appropriate safety measures will be put in place at the time of blasting such as the placement of quarry related personnel at all potential access points to the quarry area and communicating blasting schedules to local communities as required. A detailed blasting operation plan will be produced on a per blast basis to safely execute each specific blast based on requirements at that time. Blasting plans will meet the detailed standard terms and conditions of a quarry permit for blasting. All blasting will also adhere to the Government of Newfoundland and Labrador Occupational Health and Safety Regulations under the Occupational Health and Safety Act.

4.4 Potential Sources of Pollution During Construction and Operation

The construction and operational phases of the development will utilize equipment such as chainsaws, timber harvesting equipment, front end loaders, excavators and dump trucks. This equipment and related activities represent a potential source of noise disturbance, exhaust emissions, the potential release of petroleum hydrocarbons, dust, domestic waste and general refuse.

4.4.1 Air

Air pollution will be controlled by having all equipment on site fitted with the appropriate emission-control equipment. Site clearing will be completed in phases reducing the overall potential of excessive dust and pollution impacts. Dust created by equipment operation along roads will be kept at a minimum by the watering of roads as required. All activities within the quarry will be conducted in a manner that respects the province's *Air pollution Control Regulations (2004)*.

4.4.2 Noise

The day to day operations of the quarry site are not anticipated to have an effect on nearby receptors anymore than ongoing and previous operations at the Pine Cove Anaconda Mine located just to the north. All equipment will be kept in good operating order to ensure that maximum manufacture decibel levels produced are not exceed.

Maximum noise levels will be produced from the detonation of explosives during quarrying operations. The extent to which these factors can cause negative impacts is directly related to the distance from the blast. Previous blasting in the adjacent Pine Cove Anaconda Mine has not caused any documented negative impacts to surrounding receptors. Blasting will be completed on clear days to allow the air blast overpressure to travel vertically as opposed to horizontally. This will minimize any noise/vibration disturbance to nearby receptors. The site will be a controlled work environment and all workers will be equipped with the proper hearing protection.

4.4.3 Domestic Waste and Sewage

Domestic waste generated during construction will be collected and disposed of in accordance with the Environmental Protection Act 2002. There will be no sewage requirements or need for additional portable lavatories within the quarry as these facilities are already present on the adjacent Anaconda Property.

4.4.4 Fuel

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. Any leaks or spills in excess of 70 liters will be reported immediately to the Environmental Emergency Telephone Line and will be cleaned up immediately.

4.4.5 Effluent

Sediment erosion and control is one of the more significant items to be addressed with quarrying activities. There is a potential for erosion and transport of fine-grained particles during construction activities in relation to clearing of the land. Constant monitoring of this potential will take place during construction while clearing takes place and if required appropriate mitigating measures in line with industry best management practices will be utilized. The first step will be to create erosion control ditches with check dams, hay bales, and silt fencing to filter water leaving the site. Site runoff will then be directed towards vegetated areas, acting as a filter for fine particles.

The same process will be applied for the operational phase of the project. Site runoff will be directed to various vegetated areas depending on what stage of development is occurring. If required as a larger footprint is developed, and progressive reclamation is in progress, small shallow areas maybe be constructed to temporarily hold water within the quarry and allow for suspended sediment to deposit prior to water being released into vegetated areas along ditches with check dams, hay bales and silt fencing. All water released into the environment will meet the regulatory requirements of the *Environmental Control Water and Sewage Regulations (2003)* as well as provincial permits.

4.5 Potential Resource Conflicts During Construction and Operation

Potential resource conflicts during construction and operation of the quarry could include the following: encounter with wildlife, the use of the area for recreational purposes such as big and small game hunting, berry harvesting, and domestic wood cutting. Other aspects include the alteration of small isolated wetlands within the proposed lease area, and potential release of sediment to nearby streams.

Any encounter with wildlife shall follow regulations stated in the Wildlife Regulations under the *Wildlife Act (CC. 96-809)*. As the area is generally remote, the use of this area for

recreational purposes is anticipated to be minimal. The historical nature of industrial activity in the area is expected to limit hunting and berry picking activity in favor of more easily accessible areas from main access highways.

The project is within a domestic cutting area, the immediate use of land for domestic cutting is anticipated to be minimal because of the small amount of merchantable timber in the quarry area, and because the overall domestic cutting area covers a large area, at over 3,000 ha. Based on the regional population there are numerous other areas available for domestic wood cutting to meet the needs for the surrounding communities. Regardless, access from Rocky Pond Road, to uncleared areas within the permit area will be kept open to the public until the point in time when development reaches those areas.

Four separate marshy areas that appear on the 1:50,000 NTS map sheet are within the project's permit boundaries. These marshy areas do not appear to be connected and there is no obvious connection between them and the watercourses on either side of the property. Overall the marshy areas appear to be isolated small "bowl like" depressions controlled by bedrock where organic matter and water collects. These areas will be removed during the phased development beginning with the westernmost two, projected to be removed during year 6-10 of the project. The other two, located in the southeastern corner of the property are projected to be removed during year 26-32.

Most of the project boundaries are located beyond the required 50 m buffer from any body of water that appear on the 1:50,000 NTS map sheet, except for the location of the entrance to the quarry and for the southwestern boundary which are located at exactly 50 m. The following quarry designs will be applied as precautionary measures to prevent suspended solids from reaching any of the watercourses:

- Within the proposed quarry area, a 5 m wide buffer will be left intact where no resources will be excavated alongside all permit boundaries, except for the entrance where an existing access road enters the site, (see **Figure 4**). Berms constructed from the windrowed organics will be placed within the 5 m buffer area.
- The pit floor will be kept lower than the perimeter berms where present as development progresses so as to contain precipitation water within the quarry site and contain any suspended solids to within the quarry area.
- Precipitation water for the entire site will be controlled at exit points using the mitigation measures previously mentioned in **Section 4.4.1**.

4.6 Occupation

The occupations required for the proponent's site are listed below and classified as per the National Occupational Classification (2016):

Construction

- 1 Quarry Supervisor (8221)
- 3 Heavy Equipment Operators – Loader/Dozer/Excavator/Dump Truck (7521)
- 1 Heavy Equipment Operator – Tandem, Tandem-Tandem or Rock Truck (7521)
- 1 Heavy Equipment Operator – Tree Harvester (7521)

Operation

- 1 Quarry Supervisor (8221)
- 1 Land Surveyor (2154)
- 3 Heavy Equipment Operators – Loader/Dozer/Excavator (7521)
- 5 Heavy Equipment Operators – Tandem, Tandem-Tandem, Rock Truck and/or Semi Dump Trailers (7521)

Operation of the quarry will require 10 full time employees. These employees will be utilized to both clear the quarry site area during the construction phase and extract material during the operational phase. This dual role is possible based on the phased development of the site over decades which enables the quarry to operate efficiently. Drilling and blasting work and other specialized work when necessary will be contracted out to third party entities.

The noted required occupations for the site will be filled with a mix of current and new employees. Shoreline Aggregates is a subsidiary of Guy J. Bailey Ltd., a general contracting company active in the Baie Verte area that strives to provide equal opportunity employment opportunities with preference given to local labor resources. The company is also committed to establishing employment goals for gender equity in order to improve employment opportunities for females in the construction industry.

4.7 Reclamation and Closure

The project will be rehabilitated under a progressive reclamation plan secured by bonding under a quarry lease issued by the Department of Natural Resources. Ultimately quarry faces will be resurfaced to implement 30-degree sloping. Windrowed and preserved organic material that was stripped during the construction phase will be re-spread to promote natural revegetation. It is projected that progressive rehabilitation can begin after year 5 of development, or once the quarry reaches a development phase that will not require additional expansion. This will allow for revegetation of the site as quickly as possible while not having the entire site disturbed. Rehabilitation will be completed in a phased approach, generally following the development phases, until its completion.

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 which are already in progress.

Table 1: Referral Agencies, Responses and Possible Permits Required

Department/Regulatory Agency	Status	Possible Required Approvals/Permits
Works, Services & Transportation	Approved	
Tourism, Culture, Industry and Innovation -Tourism	Approved	
Tourism, Culture, Industry and Innovation -Historic Resources	Approved	
Tourism, Culture, Industry and Innovation -Parks	Approved	
Government Service Center (Service NL)	Approved	
Town of Baie Verte	Approved	
Fisheries and Land Resources -Crown Lands	Conditional Approval	
Fisheries and Land Resources -Agriculture	Approved	
Fisheries and Land Resources -Fisheries and Aquaculture	Approved	
Fisheries and Land Resources -Natural Areas	Approved	
Fisheries and Land Resources -Land Management	Approved	
Fisheries and Land Resources -Wildlife	Project Registration Required	Environmental Assessment Registration
Fisheries and Land Resources -Forestry	Conditional Approval	Operating Permit Commercial Cutting Permit
Municipal Affairs and Environment -Water Resources Management Division	Conditional Approval	
Municipal Affairs and Environment -Environmental Assessment Division	Project Registration Required	Environmental Assessment Registration
Municipal Affairs and Environment	Approved	
Natural Resources-Lands Division -Quarry Materials	Approved	Quarry Permit
Corner Brook Pulp and Paper Ltd.	Approval Pending	

6.0 SCHEDULE

The proposed schedule for this project is as follows:

Submission of Registration Document	February 2020
Review of Submission Document by Government	March/April 2020
Commencement of Construction and Operations	May/June 2020

7.0 FUNDING

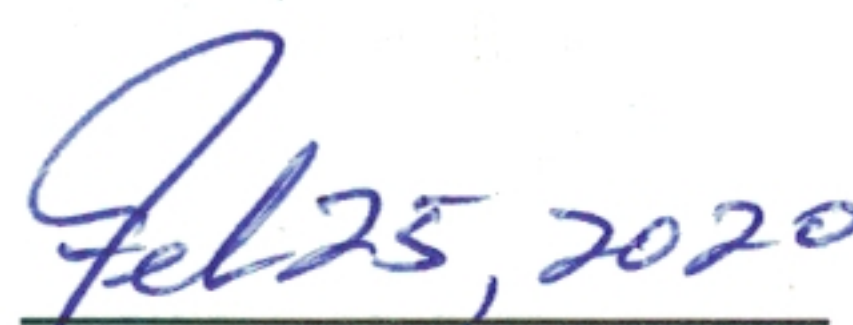
Funding for the construction and operation of project will be provided entirely by the proponent.

8.0 LIMITATIONS

This environmental registration document was prepared by NCD Consulting Ltd. in consultation with Shoreline Aggregates Inc. 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 and with the information available, layout the development of the site in a safe and environmentally sustainable manner.



Name: Mr. Scott Bailey
Position: CEO/President
Shoreline Aggregates Inc



Date