



# **CHEDABUCTO AGGREGATES QUARRY EXPANSION**

## **Environmental Assessment Registration Document**

**September 2014**



*Prepared By:*

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**CHEDABUCTO AGGREGATES QUARRY EXPANSION -  
Environmental Assessment Registration Document  
For a Class I Undertaking Under Section 9 (1) of the NS Environmental  
Assessment Regulations**

*Prepared For:*

**Chedabucto Aggregates Ltd.**

6640 Highway 16, Half Way Cove

Guysborough NS, B0H 1N0

[www.chedabuctoaggregates.com](http://www.chedabuctoaggregates.com)

**September 2014**

## **EXECUTIVE SUMMARY**

Chedabucto Aggregates Limited currently operates a quarry operation in Halfway Cove in the Municipality of the District of Guysborough, Nova Scotia. The owner is proposing to consolidate the existing operations and expand to a total proposed quarry area of 11.4 hectares, in order to maintain current levels of production.

As the proposed quarry expansion is larger than 4 ha, the Project is considered a Class I Undertaking under the Nova Scotia Environmental Assessment Regulations and as such, requires a registered Environmental Assessment. As part of the assessment, a number of environmental components were evaluated. Based on an assessment of existing environmental conditions and the identification of potential interactions with the Project, mitigation strategies and best management practices were identified to avoid or mitigate potential effects of the Project for the majority of the components. Following this preliminary assessment, the components identified for further assessment of residual effects were: groundwater, terrestrial flora and habitat, terrestrial fauna (including birds and bats) and habitat, air quality, noise and surrounding land use.

The effects assessment for all components determined that residual effects are expected to be not significant. No other undertakings were identified in the vicinity of the Project Area, which may interact cumulatively with the Project.

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- Appendix I: Bird Methodology
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## LIST OF ACRONYMS

AANDC	Aboriginal Affairs and Northern Development Canada
ACCDC	Atlantic Canada Conservation Data Centre
ARD	Acid Rock Drainage
ARIA	Archaeological Resource Impact Assessment
ATV	All-terrain Vehicle
AQHI	Air Quality Health Index
BHCI	Boreas Heritage Consulting Inc.
BMP	Best Management Practice
CEAA	<i>Canadian Environmental Assessment Act</i>
CMM	Confederacy of Mainland Mi'kmaq
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CWS	Canadian Wildlife Service
dBA	Decibels 'A' Weighted
DFO	Fisheries and Oceans Canada
EA	Environmental Assessment
EC	Environment Canada
EPP	Environmental Protection Plan
ESCP	Erosion and Sediment Control Plan
GASHA	Guysborough Antigonish Strait Health Authority
IBA	Important Bird Area
KMKNO	Kwilmu'kw Maw-klusuaqn Mi'kmaq Rights Initiative
LNG	Liquefied Natural Gas
MBBA	Maritime Breeding Bird Atlas
MBCA	<i>Migratory Birds Convention Act</i>
MODG	Municipality of the District of Guysborough
MW	Megawatt
CCH	Nova Scotia Communities, Culture and Heritage
NSDNR	Nova Scotia Department of Natural Resources
NSE	Nova Scotia Environment
NS EA	Nova Scotia <i>Environment Act</i>
NS ESA	Nova Scotia <i>Endangered Species Act</i>
NSOAA	Nova Scotia Office of Aboriginal Affairs
NSTIR	Nova Scotia Department of Transportation and Infrastructure Renewal
OHSA	<i>Occupational Health and Safety Act</i>
PID	Property Identification Number
PM	Particulate Matter
RPA	Recovery Potential Assessment
SARA	<i>Species at Risk Act</i>
SES	Significant Ecological Areas
SOCI	Species of Conservation Interest
UTM	Universal Transverse Mercator
VEC	Valued Environmental Component
WAM	Wet Areas Mapping
WHMIS	Workplace Hazardous Materials Information System

## 1.0 PROPONENT DESCRIPTION

Chedabucto Aggregates Limited is proposing to consolidate and expand an existing quarry located at 6640 Highway 16, Halfway Cove, Guysborough County, Nova Scotia (the Project).

Chedabucto Aggregates Limited is a private company, registered in Nova Scotia, engaged in the blasting, crushing, and screening of bedrock into a number of aggregate stone products. Chedabucto Aggregates has been operating the existing quarry in Halfway Cove since 2004, with the Approval for the current quarry operations obtained in 2009 (Appendix A).

### 1.1 Proponent Information

**Name of Proponent:** Chedabucto Aggregates Limited  
**Postal Address:** 6640 Highway 16  
Halfway Cove  
RR#2  
Guysborough, NS B0H 1N0  
**Tel:** (902) 358-2729  
**Email:** [bgeorge@modg.ca](mailto:bgeorge@modg.ca)  
**Website:** <http://www.chedabuctoaggregates.com>

Registry of Joint Stocks for the proponent company is included in Appendix A.

### Company President Contact and/or Environmental Assessment Contact

**Name:** Blair George  
**Official Title:** Owner/Operator  
**Address:** As above  
**Tel:** (902) 867-7749  
**Email:** [bgeorge@modg.ca](mailto:bgeorge@modg.ca)



Signature of Company  
Blair George, Owner/Operator

September 10, 2014  
Date

## **Environmental Consultant Contact**

**Name:** Carys Burgess  
**Official Title:** Senior Environmental Specialist  
**Address:** Railside, 1355 Bedford Highway  
Bedford, NS B4A 1C5  
**Tel:** (902) 835-5560  
**Fax:** (902) 835-5574  
**Email:** cburgess@strum.com

## **2.0 DESCRIPTION OF THE UNDERTAKING**

### **2.1 Name of the Undertaking**

Chedabucto Aggregates Quarry Expansion. The proposed undertaking will be referred to in this document as “the Project”.

### **2.2 Location**

The Project Area is located at 6640 Highway 16, Halfway Cove, in the Municipality of the District of Guysborough (MODG), approximately 13 km southeast of the Shiretown of Guysborough, NS (Drawing 2.1). The Project Area is located within Property Identification Number (PID) 35034784 (the Project Property). The Project Area location is indicated on Drawing 2.1.

## **3.0 SCOPE**

### **3.1 Project Background**

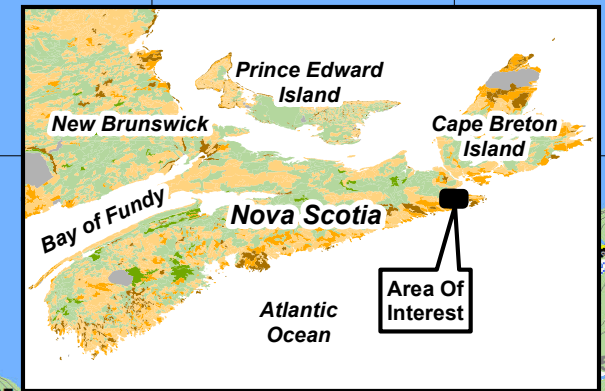
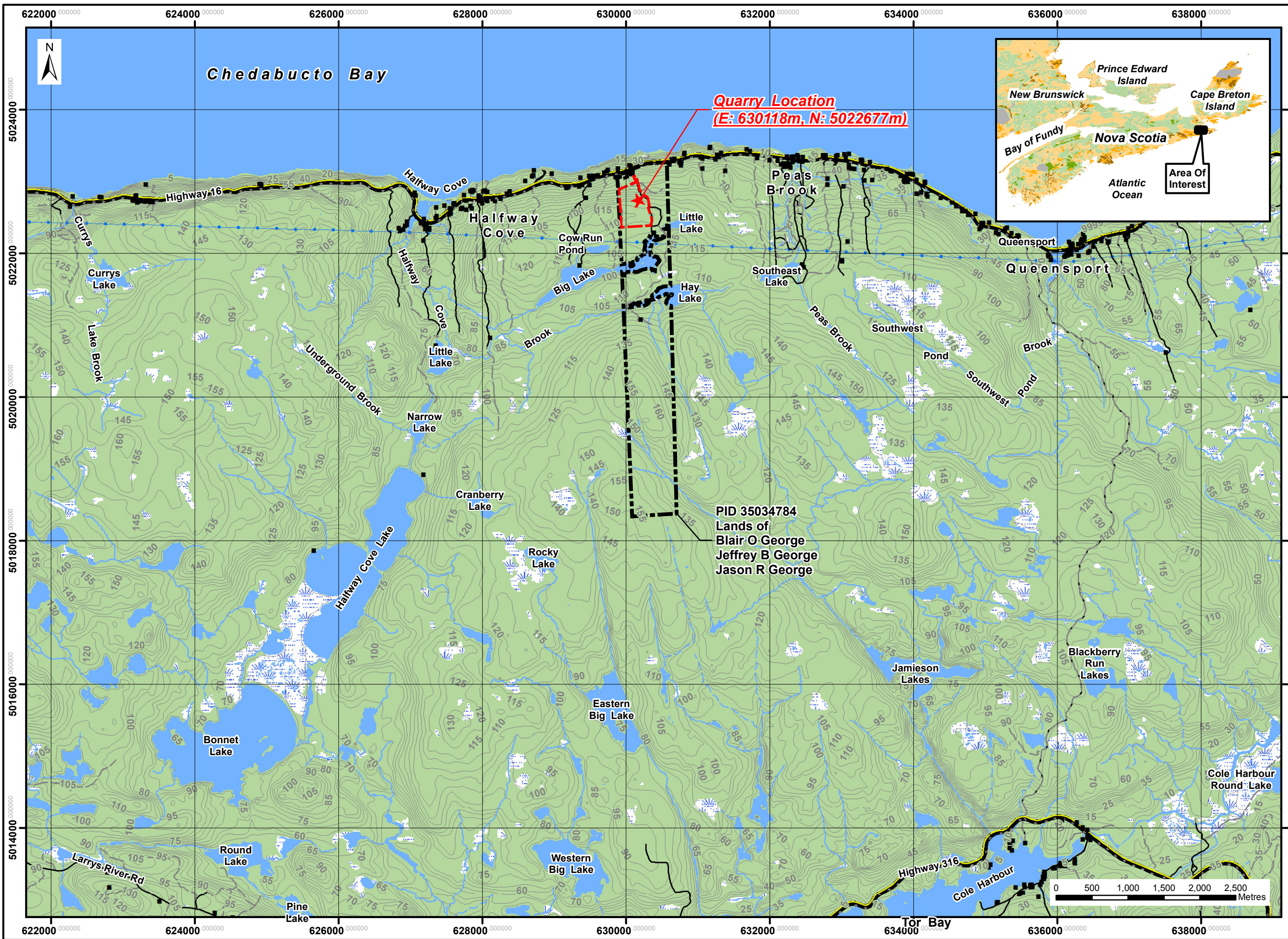
The proposed Project includes consolidation of two existing quarries, and expansion of the operations to a total proposed quarry area of 11.4 hectares. This expansion is required to maintain current levels of production at the site. Production levels and operations are not expected to increase as a result of the proposed expansion. The facility currently operates under “Approval to Construct and Operate No. 2009-066270” (the Approval), issued by Nova Scotia Environment (NSE), pursuant to Division V of the Activities Designation Regulations (N.S. Reg. 352/2007) (Appendix A). The current Approval is effective from May 22, 2009 until May 31, 2019.

An approval to expand the quarry is required pursuant to Part IV of the NS *Environment Act* (NS EA) (N.S. Reg. 52/2005), and the Environmental Assessment Regulations (N.S. Reg. 26/95), before commencing work. Projects subject to an Environmental Assessment (EA) are divided into two classes: Class I and Class II. In proposing an expansion that would be in excess of 4 ha, the Proponent is required to register the Project as a Class I Undertaking. This document is intended to fulfil the primary requirement for the Project registration under the legislation.

### **3.2 Spatial Boundaries**

For the purpose of EA, the following spatial boundaries are defined:





- Notes:**
- Reference: Digital Topographic Mapping and Property Records and Management Unit MU0704 by Nova Scotia Geomatics Centre.
  - Projection: NAD83(CSRS), UTM Zone 20 North.

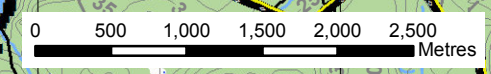
- Legend:**
- Project Area
  - Project Property
  - Building
  - Major Roads and Highways
  - Public Roads
  - Access Roads / Trails
  - Contours (m)
  - Existing Transmission Lines
  - Mapped Stream
  - Mapped Indefinite Stream
  - Water Bodies
  - Mapped Wet Area

**Chedabucto  
Aggregates  
Quarry Expansion**

**Project Location**



Date: August 2014	Project #: 13-4880
Scale: 1:50,000	Drawing #:  <b>2.1</b>
Drawn By: H. Serhan	
Checked By: C. Baker	





- The Project Property (299 ha): This land parcel is identified as PID 35034784. It is a small portion of this property on which Project activities will be conducted.
- The Project Area (21.9 ha): This includes all lands within the proposed quarry expansion boundary, as well as the two Existing Quarries. Within the Project Area, 6.25 ha are proposed “Expansion Lands”, and 9.6 ha will be excluded from the expansion due to the presence of wetlands in the south-southwest portion of the Project Area.
- The Existing Quarries (5.17 ha): Includes disturbed lands which have already been quarried under past/existing IAs. The northern existing quarry is 1.72 ha in size, while the southern quarry is 3.45 ha.
- Quarry Expansion Lands (6.25 ha): Includes the lands on which the proposed expansion will occur. These lands are divided into three phases:
  - Phase 1 - 1.82 ha.
  - Phase 2 - 2.83 ha.
  - Phase 3 - 1.6 ha.
- Wetland Exclusion Area (9.6 ha): The remaining south-southwestern portion of the Project Area will be excluded from the expansion due to the presence of wetlands.

The area assessed as the Project Area encompasses a total of 21.9 ha. Currently, 13.2 ha of the land within the Project Area is undisturbed.

The spatial boundaries of the described above are shown on Drawings 3.1 to 3.3.

### **3.3 Project Schedule**

The extractable reserves within the Project Area are estimated to be in excess of 1 to 2 million tonnes. For the purpose of the EA, a project timeline of 30 years is proposed beginning in 2015. Three expansion phases are proposed (Drawing 3.3):

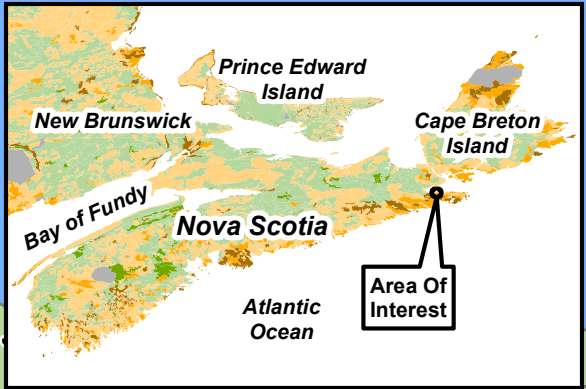
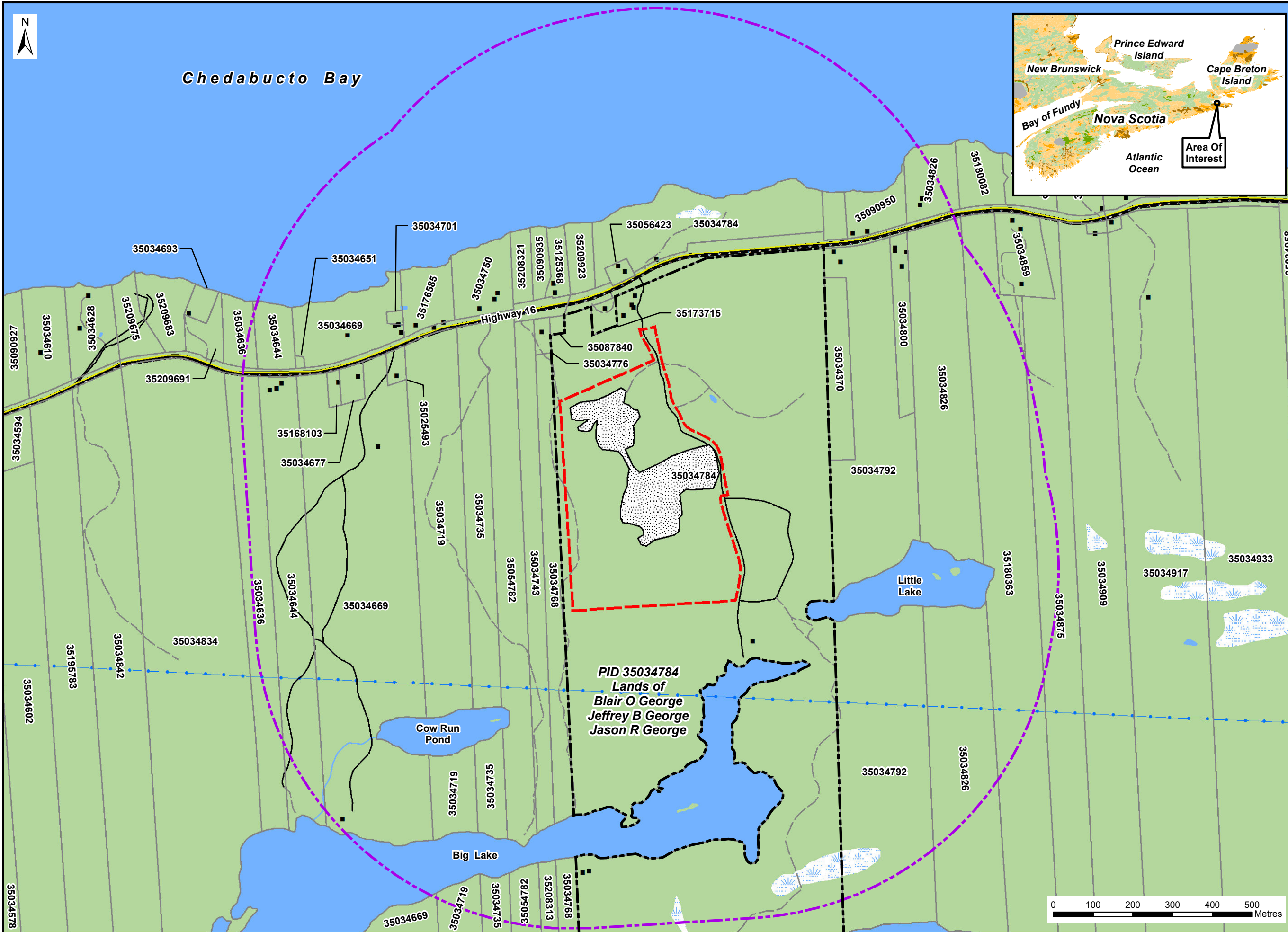
- Phase 1 (years 2015-2025) - 1.82 ha.
- Phase 2 (years 2025-2053) - 2.83 ha.
- Phase 3 (years 2035-2045) – 1.6 ha.

### **3.4 Scope of the Project**

Chedabucto Aggregates Ltd. proposes to consolidate the two existing quarries and expand to a total proposed quarry area of 11.4 ha, to allow for continued aggregate production (blasting, crushing, screening and stockpiling), which will continue to supply aggregate sand and gravel to local commercial contractors. The proposed quarry expansion is intended to allow for the continuation of operations at the Halfway Cove site, maintaining production at approximately the same level as current operations. Though tonnage is variable from year to year, the annual aggregate production rate is expected to remain near the current average rate of approximately 25,000 metric tonnes per year, though maximum production rates could increase to 50,000 metric tonnes/year depending on market demand.

Over the next 30 years, the extension will advance primarily in a north to south direction and is proposed in three phases (Section 3.3). The property (PID 35034784) on which the Project Area is





- Notes:**
- Reference: Digital Topographic Mapping and Property Records and Management Unit MU0704 by Nova Scotia Geomatics Centre.
  - Projection: NAD83(CSRS), UTM Zone 20 North.

- Legend:**
- Project Property
  - Project Area
  - Existing Quarry
  - 800m Quarry Buffer
  - Adjacent Properties
  - Building
  - Major Roads and Highways
  - Public Roads
  - Access Roads / Trails
  - Existing Transmission Lines
  - Mapped Stream
  - Mapped Indefinite Stream
  - Mapped Wet Area
  - Water Bodies

**Chedabucto  
Aggregates  
Quarry Expansion**

**Project Site**



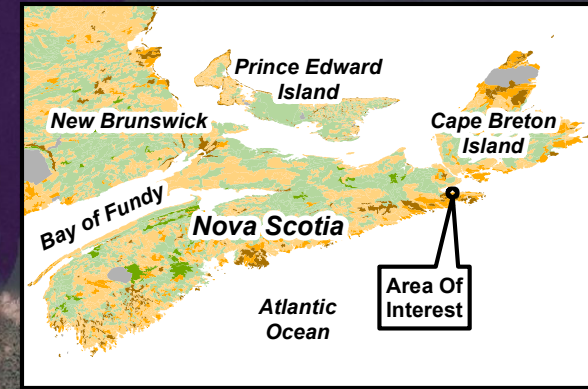
Date: August 2014	Project #: 13-4880
Scale: 1:9,000	Drawing #: <b>3.1</b>
Drawn By: H. Serhan	Checked By: C. Baker





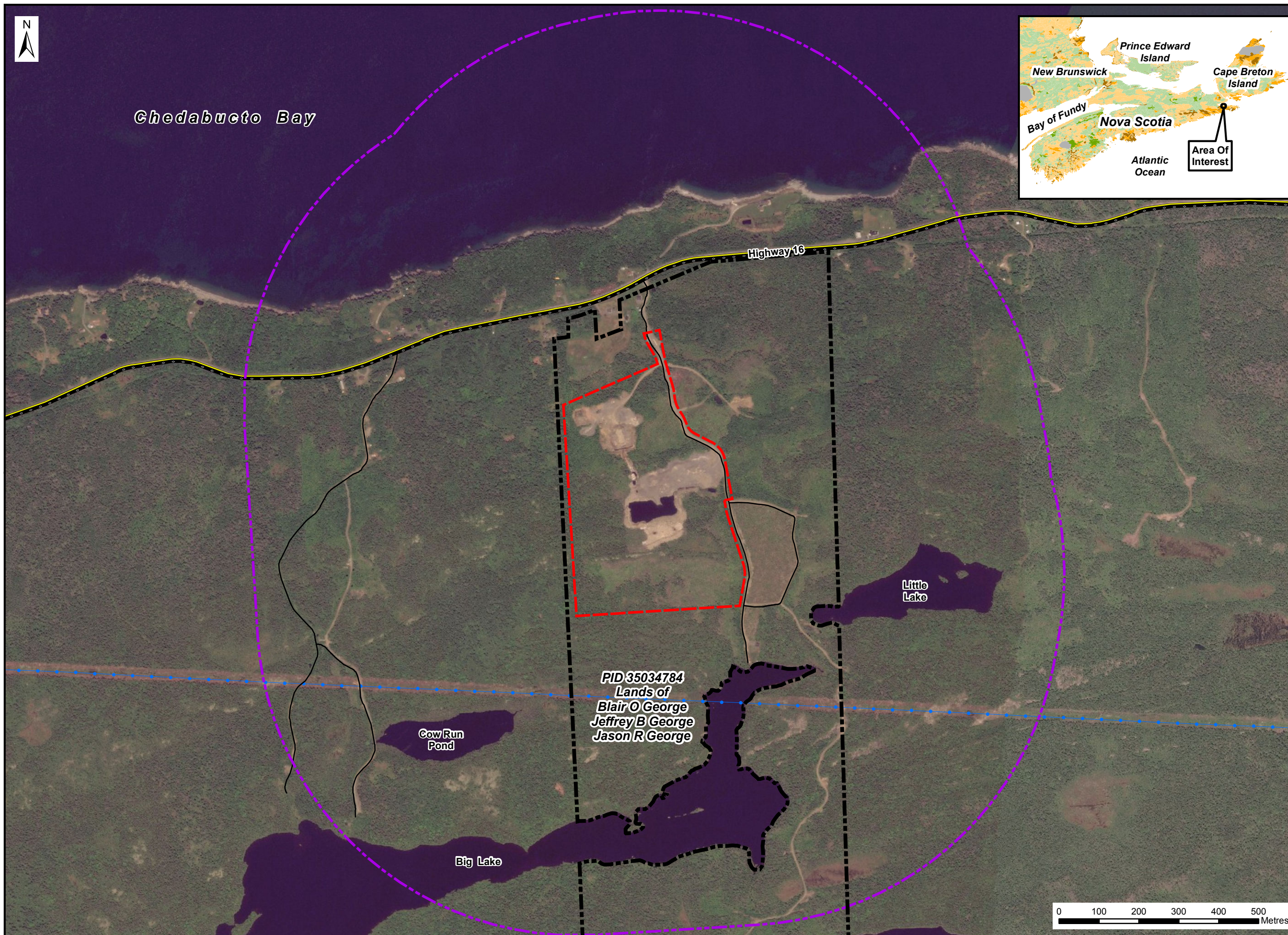


*Chedabucto Bay*



- Notes:**
- Reference: Digital Topographic Mapping by Nova Scotia Geomatics Centre. ESRI Online Satellite Imagery.
  - Projection: NAD83(CSRS), UTM Zone 20 North.

- Legend:**
- Project Property
  - Project Area
  - 800m Quarry Buffer
  - Public Roads
  - Major Roads and Highways
  - Existing Transmission Lines

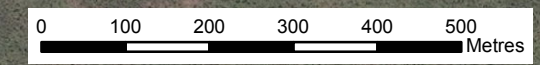


**Chedabucto  
Aggregates  
Quarry Expansion**

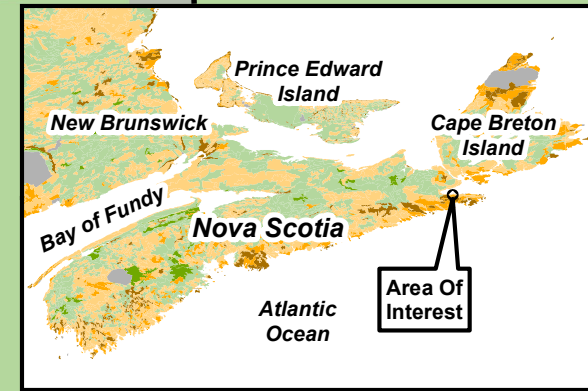
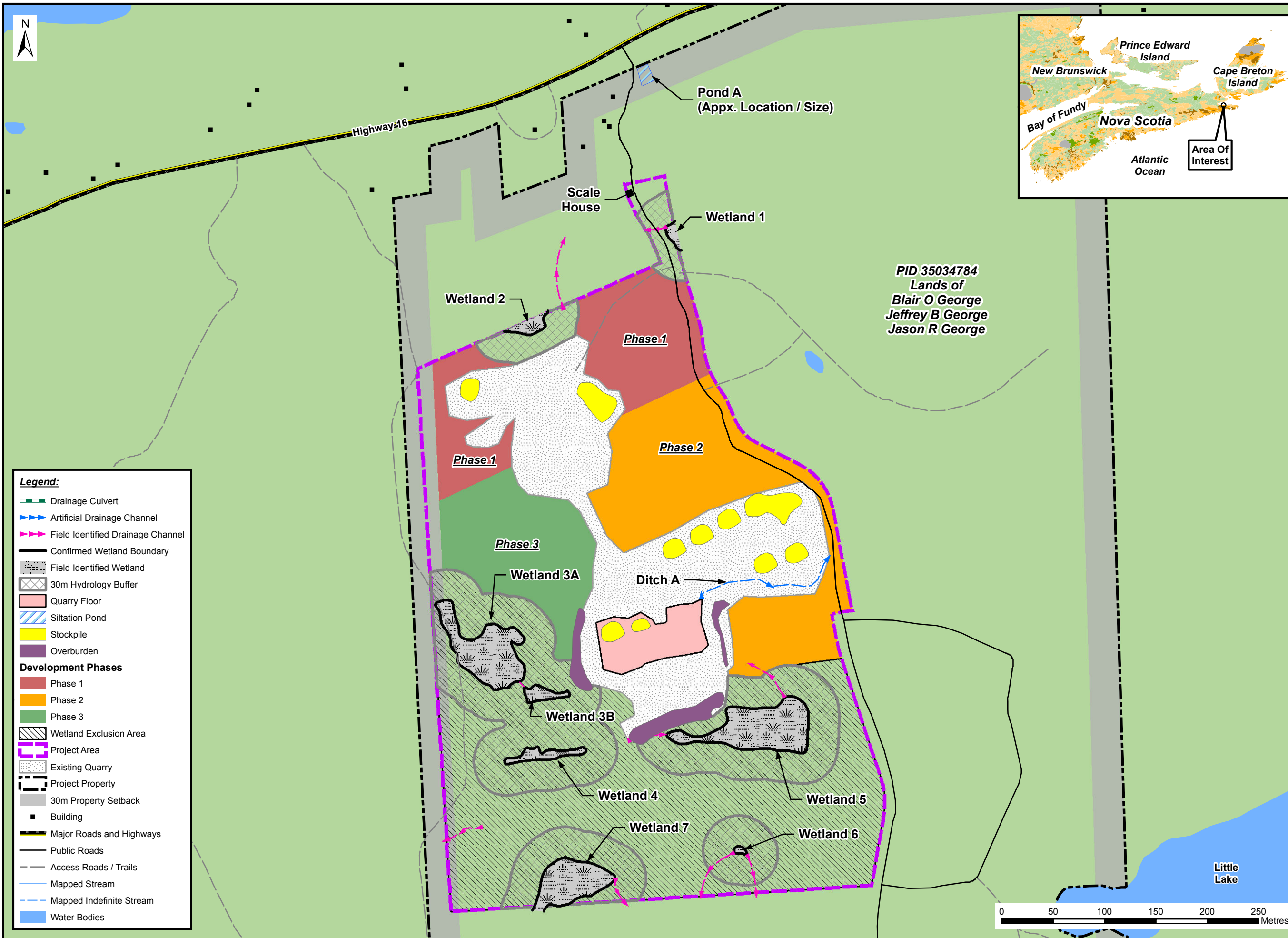
**Satellite Imagery**



Date: August 2014	Project #: 13-4880
Scale: 1:9,000	Drawing #: <b>3.2</b>
Drawn By: H. Serhan	
Checked By: C. Baker	







- Notes:**
- Reference: Digital Topographic Mapping by Nova Scotia Geomatics Centre. Plan No. 09-015-30A, dated Mar. 2009, by HJS Consultants Ltd.
  - Projection: NAD83(CSRS), UTM Zone 20 North.
  - GPS Data Collected is Typically to +/-5m Accuracy.

PID 35034784  
Lands of  
Blair O George  
Jeffrey B George  
Jason R George

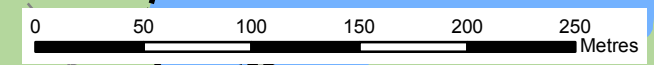
- Legend:**
- Drainage Culvert
  - Artificial Drainage Channel
  - Field Identified Drainage Channel
  - Confirmed Wetland Boundary
  - Field Identified Wetland
  - 30m Hydrology Buffer
  - Quarry Floor
  - Siltation Pond
  - Stockpile
  - Overburden
- Development Phases**
- Phase 1
  - Phase 2
  - Phase 3
- Wetland Exclusion Area
  - Project Area
  - Existing Quarry
  - Project Property
  - 30m Property Setback
  - Building
  - Major Roads and Highways
  - Public Roads
  - Access Roads / Trails
  - Mapped Stream
  - Mapped Indefinite Stream
  - Water Bodies

## Chedabucto Aggregates Quarry Expansion

### Quarry Development Plan



Date: August 2014	Project #: 13-4880
Scale: 1:3,500	Drawing #: <b>3.3</b>
Drawn By: H. Serhan	Checked By: C. Baker



situated is jointly owned by B. George, J.B. George and J.R. George, and is leased to Chedabucto Aggregates.

Quarrying at the site began in 2004, under separate Approvals, with the current Approval issued in 2009. To date, a total combined area of approximately 5.17 ha has been quarried.

Additional details on individual project components is presented in Section 4.0.

#### 3.4.1 Purpose and Need for the Project

The purpose for the Project is to allow Chedabucto Aggregates to expand the existing quarry to continue current operations at the quarry in Halfway Cove. The aggregate stone products produced by Chedabucto Aggregates are used by Nova Scotia Department of Transportation and Infrastructure Renewal (NSTIR) for public infrastructure, and by local individual consumers and small commercial enterprises for private roadways, backfill for building foundations, septic beds and water systems. The Proponent anticipates the source material in the proposed extension area to be of similar quality to the material currently extracted at the existing quarries.

Aggregate quarries are an important component of Nova Scotia's natural resource sector and provide essential locally-sourced materials to the province's construction industry. As the only operational quarry in the area, Chedabucto Aggregates provides an important supply of materials to local business, sparing them the direct and ancillary costs associated with outsourcing to other areas of the province.

The quarry is a small, one-person operation, run entirely by the owner/operator. This is not expected to change with future operations, though additional jobs could be created if market demands increase. As economic development is an important issue facing residents of Guysborough County, local businesses such as this quarry create economic benefits which are valued by the surrounding community. In recognition of these potential benefits, letters of support for the Project from the Guysborough and Area Board of Trade and local business are provided in Appendix B.

#### 3.4.2 Consideration of Alternatives

Alternative methods of carrying out the proposed Project to be considered include:

- use of alternative methods for extraction;
- use of an alternative facility location;
- use of alternative transportation modes/route;
- alternative technologies for wastewater treatment; and/or
- other rehabilitation and decommissioning options.

The existing operation utilizes current industry standard procedures during all phases of extraction, processing and transportation of the aggregate produced. Alternative methods are always under consideration in terms of efficiency, cost effectiveness and environmental advantages. Continuing operations from the Project will continue to be assessed on an ongoing basis to ensure that the best available techniques are being utilized in all phases of day to day operations.