VOLUME IV
CHAPTERS 1 to 6

WHITES POINT QUARRY & MARINE TERMINAL

ENVIRONMENTAL IMPACT STATEMENT

BILCON OF NOVA SCOTIA

March 31, 2006

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Glossary of Terms

Aggregate	Pieces of crushed stone, gravel, etc. used in making concrete.
Abandonment	The permanent removal from service of Project facilities.
Adverse Effect	An effect that impairs or damages the environment, including an adverse effect respecting the health of humans or the reasonable enjoyment of life or property.
Agency	The Canadian Environmental Assessment Agency.
Agreement	The Agreement between Canada and Nova Scotia setting up the Joint Review Panel (See Appendix 1).
Archaeology	The study of human history and prehistory through the excavation of sitesand the analysis of physical remains.
Ballast Water	Water carried by a ship to secure stability.
Bathymetry	The measurement of ocean depths and the charting of the topography of theocean floor.
Bilge Water	Filthy water that collects inside the bilge (the lowest area inside a ship, where water collects).
Clearing and Grubbing	The process of removing vegetation and large stumps and roots from a site in preparation for topsoil stripping or other excavation.
Commitments Table	A table that identifies the commitments of the Proponent in relation to managing the effects of the Project.

Glossary of Terms

Contingency Plan	A program intended to address malfunctions, accidents or unplanned events that may occur in connection with the proposed Project.
Cumulative Environmental Effect	The additive and interactive effects of the proposed Project in combination withother projects or activities that have been or will be carried out.
Cumulative Impacts	Changes to the environment that are caused by an action in combination with other past,present, and future human actions. A cumulative impact assessment is an assessment of those impacts. Actions include bothfacilities and activities.
Day	A calendar day.
Decibel	A unit (one-tenth of a bel) used in the comparison of two power levels relating to electrical signals or sound intensities, one of the pair usually being taken as a standard.
Disturbed Area	Land that has had its surface altered by grading, digging, or other construction-related activities.
Effect	The result or consequence of an action.
EIS Guidelines	The direction provided to the Proponent by the Panel on matters which must be addressed in the Proponent's Environmental Impact Statement.
Environment	The components of the earth and includes land, water, and air, including all layers of the atmosphere, all organic and inorganic matter and livingorganisms, the social, economic, recreational, cultural, spiritual, and aesthetic conditions and factors that influence the life of humans and communities, and a part or

Glossary of Terms

	combination of those things and the interrelationships bwtween two or more of them.
Environmental Assessment	An assessment of the environmental effects of the proposed Project that is conducted in accordance with the Agreement and Terms of Reference.
Environmental Effect	In respect of the Project, means any change that the Project may cause in the environment, including any change it may cause to a listed wildlife species, its critical habitat, or the residence of individuals of that species, as those terms are defined in subsection 2(1) of the *Species at Risk Act*,any effect of any change referred to in paragraph a) on health and socio-economicconditions,physical and cultural heritage, the current use of lands and resources for traditional purposes by Aboriginal persons, any structure, site or thing that is or historical, archaeological, paleotological or architectural significance, or any change to the Project that may be caused by the environment, Whether any such change or effect occurs within or outside Canada.
Environmental Impact Statement (EIS)	The report that presents the results of the environmental assessment conducted by the Proponent.
Federal Minister	The Minister of the Environment of Canada.
Fetch	The extent of ocean over which wind blows to create waves.

Glossary of Terms

Follow-up Program A program to verify:

(a) Tthe accuracy of the environmental assessment of the proposed Project

(b) Determine the effectiveness of any measures taken to mitigate the adverse environmental effects of the proposed Project, and

(c) Implement measures to mitigate adverse environmental effects identified in (a) or (b)

Geology The science of the earth, including the composition, structure, and origin of itsrocks.

Gradient Vertical drop per unit of horizontal distance.

Groundwater Water held in soil or rock, especially that below the water table.

Habitat A place or environment where a plant or animal species naturally lives and grows.

Hydrogeology The branch of geology dealing with underground and surface water.

Lithology The description of rocks, in hand specimen and outcrop, or the basis of such characteristics as colour, structures, mineralogic composition, and grain size.

Mitigation The elimination, reduction or control of the adverse environmental effects of the proposed Project, and includes restitution for any damage to the environment caused by such effects through replacement, restoration, compensation or any other means, and “mitigate” has a corresponding meaning.

Panel The Joint Review Panel appointed pursuant to the Agreement.

Project The proposed development described in the Agreement.

Glossary of Terms

Proponent	Bilcon of Nova Scotia, Corporation.
Provincial Minister	The Minister of Environment and Labour of Nova Scotia.
Reclamation	The remedial process to restore land used for quarrying to an acceptable environmental condition.
Regolith	A general term for the entire layer of loose, fragmental and unconsolidated rock material, of whatever origin, that nearly everywhere forms the surface of the land and covers the more coherent bedrock.
Residual Effect or Impact	Environmental effect remaining after all mitigative measures have been applied.
Responsible Authority	Federal body that is required under CEAA to ensure that an environmental assessment of the proposed Project is conducted.
Riparian	Of or relating to land lying immediately adjacent to a water body and having specific characteristics of that transitional area (e.g., riparian vegetation).
Secretariat	Administrative staff in support of the Joint Panel activities, established under the terms of the Agreement.
Stratigraphy	The arrangement of strata (bedded layers) of sedimentary and volcanic rocks as to geographic position and chronologic order of sequence.
Surficial	Relating to the earth's surface.

Glossary of Terms

Terms of Reference	Terms of Reference for the Panel, as set out in Appendix 1.
Threatened Species	Species that are likely to become endangered if limiting factors are mitigated.
Valued Environmental Components	Selected components of the physical, biological and human environments which will be the focus of the environmental assessment.
Viewplane	A geographic area of land where all features are visible.

Acronyms

ANFO	Ammonium Nitrate/Fuel Oil
CEAA	Canadian Environmental Assessment Act
CEAR	Canadian Environmental Assessment Registry
CEK	Community Environmental Knowledge
CEPA	Canadian Environmental Protection Act
CLC	Community Liaison Committee
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
DFO	Department of Fisheries and Oceans
EA	Environmental Assessment
EC	Environment Canada
EIS	Environmental Impact Statement
GHG	Green House Gas
GPS	Global Positioning System
MEKS	Mi'kmaq Ecological Knowledge Study
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NAFTA	North American Free Trade Agreement
NP	Nurse Practitioner
NSCC	Nova Scotia Community College

Acronyms

NSDNR	Nova Scotia Department of Natural Resources
NSDEL	Nova Scotia Department of Environment and Labour
NSDOH	Nova Scotia Department of Health
NSEA	Nova Scotia Environmental Act
NSPI	Nova Scotia Power Incorporated
NSTPW	Nova Scotia Department of Transportation and Public Works
NWPA	Navigable Waters Protection Act
PWGSC	Public Works and Government Services Canada
RA	Responsible Authorities
SARA	Species at Risk Act
TCK	Traditional Cultural Knowledge
TK	Traditional Knowledge
TOR	Terms of Reference of the Panel
VEC	Valued Environmental Component
WHIMIS	Workplace Hazardous Materials Infomation System
WVDA	Western Valley Development Association

Units of Measure

%	Percent
^{0}	Degrees
^{o}c	Degrees Celcius
cm	Centimetres
DWT	Deadweight metric tonnes
g	Grams
g/cc	Grams per cubic centimetre
g/m^3	Grams per cubic metre
h	Hour(s)
ha	Hectares (10,000 square metres)
HP	Horsepower
kg	Kilograms
km	Kilometres
km^2	Square kilometres
kW	Kilowatts
l/s	Litres per second
M	Millions
m	Metres
m^3	Cubic metres

Units of Measure

masl	Metres above sea level
mm	Millimetres
Mm^3	Millions of cubic metres
Mtpy	Millions metric tonnes per year
Mt	Metric tonne
MW	Megawatts
ppm	Parts per million
ST	Short ton (2,000 lbs)
tph	Metric tonnes per hour
tpy	Metric tonnes per year
C$ M	Millions Canadian dollars
US$ M	Millions US dollars
C$/t	Canadian dollars per metric tonne
US$/t	US dollars per metric tonne
wt%	Weight percent
mg/l	Milliograms per litre
µg	Micrograms
dbA	Decibel
Rms	Root mean square

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EXECUTIVE SUMMARY

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EXECUTIVE SUMMARY

1.0 The Project

Bilcon of Nova Scotia Corporation (the Proponent), a Nova Scotia registered corporation, proposes to construct, operate and decommission a basalt quarry, ship loading facility, and marine terminal for the production and export of crushed rock at Whites Cove on Digby Neck in Digby County, Nova Scotia.

The project is subject to a Joint Panel Review under an agreement between the Federal Government and the Province of Nova Scotia and an environmental assessment has been carried out in accordance with the agreement.

The components of the project are:

- Rock extraction
- A rock crushing and screening plant
- A loading tunnel
- A ship loading facility
- A marine terminal

Works associated with the construction, operation and decommissioning of the project including: site access road, sediment retention ponds, maintenance area, preservation areas, and sediment and topsoil storage areas.

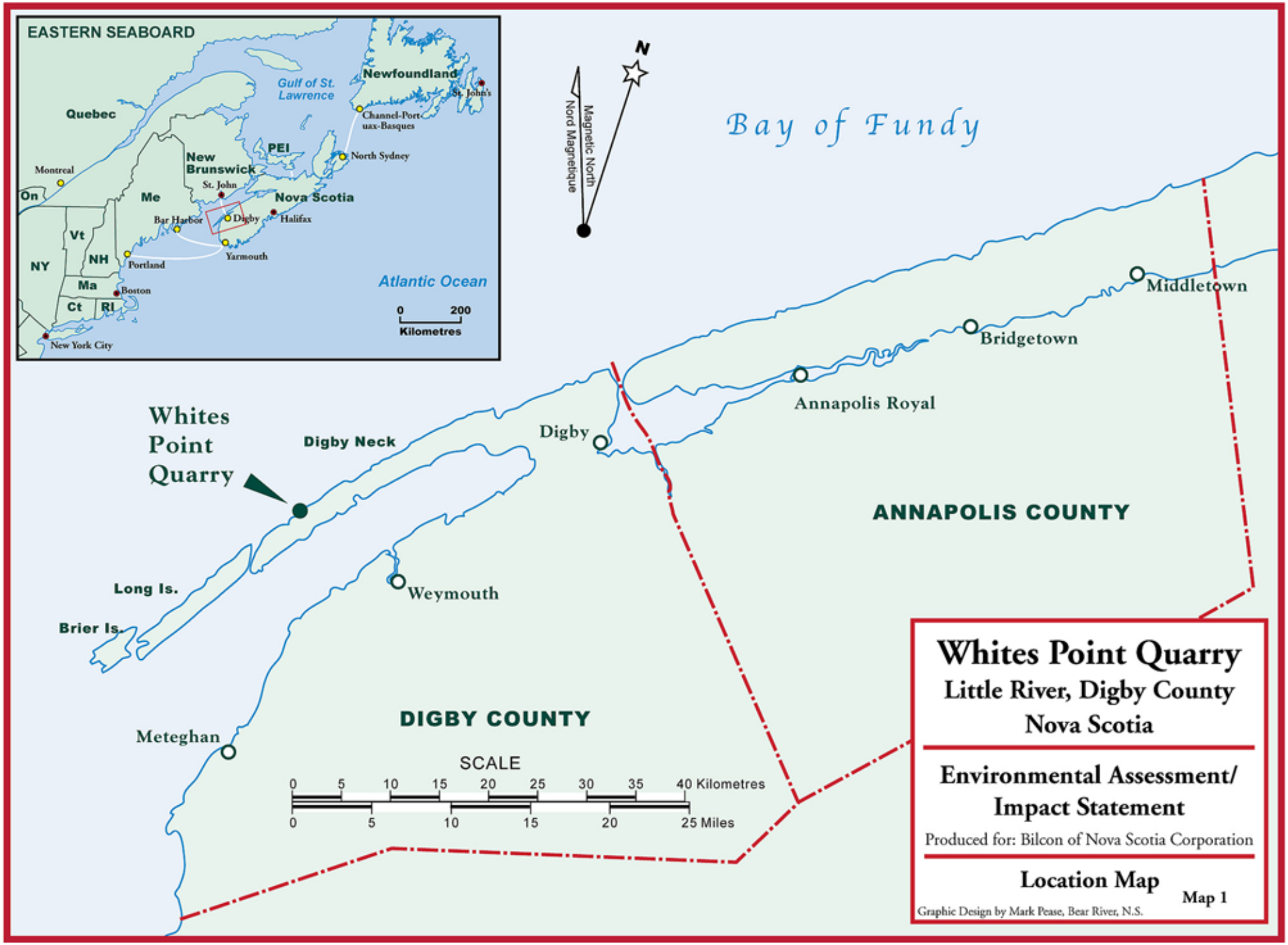
The project would be located on private property leased by the Proponent with exception of the ship loading facility and marine terminal which is proposed for provincial Crown foreshore and nearshore in Whites Cove.

The lifespan of the project is projected to be 50 years, with the annual production of 2 million tonnes being shipped to the United States for use by the Proponent's parent company, Clayton Concrete Block and Sand.

The location of the project is shown on Map 1.

The capital cost of the project is estimated to be $40.6 million over a one-year construction period with annual expenditures estimated to be $20 million. The project is expected to create 34 direct full-time jobs over the projected 50 year lifespan.
The Environmental Assessment

The environmental assessment which was carried out over a three and a half year period covered the valued environmental components set out in Table 2.


EASTERN SEABOARD
Gulf of St. Lawrence
Newfoundland
St. John's
Channel-Port-aux-Basques
Quebec
PEI
North Sydney
Montreal
New Brunswick
St. John
On
Me
Nova Scotia
Bar Harbor
Digby
Halifax
Vt
NH
NY
Portland
Yarmouth
Ma
Boston
Ct
RI
Atlantic Ocean
0 200
Kilometres
New York City
N
Magnetic North
Nord Magnetique
Bay of Fundy
Middletown
Bridgetown
Annapolis Royal
Digby
Digby Neck
Whites Point Quarry
ANNAPOLIS COUNTY
Long Is.
Brier Is.
Weymouth
DIGBY COUNTY
Meteghan
SCALE
0 5 10 15 20 25 30 35 40 Kilometres
0 5 10 15 20 25 Miles
Whites Point Quarry
Little River, Digby County
Nova Scotia
Environmental Assessment/
Impact Statement
Produced for: Bilcon of Nova Scotia Corporation
Location Map
Map 1
Graphic Design by Mark Pease, Bear River, N.S.

The following additional elements were also covered as required in the Final Guidelines:

- Alternative Means of Carrying out the Project
- Cumulative Environmental Effects
- Environmental Management
- Accidents and Malfunctions
- Follow-up Program

2.0 Information Disclosure and Public Consultation

During the issues scoping phase, Bilcon provided information regarding the project as it became available.

The issues scoping process was designed not only to provide information, but also to gather input on how communications could be provided throughout the life of the project. This two-way dialogue has already resulted in, and will continue to result in, a regularly updated communications plan to address and integrate feedback.

Methods for providing this information included the Community Liaison Committee, public information sessions, individual interviews, media notices, workshops, website, panel displays, and handouts.

Bilcon carried out extensive public consultation over a three and a half year period including more than 107 different stakeholder consultations, open houses, an attitude survey, a quality of life survey, exit surveys, and a store-front operation.

Bilcon sought to consult with the First Nations over the life of the Environmental assessment. However, Bilcon was advised by Kwilnul Maw-klusaqn (Mi'kmap Rights Initiation) that the position being taken was that consultation with First Nations groups could only be undertaken by the federal government with Kwilnuk Maw-klusaqn. A report entitled "*Mi'kmaq Use of Oositookum (Digby Neck), It's Surrounding Waters, and The Mainland Shore of St. Mary's Bay*" was presented to the Panel in January 2006, and this report was reviewed by the Proponent.

Information gathered during the public consultation process and, in particular, the traditional community knowledge, was used extensively by the Proponent to identify the valued environmental components and in the preparation of the Environmental Impact Statement.

Concerns raised by the public were documented and were considered in the selection of the valued environmental components and during the preparation of the Environmental Impact Statement. A concordance table is included in the Environmental Impact Statement

listing the concerns and issues raised by the public and where these issues and concerns have been addressed.

Bilcon and its consultants also sought advice from both federal and provincial regulatory agencies during the preparation of the Environmental Impact Statement and the assistance of the Department of Fisheries and Oceans, in particular, is recognized.

3.0 Environmental Effects

The main concerns raised by the public were water supply and quality, air quality and noise, quality of life, the fishery, tourism, cemeteries, and species at risk. Each of these topics was examined in detail, together with many other issues raised by the public or regulatory agencies which emerged during the assessment process.

Where negative effects were identified, mitigation measures have been proposed, together with an extensive monitoring program to ensure that the mitigation will be successful.

Mitigation measures and monitoring programs are set out in the EIS for each VEC. However, they are set out in tabular form in Chapters 11.4 and 11.5 of the EIS and these tables are included in this Executive Summary.

The Impact Summary Table 2 in this Executive Summary sets out each of the issues identified during the environmental assessment process and the residual impact after mitigation rated temporally and spatially and for the level of significance.

No significant adverse residual effects were identified while several significant positive effects were identified.

Cumulative effects are dealt with in Chapter 10 of the EIS and the Summary Table of Cumulative Effects is included in this Executive Summary.

The Commitments Table in this Executive Summary sets out the commitments with respect to mitigation, monitoring, and compensation made by Bilcon as part of this application.

4.0 Conclusion

Based on the information set out in the application and the Proponent's Commitments, the Proponent submits that the project is not likely to cause any significant adverse effects.

Table ECM - 2
Environmental Component Follow-up Monitoring

Whites Point Quarry and Marine Table
Table ECM - 1 Summary Table
Environmental Component Mitigation

Environmental Component	Project Phase		Project Component		Proposed Mitigation	Reference Paragraph
	Construction	Operation	Land	Marine		
Physical Environment						
Climate	X	X	X		• Creation of a permanent environmental preservation zone of approx. 80 acres	para. 9.1.1
Greenhouse Gas	X	X	X		• Maintaining over 300 acres of land surrounding the quarry property in managed forest land	
		X	X		• Incremental forest clearing and reclamation procedures to maximize carbon dioxide uptake and oxygen production	
	X	X	X		• Reduction of greenhouse gas emissions by chipping and composting wood fibre from land clearing activities rather than burning	
		X	X		• Heavy operational equipment diesel engines meeting EPA Tier 3 emission specifications	
		X	X		• Recycling of waste oil and lubricants for heating buildings	
		X	X		• Stationary equipment using electrical energy	
		X		X	• Transport of quarry products directly by ship once per week rather than by ground transportation to port	
Geology		X	X		• Production of high grade aggregate for value added construction industry products	para. 9.1.2
Basalt Rock		X	X		• Rock extraction will not be carried out below sea level to eliminate the possibility of salt water intrusion	

Whites Point Quarry and Marine Table
Table ECM - 1 Summary Table
Environmental Component Mitigation

Environmental Component	Project Phase		Project Component		Proposed Mitigation	Reference Paragraph
	Construction	Operation	Land	Marine		
Physical Environment **Geology** Basalt Rock (Cont'd)		X	X		• Rock extraction will not be carried out below the contact of the middle and upper flow units	para. 9.1.2
		X	X		• Quarrying will be conducted to use surface water drainage and avoid dewatering by pumping	
	X	X	X		• A security fence will be installed along public property lines for public safety	
Hydrogeology Groundwater		X	X		• Quarrying and adjacent water wells will occur in different geological horizons or hydro-stratigraphic units	para. 9.1.3
		X	X		• Adjacent water wells will be located hydraulically down gradient of the quarry and/or on opposite sides of the ground water divide	
		X	X		• Recharge and discharge areas for the quarry and adjacent water wells will be located in different watersheds	
		X	X		• Quarrying will be carried out above the natural water table and will not require mine dewatering and pumping or associated ground-water withdrawal or drawdown	
		X	X		• Quarrying will be a non-consumptive water use as only water that enters the quarry watershed will be used	
		X	X		• Construction aggregate operations have been used to enhance aquifer recharge via artificial surface recharge of the local groundwater regime	

Whites Point Quarry and Marine Table
Table ECM - 1 Summary Table
Environmental Component Mitigation

Environmental Component	Project Phase		Project Component		Proposed Mitigation	Reference Paragraph
	Construction	Operation	Land	Marine		
Physical Environment						
Hydrogeology Groundwater	X		X		• Bilcon of Nova Scotia Corporation will conduct a pre-blast survey of adjacent water wells in the immediate area of the quarry in consultation with the NSDEL	para. 9.1.3
		X	X		• Bilcon of Nova Scotia Corporation will replace at their expense any existing water supply proven to be lost or damaged as a result of their quarrying operation	
Surficial Geology & Soils Soils	X	X	X		• Conserving soil resources with a permanent environmental preservation zone around the quarry site with approximately 80 acres in permanent vegetative cover to reduce runoff and potential soil loss from erosion	para. 9.1.4
	X	X	X		• Construction of an organic disposal area for clearing and grubbing materials before site construction begins	
	X		X		• Sediment and organic disposal areas will be dyked to control soil erosion and dykes will receive erosion control measures during construction	
	X	X	X		• Storage and recycling of waste materials (sediments and organics) for reclamation purposes	
	X	X	X		• Incremental forest clearing and reclamation to minimize potential soil loss from erosion	
	X	X	X		• Mixing of composted organics with mineral sediments for a healthy, productive, soil regime for reclamation	

Whites Point Quarry and Marine Table
Table ECM - 1 Summary Table
Environmental Component Mitigation

Environmental Component	Project Phase		Project Component		Proposed Mitigation	Reference Paragraph
	Construction	Operation	Land	Marine		
Physical Environment						
Little River Watershed Drainage	X	X	X		• All of the Little River watershed on the quarry property, approximately 21 acres, will be within an environmental preservation zone and no quarrying will take place in the Little River watershed	para 9.1.5
		X	X		• Surface water drainage from the quarry compound area within the Little River watershed will be routed toward the active quarry area	
On-site Surface Water Drainage	X	X	X		• Prior to land construction, sediment retention ponds will be constructed to retain surface water runoff from disturbed land areas	para 9.1.6
	X	X	X		• Berms for sediment retention ponds will receive erosion control measures during construction to reduce soil erosion	
	X	X	X		• Water overflows from the sediment retention ponds will drain into a constructed wetland to provide greater retention time before entering the Bay of Fundy	
	X	X	X		• Drainage channels will be constructed as required to direct surface water runoff to the sediment retention ponds	
Wetlands	X	X	X		• Wetlands on the quarry site identified by the NSDNR wetlands database will be included in the permanent environmental preservation zone	para 9.1.6
	X	X	X		• Intermittent surface water flow will be maintained to the "coastal bog" and the environmental preservation zone ex panded in the bog area to conserve this natural wetland habitat	para 9.2.1

Whites Point Quarry and Marine Table
Table ECM - 1 Summary Table
Environmental Component Mitigation

Environmental Component	Project Phase		Project Component		Proposed Mitigation	Reference Paragraph
	Construction	Operation	Land	Marine		
Physical Environment						
Physical Oceanography						
Site Location		X		X	• The location of the marine terminal will provide a short distance and direct route to and from the designated in bound/outbound shipping lanes with minimal shipping pen etration into the outer Bay of Fundy	para. 9.1.7
	X	X		X	• The location of the marine terminal will be along a homog enous section of the coastline without islands or other physical navigational hazards	
	X	X		X	• The bathymetry of the marine terminal location provides adequate water depth without underwater blasting, dredging or dredge spoil disposal	
	X	X		X	• The location of the marine terminal will avoid the possible archaeological sensitive underwater ridge extending from Sandy Cove west during either construction or subsequent shipping activities	
	X	X		X	• The marine terminal will be located in an area of practically non-existent seismic activity	
		X		X	• Future effect of sea level rise on the marine terminal will be minimal, since this area of coastline has a “low sensitivity in dex” and will remain relatively stable even if sea level rises as predicted	
Water Quality	X			X	• The bottom of the Bay in the location of the marine terminal is mainly exposed bedrock affording good foundation conditions with little sediment deposits for resuspension during marine construction activities	para. 9.1.7

Whites Point Quarry and Marine Table
Table ECM - 1 Summary Table
Environmental Component Mitigation

Environmental Component	Project Phase		Project Component		Proposed Mitigation	Reference Paragraph
	Construction	Operation	Land	Marine		
Physical Environment						
Physical Oceanography Water Quality	X			X	• Bottom sediment contaminates including metals, PCBs, PAHs, and pesticides are within CCME Guidelines reducing the possibility of contaminate resuspension during marine construction activities	para. 9.1.7
	X			X	• If unexpected turbidity conditions develop during installation of the pipe piles for the marine terminal exceeding CCME Guidelines, controls such as silt curtains will be implemented	
Tides and Currents		X		X	• The pipe pile construction method for the marine terminal will have minimal effect on intertidal and nearshore tides and currents allowing practically unobstructed movement and flows with no infilling	para 9.1.7
Air Quality Particulate Emissions		X	X		• Quarry products will be transported by water, thereby eliminating heavy trucks travelling and raising dust on rural/ residential roads	para. 9.1.8
		X	X		• A paved access road from Highway 217 to the quarry site will be constructed thereby practically eliminating dust generated by employee and delivery vehicles commonly associated with gravel access roads	
		X	X		• Water sprays will be used to control dust on quarry roads and work areas caused by quarry mobile equipment and on stockpiles	

Whites Point Quarry and Marine Table
Table ECM - 1 Summary Table
Environmental Component Mitigation

Environmental Component	Project Phase		Project Component		Proposed Mitigation	Reference Paragraph
	Construction	Operation	Land	Marine		
Physical Environment						
Air Quality Particulate Emissions (cont'd)		X	X		• The processing plant will be located 1000m from the nearest residence with processing equipment enclosed whenever feasible to control fugitive dust	para. 9.1.8
		X	X		• Vertical separation and vegetative buffer zones will further separate the processing plant from adjacent residences	
		X	X		• Quarry products will be washed during processing with state of the art mist systems	
		X	X		• Load out tunnels will be used to reduce product handling and associated dust generation; conveyors will be hooded to reduce fugitive dust	
Noise and Vibration Blasting		X	X		• Infrequent blasting is proposed to be once every two weeks during production for a duration of less than one second per blast event	para. 9.1.9, para. 9.1.10, para. 9.1.11
		X	X		• Blasting will not be conducted on cloudy or overcast days to minimize sound propagation	
		X	X		• No blasting will be conducted within 800 m of residential structures not located on quarry property without written permission of the property owner	
		X	X		• An environmental preservation zone will be maintained around the perimeter of the quarry to further reduce sound levels by absorption from blasting activities	
		X	X		• Noise and vibration from blasting will meet the requirements set forth in the NSDEL "Pit and Quarry Guidelines"	

Whites Point Quarry and Marine Table
Table ECM - 1 Summary Table
Environmental Component Mitigation

Environmental Component	Project Phase		Project Component		Proposed Mitigation	Reference Paragraph
	Construction	Operation	Land	Marine		
Physical Environment **Noise and Vibration** Processing Plant		X	X		• The processing plant will be located 1000m from the nearest residence with processing equipment enclosed whenever feasible to buffer sound levels at the source & by attenuation	para. 9.1.9, para. 9.1.10, para. 9.1.11
		X	X		• A minimum 30m wide environmental preservation zone will be maintained around the perimeter of the quarry property to further reduce sound levels by absorption	
		X	X		• A vertical separation of approximately 60m will be maintained between the processing plant and the nearest residence to dissipate sound waves upward	
		X	X		• Equipment such as truck bodies and screens will be rubberized to reduce sound levels when loading and screening rock products	
		X	X		• Noise and vibration from the quarry will meet the require ments set forth in the NSDEL “Pit and Quarry Guidelines” at the quarry property line	
Ship Loading		X	X		• A horizontal separation distance of over 1.5km will be maintained between the ship loading activity and the nearest residence with vegetative buffer zones to further reduce sound levels by attenuation and absorption	
		X	X		• Infrequent ship loading is proposed once per week during production for a duration of approximately 8 hours using double-hulled vessels to minimize noise during loading	

Whites Point Quarry and Marine Table
Table ECM - 1 Summary Table
Environmental Component Mitigation

Environmental Component	Project Phase		Project Component		Proposed Mitigation	Reference Paragraph
	Construction	Operation	Land	Marine		
Physical Environment **Light** Artificial	X	X	X	X	• Adjacent residences will receive no direct light from quarry lighting infrastructure due to horizontal and vertical separation and visual buffers	para. 9.1.12
		X	X		• Quarry production will be concentrated during seasons of longer daylight hours, thereby reducing requirements for artificial light and for energy savings	
		X	X		• Except for regulatory navigational lighting, quarry lighting will be placed in buildings or be shielded whenever feasible to reduce "light spill"	
Biological Environment **Terrestrial Ecology** Habitat	X	X	X		• Approximately 80 acres of quarry land is proposed to be conserved and managed as a permanent environmental preservation zone	para. 9.2.1
	X	X	X		• Over 300 acres of non-quarry land within the same ecosys tem is proposed to be managed as forest/wildlife resource land for the 50 year life of the quarry project	
		X	X		• Incremental forest clearing and reclamation will be carried out during the 50 year life of the quarry project to maintain habitat stability	
		X	X		• Construction of sediment retention ponds and associated constructed wetlands will create habitat diversity	
	X	X	X		• In accordance with the Migratory Bird Protection Act, habitat alteration from clearing activities will generally take place during late fall and winter to avoid nesting periods and spring and fall migrations	

Whites Point Quarry and Marine Table
Table ECM - 1 Summary Table
Environmental Component Mitigation

Environmental Component	Project Phase		Project Component		Proposed Mitigation	Reference Paragraph
	Construction	Operation	Land	Marine		
Biological Environment **Terrestrial Ecology** Habitat (cont'd)		X	X		• To reduce the possibility of migratory bird collisions with lighted structures, night lighting will be kept to a minimum and shielded whenever possible to dirert light downward	para. 9.2.1
Species at Risk	X	X	X		• Three provincially designated Flora species at risk will be permanently preserved in an environmental preservation zone for the 50 year life of the quarry project	para. 9.2.1
	X	X	X		• No federal or provincial designated vertebrate species at risk are expected to breed on the quarry site - no mitigation proposed	
	X	X	X		• Preservation and creation of wetland habitats will provide potential habitat for some Odonata species at risk	
	X	X	X		• Maintaining early successional stages of vegetation on dykelands will provide potential habitat for some Lepidoptera species at risk	
	X	X	X		• All toxic substances will be stored appropriately and not be accessible to wildlife	
Aquatic Ecology On-site Freshwater	X	X	X		• The two watercourses at the north and south property lines of the quarry will be included in the environmental preservation zone	para. 9.2.2
	X	X	X		• The watercourse in the active quarry was determined to be not suitable fish habitat by DFO, however, surface water flow to the coastal bog will be maintained	
	X	X	X		• All outflows from the sediment retention ponds and/or constructed wetlands into the Bay of Fundy will meet the NSDEL "Pit and Quarry Guidelines" for Total Suspended Solids and pH	

Whites Point Quarry and Marine Table
Table ECM - 1 Summary Table
Environmental Component Mitigation

Environmental Component	Project Phase		Project Component		Proposed Mitigation	Reference Paragraph
	Construction	Operation	Land	Marine		
Biological Environment						
Aquatic Ecology Marine Intertidal Zone	X	X		X	• The conveyor system for ship loading quarry products will be designed to span the majority of the intertidal zone with only one group of pipe piles installed directly in the intertidal zone affecting .001 acres of intertidal bottom habitat	para. 9.2.2
		X		X	• A fish habitat compensation plan has been approved in principle by DFO at three times the loss of bottom habitat in the intertidal zone	
	X			X	• Installation of the pipe piles will be conducted from the shore at low tide by socket drilling, producing aggregate size waste material with minimal fines	
		X		X	• The conveyor over the intertidal zone will be hooded to control dust and equipped with spill containment to catch any product from entering the intertidal zone	
		X		X	• The surface of selected pipe piles will be equipped with wire cages to enhance pelagic fish food sources	
Coastal/Nearshore Marine Habitat	X	X		X	• The foundation system selected for the ship loader and mooring dolphins in nearshore waters will be pipe piles anchored to the bedrock bottom resulting in minimal effect on bottom habitat of approximately .008 acres	para. 9.2.3
		X		X	• A fish habitat compensation plan has been approved in principle by DFO at three times the loss of bottom habitat in the nearshore waters and with pelagic fish food enhancements	
	X			X	• Installation of the marine terminal infrastructure will be done from shore and floating platforms to minimize disturbance to the nearshore bottom habitat	

Whites Point Quarry and Marine Table
Table ECM - 1 Summary Table
Environmental Component Mitigation

Environmental Component	Project Phase		Project Component		Proposed Mitigation	Reference Paragraph
	Construction	Operation	Land	Marine		
Biological Environment Coastal/Nearshore Marine Habitat (cont'd)	X			X	• Socket drilling for anchoring the pipe piles will be done to produce aggregate size waste material with minimal fines and turbidity	para. 9.2.3
		X		X	• During the infrequent, once per week, vessel arrival and departure, a trained observor will be stationed on the ship loader and if marine mammals or waterbirds are sighted, their location will be communicated to the ship's captain	
		X		X	• The loading of vessels at night will be avoided whenever possible to minimize the possibility of lights attracting coastal migrant waterbirds and subsequent collisions	
Species at Risk	X	X		X	• Three federally designated fish species at risk may frequent nearshore waters at the marine terminal: Bilcon of Nova Scotia Corporation will work with the appropriate Recovery Teams in their efforts to re-establish fish species at risk populations such as the inner Bay of Fundy Atlantic salmon, Atlantic cod, and striped bass	para. 9.2.5, para.. 9.2.6
		X		X	• A fish habitat compensation plan has been approved in principal by DFO for intertidal and nearshore bottom habitat at three times the direct loss and for alteration of pelagic fish habitat	
		X		X	• Two federally designated waterfowl species at risk may occur in nearshore waters at the marine terminal: Bilcon of Nova Scotia Corporation will continue to coordinate with the Canadian Wildlife Service in their efforts to re-establish waterfowl species at risk populations such as the Harlequin duck and Barrow's goldeneye	para. 9.2.7

Whites Point Quarry and Marine Table
Table ECM - 1 Summary Table
Environmental Component Mitigation

Environmental Component	Project Phase		Project Component		Proposed Mitigation	Reference Paragraph
	Construction	Operation	Land	Marine		
Biological Environment Species at Risk (cont'd)		X		X	• One federally designated marine reptile species at risk could occur in nearshore waters at the marine terminal: Bilcon of Nova Scotia Corporation will coordinate any sightings of leatherback turtles to the Nova Scotia Leatherback Turtle Working Group	para. 9.2.8
Blasting Fish Habitat	X	X		X	• Blasting will be guided by "Bilcon of Nova Scotia Corporation's 'Blasting Protocol'" and adhere to the Department of Fisheries and Oceans "Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters"	para. 9.2.9 para. 9.2.10
		X		X	• Blasting will be conducted infrequently, once every two weeks during production, with a duration of each blast event of less than one second, blasts will be conducted when no atmospheric inversions are present and as close to low tide as feasible to maximize setback distances from the blast and fish habitat	
		X		X	• An additional mitigative measure will be adopted of three times the designated setback indicated in the "Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters" from the blast to fish habitat during times of the year when inner Bay of Fundy Atlantic salmon could be present in these coastal waters	

Whites Point Quarry and Marine Table
Table ECM - 1 Summary Table
Environmental Component Mitigation

Environmental Component	Project Phase		Project Component		Proposed Mitigation	Reference Paragraph
	Construction	Operation	Land	Marine		
Biological Environment						
Blasting Marine Mammals	X	X		X	• Blasting will not be conducted if marine mammals (whales, porpoises, or dolphins) are observed within 500m of the detonation site or if seals are within 170m of the detonation site	para. 9.2.11
	X	X		X	• Blasting will not be conducted if marine mammal species at risk (fin, blue or North Atlantic right whales) are observed within 2500m of the detonation site	
		X		X	• An experienced marine mammal observor will be employed to verify any marine mammals present within the safety radii and will communicate with the blast coordinator an "all clear" signal if no marine mammals are observed	
	X			X	• Monitoring of an initial blast is proposed to verify modeling procedures with results from this initial blast being used to further define mitigative setback distances from the detona tion to a marine mammal	
Blasting Waterbirds		X		X	• An experienced waterbird observor will be employed to verify any waterbirds present within the 170m safety radii and will communicate with the blast coordinator an "all clear" signal if no waterbirds are observed	para. 9.2.12

Whites Point Quarry and Marine Table
Table ECM - 1 Summary Table
Environmental Component Mitigation

Environmental Component	Project Phase		Project Component		Proposed Mitigation	Reference Paragraph
	Construction	Operation	Land	Marine		
Ship Interactions Marine Mammals		X		X	• Vessels transporting quarry products will not have to pass through the North Atlantic right whale conservation area	para. 9.2.13
		X		X	• The proposed ship route to and from the marine terminal and the shipping lanes will pass through an area of low sightings of North Atlantic right whales per unit of effort	
		X		X	• The proposed ship route to and from the marine terminal and the shipping lanes will pass through an area of low sightings of humpback, fin and minke whale, and harbour porpoises	
		X		X	• The speed of the vessel in waters between the shipping lanes and the marine terminal will be less than 12 knots/ hour, i.e., significantly less than the speed of most severe and lethal ship strikes	
		X		X	• Coordination with whale and seabird cruises operating in the waters of the Bay of Fundy between the shipping lanes and the marine terminal will be maintained on days when vessels are due to arrive and depart for reports of marine mammal sightings	
		X		X	• Bilcon of Nova Scotia Corporation will cooperate with the Canadian North Atlantic Right Whale Recovery Team to achieve the objectives of their recovery strategy	
Ballast Water		X		X	• Compliance with ballast water management guidelines and pending regulations are the responsibility of the shipping industry: Bilcon of Nova Scotia Corporation will contract reputable shipping companies	para. 9.2.14

Whites Point Quarry and Marine Table
Table ECM - 1 Summary Table
Environmental Component Mitigation

Environmental Component	Project Phase		Project Component		Proposed Mitigation	Reference Paragraph
	Construction	Operation	Land	Marine		
Biological Environment Noise and Vibration Marine					• Large vessel traffic is minimal in waters between the shipping lanes and marine terminal and cumulative noise from the quarry vessel is not expected to be as great as presently experienced in the North Atlantic right whale conservation area - no mitigation proposed	para. 9.2.15
Human Environment **Heritage Resources** Marine Archaeology	X			X	• Prior to marine construction, Bilcon of Nova Scotia Corporation will have the appropriate archaeological investigations conducted under permit with the Nova Scotia Museum: if archaeological resources are discov ered as a result of this investigation, appropriate mitigation actions will be taken in consultation with the Nova Scotia Museum	para. 9.3.1
Heritage Resources Land Archaeology	X	X	X		• Archaeological recording and limited testing of the Hersey House foundation will be conducted under permit with the Nova Scotia Museum if the foundation cannot be avoided during quarry construction or operations	para. 9.3.2
	X	X	X		• Before construction and operation of the quarry, an educational briefing concerning archaeological and historical resources will be conducted for all quarry employees	para. 9.3.3

Whites Point Quarry and Marine Table
Table ECM - 1 Summary Table
Environmental Component Mitigation

Environmental Component	Project Phase		Project Component		Proposed Mitigation	Reference Paragraph
	Construction	Operation	Land	Marine		
Human Environment **Aboriginal Land and Resource Use**	X	X	X	X	• Bilcon of Nova Scotia Corporation will continue its efforts to consult with First Nations and address their concerns.	para. 9.3.3
Heritage Resources History	X	X	X		• As part of the educational briefing concerning archaeological and historical resources, training with respect to the requirements of the Cemeteries Protection Act will be conducted for all quarry employees	para. 9.3.4
Heritage Resources Heritage Properties	X	X	X		• Registered or designated heritage properties are not located within view planes of the quarry - no mitigation proposed	para. 9.3.5
Aesthetics	X X	X X	X	 X	• The quarry will not be visible in a view plane from the land along Highway 217 - no mitigation proposed • A minimum 30m wide environmental preservation zone will be maintained along the coastline of the quarry as a buffer to enhance visual qualities when viewed from the Bay of Fundy with incremental forest clearing and incremental reclamation	para. 9.3.6
Community Profile					• The community profile presents historical background data - no mitigation proposed	para. 9.3.7

Whites Point Quarry and Marine Table
Table ECM - 1 Summary Table
Environmental Component Mitigation

Environmental Component	Project Phase		Project Component		Proposed Mitigation	Reference Paragraph
	Construction	Operation	Land	Marine		
Human Environment **Transportation**		X	X	X	• Shipping quarry products directly by water will eliminate heavy truck traffic on rural, two-lane highways, truck traffic inconveniences for residents and tourists, and associated noise and vibration for those residents and school along Highway 217	para. 9.3.8
	X	X	X		• Upgrading of the intersection of the quarry entrance road and Highway 217 will be done to meet Nova Scotia Department of Transportation and Public Works standards	
Economy - Whites Point Quarry and Marine Terminal	X	X	X	X	• The construction and operation of the quarry and marine terminal will provide positive aspects for local employment, community development through economic spin-off, and municipal tax revenues - no mitigation proposed	para. 9.3.9
Economy - Fishery / Aquaculture		X	X	X	• Blasting in proximity to land and water based aquaculture will be subject to the same setbacks as outlined in DFO's "Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters"	para. 9.3.10, para. 9.3.11
Economy - Fishery / Intertidal	X	X		X	• Continued access through quarry property to the beach for harvesting will be provided for beach harvesters upon appropriate arrangements with quarry management	para. 9.3.12

Whites Point Quarry and Marine Table
Table ECM - 1 Summary Table
Environmental Component Mitigation

Environmental Component	Project Phase		Project Component		Proposed Mitigation	Reference Paragraph
	Construction	Operation	Land	Marine		
Human Environment **Economy - Fishery / Nearshore**		X		X	• Coordination of a designated ship route to and from the marine terminal to the inbound / outbound shipping lanes in the Bay of Fundy is proposed with all stakeholders	para. 9.3.13
		X		X	• Coordination of the approach / departure area for the vessel at the marine terminal is proposed with local fishers	
		X		X	• Re-establishment of the Community Liaison Committee with a local fisherman representative is proposed to maintain lines of communication between the quarry and fishing industries	
		X		X	• To minimize possible inconvenience to local fishers, advance notice of shipping schedules will be made available	
		X		X	• A “lobster trap fund” will be established and funded by Bilcon of Nova Scotia Corporation and administered by a designated fisher group to compensate for fishing gear destroyed as a result of the vessel transporting quarry products	
Economy - Tourism		X	X		• Re-establishment of the Community Liaison Committee with a local tourism representative is proposed to maintain lines of communication between the quarry and tourism industries	para. 9.3.14
Economy - Land Value		X	X		• Compensation will be paid to adjacent property owners within 800m of the active quarry if property values are shown to be diminished	para. 9.3.15

Whites Point Quarry and Marine Table
Table ECM - 1 Summary Table
Environmental Component Mitigation

Environmental Component	Project Phase		Project Component		Proposed Mitigation	Reference Paragraph
	Construction	Operation	Land	Marine		
Human Environment **Recreation**		X	X		• Continued access through quarry property to the beach will be provided for non-motorized recreation users upon appropriate arrangements with quarry management	para. 9.3.16
Human Health and Community Wellness					• Human health and community wellness presents back ground data - see noise, dust, water quality, etc.	para. 9.3.17
Human Health Drinking Water Quality	X		X		• All wells constructed on-site for domestic water supply will meet the NSDEL requirements for the construction of water wells - no mitigation proposed	para. 9.3.18
Human Health Marine Contaminates	X	X X X		X X X	• On-land environmental control structures and quarry operating procedures will be designed to control any on-site contaminates from entering the marine environment • The risk of spills in the marine environment will be minimal since ships will not be fueled at the marine terminal • Electrical motors for the conveyor systems will be used over the intertidal and nearshore waters which require minimal lubricants and will be equipped with drip pans and maintained	para. 9.3.19
Human Health Land Contaminates	X	X	X		• Only pesticides, herbicides, and other chemical agents registered for their particular use and application by licensed persons will be used on-site	para. 9.3.20

Whites Point Quarry and Marine Table
Table ECM - 1 Summary Table
Environmental Component Mitigation

Environmental Component	Project Phase		Project Component		Proposed Mitigation	Reference Paragraph
	Construction	Operation	Land	Marine		
Human Environment **Human Health** Land Contaminates (cont'd)	X	X		X	• Explosives will not be stored on-site and will be delivered and handled by qualified persons in accordance with provincial and federal regulations	para. 9.3.20
	X	X		X	• Fuels, oils, lubricants, and coolants will be stored on-site in spill containment areas and vehicle fueling will be done using closed systems with dry break disconnect couplings	
					• Sewage disposal will be by on-site sewage disposal systems designed and maintained in accordance with NSDEL guidelines	
Human Health Country Foods	X	X	X	X	• Mitigation measures regarding potential pathways (air, water, and soil) for country food contaminates are pre sented in previous paragraphs	para. 9.3.21
Socio-economic Patterns	X	X	X	X	• Communication and community involvement of the pre-project environmental assessment and pre-project engi neering will be continued by Bilcon of Nova Scotia Corporation through open houses, newsletters, and with interested individuals	para. 9.3.22
	X	X	X	X	• Bilcon of Nova Scotia Corporation intends to re-establish the Community Liaison Committee and invite an adjacent property owners to be members of the Committee	

Whites Point Quarry and Marine Table
Table ECM - 1 Summary Table
Environmental Component Mitigation

Environmental Component	Project Phase		Project Component		Proposed Mitigation	Reference Paragraph
	Construction	Operation	Land	Marine		
Human Environment **Socio-economic Patterns** (cont'd)	X	X	X	X	• A complaint process will be established by Bilcon of Nova Scotia Corporation to address environmental matters and any quality of life issues	para. 9.3.22
Education, Training, and Skills		X	X	X	• Training for quarry employees will be provided by Bilcon of Nova Scotia Corporation at the Company's expense	para. 9.3.23
		X	X	X	• Hiring priority will be given to Digby Neck residents with emphasis on education and skill development to introduce and maintain women in the workforce	
Infrastructure and Institutional Capacity	X	X	X	X	• No burden on existing infrastructure or institutional capacity is anticipated and no mitigation is proposed	para. 9.3.24

Table ECM - 2
Environmental Component Follow-up Monitoring

Whites Point Quarry and Marine Terminal
Table ECM - 2 SUMMARY TABLE
Environmental Component Follow-up Monitoring

Environmental Component	Project Phase		Frequency	Description/EIS Paragraph	Regulatory Requirement
	Construction	Operation			
Physical Environment					
Climate Precipitation	Yes	Yes	Monthly	•On-site precipitation measurement **(para. 9.1.1.4)**	No
Geology Basalt Rock	No	No	NA		N/A
Hydrogeology Groundwater Quality Groundwater Level	Yes Yes	Yes Yes	Annually Monthly	•Bacteriology, chemistry, trace metals **(para. 9.1.3.4)** •Groundwater level measurement at 6 monitoring well locations **(para. 9.1.3.4)**	Yes-NSDEL No
Surficial Geology & Soils Soil	No	Yes	5 Years	•Soil testing for reclamation **(para. 9.1.4.4)**	No
Little River Watershed Drainage	Yes	Yes	Annually	•Off-site surface water drainage **(para. 9.1.5.4)**	No
On-Site Surface Water Drainage Water Quality Water Quantity	Yes Yes	Yes Yes	Weekly Monthly	•Total suspended solids and pH from sediment pond outfalls **(para. 9.1.6.4)** •General chemistry **(para. 9.1.6.4)** and flow when measurable **(para. 9.2.2.4)**	Yes-NSDEL No
Physical Oceanography Water Quality	Yes	No	Monthly	•Turbidity measurements if required during marine construction **(para. 9.1.7.4)**	No
Air Quality Particulate Emissions	Yes	Yes	Daily	•Suspended particulate matter measurements if required at quarry property line **(para. 9.1.8.4)**	Yes-NSDEL

Whites Point Quarry and Marine Terminal
Table ECM - 2 SUMMARY TABLE
Environmental Component Follow-up Monitoring

Environmental Component	Project Phase		Frequency	Description/EIS Paragraph	Regulatory Requirement
	Construction	Operation			
Noise & Vibration					
Blasting - Land	Yes	Yes	Weekly	•Concussion and ground vibration measurements at 3 land monitoring stations **(para. 9.1.9.4)**	Yes-NSDEL
Plant Operations - Land	No	Yes	Daily	•Sound level measurements at property line **(para. 9.1.10.4)**	Yes-NSDEL
Light					
Night Light	Yes	Yes	Monthly	•Visual observations by a CLC member **(para. 9.1.12.4)**	No
Biological Environment					
Terrestrial Ecology					
Flora Species at Risk					
Glaucous Rattle-snake Root	Yes	Yes	Annually	•Visual population appraisal and photographic documentation **(para. 9.2.1.4)**	No
Mountain Sandwort	Yes	Yes	Annually	•Visual population appraisal and photographic documentation **(para. 9.2.1.4)**	No
Hemlock Parsley	Yes	Yes	5 Years	•Visual population appraisal and photographic documentation **(para. 9.2.1.4)**	No
Invasive Plants	No	Yes	5 Years	•Visual population appraisal and photographic documentation **(para. 9.2.1.4)**	No
Vertebrate Fauna	No	Yes	5 Years	•On-site vertebrate survey including a breeding bird survey **(para. 9.2.1.4)**	No
Odonata/Wetlands	No	Yes	5 Years	•Visual odonata population appraisal and wetland habitat appraisal **(para. 9.2.1.4)**	No
Lepidoptera	No	Yes	5 Years	•Visual lepidoptera and host plant appraisal **(para. 9.2.1.4)**	No
Aquatic Ecology					
Marine Intertidal Zone	Yes	No	Monthly	•Visual monitoring and turbidity measuremnts if required during marine construction **(para. 9.2.3.4)**	No
Coastal-Nearshore	Yes	No	Daily	•Visual monitoring and turbidity measuremnts if required during marine construction **(para. 9.2.4.4)**	No
Fish Habitat Compensation	No	Yes	Annually - 5 yrs	•Video documentation of pre & post compensation conditions, biological sampling **(para. 9.2.4.4)**	Yes-DFO
Fish and Fish Habitat-Blasting	Yes	No	Initial Blast	•Peak pressure and ground vibration at 3 stations in marine environment **(para. 9.2.9.4)**	Yes-DFO
Marine Mammals-Blasting	Yes	No	Initial Blast	•Peak pressure & ground vibration at 3 stations in marine environment **(para. 9.211.4)**	No
Marine Mammals-Blasting	Yes	Yes	Initial Blast	•Noise measurement and video documentation of seal colony at Crowells Cove **(para. 9.2.11.4).**	No
Noise and Vibration-Marine	Yes	Yes	Weekly	•Noise and vibration in water column at marine terminal **(para. 9.2.15.4)**	No

Whites Point Quarry and Marine Terminal
Table ECM - 2 SUMMARY TABLE
Environmental Component Follow-up Monitoring

Environmental Component	Project Phase		Frequency	Description/EIS Paragraph	Regulatory Requirement
	Construction	Operation			
Human Environment					
Heritage Resources Land Archaeology	Yes	Yes	NA	•Visual investigation if land disturbances within 250m of Hersey house foundation **(para. 9.3.2.4)**	Yes - NS Museum
Aesthetics Reclamation	Yes	Yes	5 years	•Inspection of environmental preservation zone and reclamation procedures **(para. 9.3.6.4)**	No
Transportation Marine	Yes	Yes	Annually	•Lobster fishermen monitor trap or gear loss resulting from shipping activities **(para. 9.3.8.4)**	No
Fishery Intertidal	Yes	Yes	Daily	•Registration at the quarry office when harvesting in the coastal zone **(para. 9.3.12.4)**	No
Nearshore	Yes	Yes	Daily	•Recording of frequency and duration of vessels at marine terminal **(para 9.3.13.4)**	No
Tourism Bay of Fundy	Yes	Yes	Monthly	•Tourism representative to participate on Community Liaison Committee **(para. 9.3.14.4)**	No
Recreation Outdoor	Yes	Yes	Daily	•Registration at the quarry office when accessing the coastal zone **(para. 9.3.16.4)**	No
Human Health Drinking Water Quality Country Foods	Yes No	Yes Yes	Annually 5 years	•Chemical, physical, and bacteriaology parameters **(para. 9.3.18.4)** •Metal content in periwinkles and wild raspberries **(para. 9.3.21.4)**	Yes - HC No

Table 2

Impact Summary Tables

Valued Environmental Component Impact Summary

Whites Point Quarry and Marine Terminal
Environmental Impact Statement

Table 2, Part 1

	Time		Type/Significance of Effect					Scale			
	Short Term	Long Term	Significant Positive	Insignificant Positive	Neutral	Insignificant Negative	Significant Negative	Local	Regional	Provincial	National/International
Physical Environment											
Climate - Greenhouse Gas		◕				●			Ⓡ		
Geology - Basalt rock		◕				●		Ⓛ			
Hydrogeology - Residential Well Water Yield		◕			●			Ⓛ			
Hydrogeology - Residential Well Water Quality		◕			●			Ⓛ			
Surficial Geology and Soils		◕		●				Ⓛ			
Little River Watershed		◕			●				Ⓡ		
On-site Surface Water Drainage - Wetlands		◕			●			Ⓛ			
On-site Surface Water Drainage - Quality		◕			●			Ⓛ			
Physical Oceanography - Turbidity	◔					●		Ⓛ			
Physical Oceanography - Tides and Currents		◕				●		Ⓛ			
Air Quality - Particulate Emmissions		◕			●			Ⓛ			
Noise and Vibration - Blasting		◕			●			Ⓛ			
Noise and Vibration - Processing Plant		◕			●			Ⓛ			
Noise and Vibration - Shiploading		◕			●			Ⓛ			
Light - Night		◕				●		Ⓛ			

Valued Environmental Component Impact Summary

Whites Point Quarry and Marine Terminal
Environmental Impact Statement

Table 2, Part 2

	Time		Type/Significance of Effect					Scale			
	Short Term	Long Term	Significant Positive	Insignificant Positive	Neutral	Insignificant Negative	Significant Negative	Local	Regional	Provincial	National/International
Biological Environment											
Terrestrial Ecology - Habitat Alteration		◕				●		Ⓛ			
Terrestrial Ecology - Habitat Diversity		◕		●				Ⓛ			
Terrestrial Floral Species at Risk		◕	●							Ⓟ	
Terrestrial Vertebrate Species at Risk		◕				●		Ⓛ			
Terrestrial Odonata Species at Risk		◕		●				Ⓛ			
Terrestrial Lepidoptera Species at Risk		◕				●		Ⓛ			
Terrestrial Wetlands		◕		●				Ⓛ			
Migratory Land Birds		◕				●		Ⓛ			
Aquatic Ecology - Freshwater Fish Habitat		◕			●			Ⓛ			
Aquatic Ecology - Marine Intertidal Habitat	◔					●		Ⓛ			
Aquatic Ecology - Marine Intertidal Habitat		◕			●			Ⓛ			
Aquatic Ecology - Marine Nearshore Habitat	◔					●		Ⓛ			
Aquatic Ecology - Marine Nearshore Habitat		◕			●			Ⓛ			
Marine Mammals and Waterbirds - Nearshore		◕				●		Ⓛ			
Fish - Endangered (Inner Bay of Fundy Salmon)		◕			●						Ⓝ

Valued Environmental Component Impact Summary

Whites Point Quarry and Marine Terminal
Environmental Impact Statement

Table 2, Part 3

	Time		Type/Significance of Effect					Scale			
	Short Term	Long Term	Significant Positive	Insignificant Positive	Neutral	Insignificant Negative	Significant Negative	Local	Regional	Provincial	National/International
	◔	◕	●	●	●	●	●	(L)	(R)	(P)	(N)
Fish - Threatened and Special Concern		◕			●						(N)
Waterfowl - Special Concern		◕			●						(N)
Marine Reptiles - Endangered		◕			●						(N)
Blasting - Fish Habitat		◕				●		(L)			
Blasting - American Lobster		◕				●		(L)			
Blasting - Marine Mammals		◕				●		(L)			
Blasting - Marine Mammals - Species at Risk		◕				●					(N)
Blasting - Waterbirds		◕				●		(L)			
Ship Interactions - North Atlantic Right Whale Conservation Area		◕			●						(N)
Ship Interactions - North Atlantic Right Whale Nearshore		◕				●					(N)
Ballast Water		◕			●				(R)		
Noise and Vibration Marine		◕				●		(L)			
Human Environment											
Heritage Resources - Marine Archaeology	◔				●			(L)			
Heritage Resources - Land Archaeology		◕			●			(L)			

Valued Environmental Component Impact Summary

Whites Point Quarry and Marine Terminal
Environmental Impact Statement

Table 2, Part 4

	Time		Type/Significance of Effect						Scale			
	Short Term	Long Term	Significant Positive	Insignificant Positive	Neutral	Insignificant Negative	Significant Negative	Local	Regional	Provincial	National/International
Heritage Resources - History		●				●		(L)			
Heritage Resources - Heritage Properties		●			●				(R)		
Aesthetics - Highway #217		●			●				(R)		
Aesthetics - Bay of Fundy		●				●			(R)		
Economy - Quarry Construction Employment	◔		●						(R)		
Economy - Quarry Construction GDP	◔			●						(P)	
Economy - Quarry Operation Employment		●	●						(R)		
Economy - Quarry Operation GDP		●		●						(P)	
Economy - Quarry Operation Tax Revenue		●		●						(P)	(N)
Economy - Quarry Operation Mun. Tax Revenue		●	●						(R)		
Economy - Fishery - Aquaculture		●			●				(R)		
Economy - Fishery - Intertidal		●			●				(R)		
Economy - Fishery - Nearshore		●				●		(L)			
Economy - Tourism		●				●			(R)		
Economy - Land Value		●				●		(L)			
Recreation		●			●			(L)			

Valued Environmental Component Impact Summary

Whites Point Quarry and Marine Terminal
Environmental Impact Statement

Table 2, Part 5

	Time		Type/Significance of Effect					Scale			
	Short Term	Long Term	Significant Positive	Insignificant Positive	Neutral	Insignificant Negative	Significant Negative	Local	Regional	Provincial	National/International
Socio-Cultural - Quality of Life - Social Relations		◕		●					Ⓡ		
Socio-Cultural - Social Capital - Pre-project	◔					●			Ⓡ		
Socio-Cultural - Social Capital - Life of Project		◕		●					Ⓡ		
Socio-Cultural - Commercial Patterns		◕				●			Ⓡ		
Socio-Cultural - Quality of Life - Environmental		◕				●		Ⓛ			
Community Infrastructure		◕			●				Ⓡ		
Community Institutional Capacity		◕			●				Ⓡ		
Education Training and Skills		◕		●					Ⓡ		
Transportation - Land - Construction	◔					●			Ⓡ		
Transportation - Land - Operation		◕			●				Ⓡ		
Transportation - Marine - Construction and Operation	◔	◕				●		Ⓛ			
Human Health - Offsite Drinking Water Quality		◕			●			Ⓛ			
Human Health - Onsite Drinking Water Quality		◕				●		Ⓛ			
Human Health - Marine Contaminates		◕			●			Ⓛ			
Human Health - Land Contaminates		◕			●			Ⓛ			
Human Health - Country Foods		◕			●			Ⓛ			

Table CEM - 1
Cumulative Environmental Component Monitoring

Whites Point Quarry and Marine Terminal
Table CEM - 1 Summary Table
Cumulative Environmental Component Monitoring

Environmental Component	Project Phase		Frequency	Description/EIS Paragraph	Regulatory Requirement
	Construction	Operation			
Greenhouse Gas	Yes	Yes	Annually	•Measurement of energy consumption by type of fuel **(para. 10.0)**	No
Flora Species at Risk	Yes	Yes	Varies by Species	•Maintain liaison with federal and provincial agencies regarding additions or deletions of regional species at risk **(para. 10.0)**	No
Marine Mammals - Blasting	Yes	Yes	Varies by Species	•Maintain liaison with federal and provincial agencies regarding additions or deletions of regional species at risk and adaptive management procedures **(para. 10.0)**	No
Marine Mammals - Ship Interactions	Yes	Yes	Varies by Species	•Work with the shipping company and DFO to develop detection systems for marine mammals in the designed ship route to and from the shipping lanes and the Whites Point Marine Terminal **(para. 10.0)**	No
Bay of Fundy Aesthetics	Yes	Yes	5 years	•Photographic documentation of view planes from the Bay of Fundy to the coastline to appraise effectiveness of reclamation **(para. 10.0)**	No
Employment / Quarry Operation	No	Yes	Annually	•Maintain a list of direct employment by occupation of quarry workers **(para 10.0)**	No
Municipal Tax Revenue / Quarry Operation	No	Yes	Annually	•Maintain amount of direct taxes paid to Municipality **(para. 10.0)**	No
Tourism	No	Yes	Annually	•Maintain rural landscape at entrance to quarry at Highway 217 **(para. 10.0)**	No
Quality of Life	No	Yes	after 5 years	•Assess quality of life of residents on Digby Neck by survey **(para. 10.0)**	No
Social Capital	No	Yes	after 5 years	•Assess success of training and local hiring of workforce at quarry **(para. 10.0)**	No

Table CEM - 2
Cumulative Impact Summary Table

TABLE CEM- 2 CUMULATIVE IMPACT SUMMARY TABLE
VALUED ENVIRONMENTAL COMPONENT (VEC)

POTENTIAL CUMULATIVE ENVIRONMENTAL COMPONENT	SCALE	CUMULATIVE EFFECT Significance / Type	PROBABILITY
Greenhouse Gas	Regional	Insignificant / Negative	Possible
Flora Species at Risk	Provincial	Significant / Positive	Likely
Marine Mammals - Blasting	National	Insignificant / Negative	Unlikely
Marine Mammals - Ship Interaction	National	Insignificant / Negative	Unlikely
Bay of Fundy Aesthetics	Regional	Insignificant / Negative	Possible
Employment	Regional	Significant / Positive	Likely
Municipal Tax Revenue	Regional	Significant / Positive	Likely
Tourism	Regional	Insignificant / Negative	Possible
Quality of Life	Regional	Insignificant / Positive	Possible
Social Capital	Regional	Insignificant / Positive	Likely

Table CI-1
Committments Table

Bilcon Commitment	Project Phase	Responsibility	Approving Agency
1) Project Design 1.1 Bilcon of Nova Scotia Corporation will design, construct, operate and decommission the project as set out in the EIS including subsequent specific changes required in future permits or authorizations.	Construction Operation Closure	Bilcon	EC, TC, DFO, NSDEL, NSM Municipality of Digby
1.2 Project construction, operation and closure will be in compliance with the terms and conditions set out in the Industrial Permit.	Construction Operation Closure	Bilcon	NSDEL
1.3 Bilcon will complete the environmental monitoring plans set out in the EIS in consultation with regulatory agencies and implement the plans when appropriate.	Operation	Bilcon	All Agencies
1.4 Bilcon will complete environmental contingency plans and spill response plans in consultation with regulatory agencies.	Operation	Bilcon	NSDEL, TC
1.5 Training programs will be implemented for operations staff.	Construction Operation	Bilcon	
1.6 Systems will be installed for the handling of domestic, sanitary and hazardous wastes.	Construction Operation	Bilcon	NSDEL, EC
1.7 No quarried rock product will be trucked on local roads.	Operation	Bilcon	
1.8 Bilcon will complete the reclamation plans and provide surety as required.	Operation	Bilcon	NSDEL

Bilcon Commitment	Project Phase	Responsibility	Approving Agency
2) Physical Environment 2.1 No excavation will be carried out below sea level.	Operation	Bilcon	
2.2 No excavation will be carried out below the upper basalt flow unit.	Operation	Bilcon	
3) Groundwater 3.1 Quarrying will not take place below the groundwater table.	Operation	Bilcon	NSDEL
3.2 Water for the wash cycle will be made up from surface water storage. No ground water will be used for process-ing.	Operation	Bilcon	NSDEL
3.3 A pre-blast survey will be carried out on wells as required by NSDEL.	Operation	Bilcon	NSDEL
3.4 Monitoring – groundwater levels will be monitored in the existing wells both on and off site.	Operation	Bilcon	NSDEL
3.5 Monitoring – groundwater analysis for bacteriology, general chemistry and trace metals will be carried out once per year in the monitoring wells	Operation	Bilcon	NSDEL
3.6 Monitoring – adjacent property owners with wells will be invited to sit on the Community Liaison Committee.	Operation	Bilcon	
4) Watershed 4.1 No quarrying will take place in the Little River watershed.	Operation	Bilcon	NSDEL

Bilcon Commitment	Project Phase	Responsibility	Approving Agency
5) Marine Water Quality 5.1 Monitoring – water quality monitoring of all outflows from sediment retention ponds will be conducted weekly for Total Suspended Solids and pH and monthly for general chemistry.	Operation	Bilcon	NSDEL
5.2 Monitoring – turbidity levels during pile installation will be monitored and if necessary silt curtains will be employed.	Operation	Bilcon	DFO
5.3 No bilge discharge or fuelling operations will be permitted at the marine terminal.	Operation	Bilcon	
5.4 Bilcon will require its shippers to comply with Transport Canada Guidelines for ballast water management.	Operation	Bilcon	TC
5.5 Bilcon will install the necessary equipment to prevent spillage of product during loading operations.	Operation	Bilcon	
6) Air Quality 6.1 Bilcon will pave access roads from Hwy #217 to the quarry site.	Construction Operation	Bilcon	
6.2 Bilcon will enclose processing equipment which will be located approximately 1000 m from the nearest residence.	Operation	Bilcon	
6.3 All pit roadways will be watered during dry conditions to minimize dust.	Construction Operation	Bilcon	
6.4 Bilcon will chip remaining wood fibre following the harvesting of merchantable timber, rather than burning, to reduce emissions.	Construction Operation	Bilcon	

Bilcon Commitment	Project Phase	Responsibility	Approving Agency
6.5 Heavy operational mobile equipment will be equipped with diesel engines meeting the US EPA Tier 3 emission standards and maintained in good operating condition.	Operation	Bilcon	
6.6 Monitoring – Bilcon will monitor particulate emissions when requested.	Operation	Bilcon	EC, NSDEL
7) Noise 7.1 Monitoring – All blasts will be monitored for concussion and ground vibration in consultation with NSDEL	Operation	Bilcon	NSDEL
7.2 Bilcon will enclose its crushing and screening operation.	Operation	Bilcon	
7.3 Bilcon will employ quarry trucks with rubber lined boxes and rubberized screens.	Operation	Bilcon	
7.4 Bilcon will employ alternate back up warning devices.	Operation	Bilcon	
7.5 Bilcon will drill sockets in the bedrock for seating the piles rather than a continuous pile driving process.	Operation	Bilcon	
7.6 Preservation zones will be kept in a forested condition between the quarry and adjacent residences.	Operation	Bilcon	
7.7 Monitoring – sound level monitoring stations will be established in consultation with NSDEL.	Operation	Bilcon	NSDEL

Bilcon Commitment	Project Phase	Responsibility	Approving Agency
8) Employment and Training 8.1 Bilcon will engage staff whenever possible from the local area and will not recruit from existing businesses.	Operation	Bilcon	
8.2 Bilcon will establish a training program for all staff. All training will be funded by Bilcon.	Operation	Bilcon	
8.3 Bilcon will give preference to hiring women.	Operation	Bilcon	
9) Archaeology 9.1 Monitoring – if significant heritage resources are discovered an appropriate monitoring or recovery program will be developed in consultation with the Nova Scotia Museum.	Operation	Bilcon	NSM
9.2 All staff will be given special training in recognising heritage resources and the procedures to be followed.	Operation	Bilcon	
9.3 All contractors and sub contractors will be required to follow procedures set out by Bilcon with respect to recognising heritage resources and the procedures to be followed.	Operation	Bilcon	
9.4 Bilcon will conduct a program of archeological investigation in the nearshore waters prior to pile installation. Professional divers trained in archaeological techniques will conduct the investigations.	Operation	Bilcon	NSM

Bilcon Commitment	Project Phase	Responsibility	Approving Agency
10) Marine Fish Habitat 10.1 Bilcon has received approval in principal for a Compensation Plan under Section 35(2) Fisheries Act. Bilcon will further develop a monitoring plan in concert with DFO.	Construction	Bilcon	DFO
10.2 Commitments regarding sediment entering the marine habitat are detailed above under marine water quality.	Construction and operation	Bilcon	NSDEL, DFO
11) Lobster Fishery 11.1 Bilcon will advise lobster fishers using Whites Cove on the arrival and departure times of all bulk carriers during the lobster season.	operation	Bilcon	
11.2 Bilcon will ensure that all bulk carriers enter and leave Whites Cove, from and to the shipping lanes, on the same predetermined bearing.	operation	Bilcon	
11.3 Bilcon will provide compensation to a Committee of Whites Cove lobster fishers who will assess and compensate for loss of lobster gear due to ship movements. Compensation as a fixed sum will be paid on an annual basis.	operation	Bilcon	
12) Marine Species 12.1 Bilcon will not carry out any blasting in marine waters.	operation	Bilcon	DFO
12.2 Bilcon will conduct on land blasting in accordance with the "Guidelines for the Use of Explosives in or near Canadian Fisheries Waters".	operation	Bilcon	DFO

Bilcon Commitment	Project Phase	Responsibility	Approving Agency
12.3 Bilcon will triple the setback distances indicated in the " Guidelines for the Use of Explosives in or near Canadian Fisheries Waters"when iBoF Atlantic salmon may be present in nearshore waters.	Operation	Bilcon	DFO
12.4 Bilcon will use experienced observers to identify the possible presence of marine mammals within safety radii as set out in the Blasting Protocol.	Operation	Bilcon	DFO
12.5 Bilcon will monitor noise levels in the marine environment as set out in the EIS and will work with DFO to increase the knowledge base with respect to species at risk.	Operation	Bilcon	DFO
12.6 Bilcon will visually monitor and measure noise levels at the seal colony at Crowells Cove during the initial blast in consultation with DFO.	Construction	Bilcon	DFO
12.7 Bilcon will advise its shipper of any whale sightings in the area between the shipping lanes and the marine terminal.	Operation	Bilcon	DFO
12.8 Bilcon will not permit a ship speed in excess of 12 kn/hour during the transit from shipping lanes to the marine terminal.	Operation	Bilcon	DFO
12.9 Bilcon will work with other groups to provide better data to ships captains with respect to the location of marine mammals.	Operation	Bilcon	DFO

Bilcon Commitment	Project Phase	Responsibility	Approving Agency
12.10 Bilcon will maintain communications with local whale watch and seabird cruise operators operating in the Digby Neck area.	Operation	Bilcon	DFO
12.11 Bilcon will report sightings of marine reptiles during routine monitoring of the arrival and departure of the vessel at the marine terminal to the Nova Scotia Leatherback Turtle Working Group and the Nova Scotia Museum of Natural History.	Operation	Bilcon	DFO
13) Terrestrial Species 13.1 Bilcon will establish and maintain 78.9 acres of environmental preservation zone as set out in the EIS.	Construction Operation	Bilcon	NSDEL
13.2 Monitoring – a breeding bird survey will be conducted every five years to document any change in species composition.	Operation	Bilcon	NSDEL
13.3 Monitoring – an Odanata survey will be conducted every five years to documentany changes in species composition.	Operation	Bilcon	NSDEL
13.4 Monitoring – a Lepidoptera survey will be conducted every five years to document any changes in species composition.	Operation	Bilcon	NSDEL
13.5 Monitoring – an invasive plant species survey will be conducted every five years to document the level of success of the program to detect and remove invasive plant species.	Operation	Bilcon	NSDEL

Bilcon Commitment	Project Phase	Responsibility	Approving Agency
13.6 Monitoring – Flora species at risk will be monitored as indicated in the EIS.	Operation	Bilcon	NSDEL
13.7 Bilcon will store any toxic substances used during quarry operations (diesel fuel, gasoline, hydraulic fluids etc) in a safe manner such that they are not accessible to wildlife.	Operation	Bilcon	NSDEL
13.8 During clearing operations Bilcon will comply with all relevant federal and provincial legislation protecting birds, nests and eggs.	Operation	Bilcon	NSDEL, EC
13.9 Bilcon will continue coordination and cooperation with CWS in monitoring waterfowl of special concern (harlequin duck and Barrow‘s goldeneye).	Operation	Bilcon	NSDEL, CWS
14) Light Bilcon will design lighting for operations, security and safety so as to minimize night glow.	Operation	Bilcon	NSDEL
Bilcon will employ minimal lighting on the ship loading structure commensurate with safe loading operations and navigation.	Operation	Bilcon	NSDEL, TC
15) Vegetation 15.1 Bilcon will monitor the health and integrity of trees in all preservation zones.	Operation	Bilcon	NSDEL
15.2 Bilcon will carry out a silviculture program on lands owned by Bilcon adjacent to the quarry property.	Operation	Bilcon	NSDEL

Bilcon Commitment	Project Phase	Responsibility	Approving Agency
16) Reclamation 16.1 Reclamation will be incremental throughout the life of the project.	Operation	Bilcon	NSDEL
16.2 No top soil will be removed from the quarry site. All top soil and chipped material from the clearing and grubbing operation will be stored on site and mixed with the stored waste fines for reclamation.	Operation Closure	Bilcon	NSDEL
16.3 All reclaimed areas will be reforested with native tree species under the direction of a professional forrester.	Operation Closure	Bilcon	NSDEL
16.4 Reclamation will be monitored by a professional forrester to ensure the success of the program.	Operation Closure	Bilcon	NSDEL
16.5 The reclamation program will include a program for the control of invasive species.	Operation Closure	Bilcon	NSDEL
17) First Nations 17.1 Bilcon will continue its efforts to involve the Design First Nations in the project.	Design Operation	Bilcon	NSDEL
18) Land Values 18.1 Bilcon will carry out an appraisal of residential properties within 800 m of the quarry prior to operations and after five years of operation. Compensation will be offered where property values have been diminished	Operation	Bilcon	NSDEL

Bilcon Commitment	Project Phase	Responsibility	Approving Agency
19) Economy 19.1 Bilcon will wherever possible, procure supplies in the local area and generally support local business both during construction and operation.	Construction Operation	Bilcon	

Abbreviations

CWS	Canadian Wildlife Service
DFO	Department of Fisheries and Oceans
EC	Environment Canada
NSM	Nova Scotia Museum
NSDEL	Nova Scotia Department of Environment and Labour
TC	Transport Canada

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1.0 ENVIRONMENTAL ASSESSMENT OF THE PROJECT

1.1 Background

A Joint Review Panel (the Panel) has been established by the Minister of the Environment, Canada (under the authority of the *Canadian Environmental Assessment Act*), and by the Minister of Environment and Labour, Nova Scotia (under the authority of the *Nova Scotia Environment Act*), to consider the possible environmental effects associated with the Whites Point Quarry and Marine Terminal Project (the Project), proposed by Bilcon of Nova Scotia Corporation (the Proponent/Bilcon).

The Proponent is proposing to construct and operate a basalt quarry, processing facility and marine terminal on Digby Neck, Digby County, Nova Scotia, where quarrying and associated activities are scheduled to take place on 150 hectares of land. Production is expected to reach 2 million tonnes of aggregate per year, or approximately 40,000 tonnes per week. The quarry is expected to expand its operational footprint by four hectares each year of operation. Land-based operations are expected to occur year-round, with aggregate stockpiled for ship loading once each week. Drilling and blasting of basalt rock, loading, hauling, crushing, screening, washing and stockpiling will be done on-site.

Land-based structures will include: rock crushers, screens, closed-circuit wash facilities, conveyors, load-out tunnel, support structures and environmental control structures. Associated construction processes will include erection of on-land aggregate processing equipment, conveyors and wash-water pumping systems.

Marine facilities will include a conveyor, ship loader, berthing dolphins and mooring buoys. Construction processes for the marine terminal infrastructure would include the anchoring of pile support structures to the seafloor, along with the construction of concrete caps as dolphins. Ship visits for the purposes of loading aggregate will occur weekly - (See Reference 37 - EIS Guidelines, Chapter 1 Background).

1.2 The Joint Panel Review Mandate

The Panel has been charged with the responsibility to identify, evaluate and report on the potential impacts (adverse and beneficial effects) of the Project on the physical, biological and human environments. The mandate of the Panel is defined in the Agreement signed by Federal and Provincial levels of government (See Appendix 24). The Agreement explicitly states, “The Panel shall conduct its review in a manner that discharges the requirements set out in the Canadian Environmental Assessment Act, Part IV of the Nova Scotia Environment Act and the Terms of Reference attached hereto as an Appendix.”

The Agreement and Terms of Reference (TOR) found in Appendix 24 of this document outlines the factors the Panel must consider in conducting its environmental assessment. The Panel has considered these factors in developing the EIS Guidelines. It is the responsibility of the Proponent to prepare an EIS that identifies and evaluates the effects of the Project for submission to the Panel.

All materials related to the Project received by the Panel and federal and provincial departments will be made publicly accessible through a Public Registry available on-line and in designated sites in the community.

At the conclusion of the public hearings on the Project, the Panel will prepare a report that will include its finding and recommendations, and will submit the report to the Ministers- (See Reference 37 - EIS Guidelines Chapter 1, The Joint Panel Review Mandate).

1.3 Cost Recovery

Bilcon of Nova Scotia Corporation was advised at a meeting with the Canadian Environmental Assessment Agency (CEAA) and the Nova Scotia Department of Environment and Labour (NSDEL) in October, 2004 that a cost recovery agreement with respect to the Joint Panel Review was being prepared and would be forwarded to Bilcon for signature in November, 2004.

In February, 2005, a Memorandum of Understanding Concerning Cost Sharing Related to the Environmental Assessment of the Whites Point Quarry and Marine Terminal (See Appendix 27) was signed by Bruce Young, Director, Project Assessment for CEAA and by William G. R. Lahey for NSDEL. This document sets out the costs borne out by each party to the Memorandum, cost sharing and a dispute resolution mechanism.

In October, 2005, a Service Level Agreement Respecting the Joint Panel Review of the Whites Point Quarry and Marine Terminal Project (See Appendix 37) signed by Bruce Young and William G.R. Lahey was received by the Proponent. This agreement was signed by the Proponent on November 7th, 2005. This agreement sets out the Background (Cost Recovery Authority and Secretariat Operations), Financial Considerations (Budget Estimate, Invoicing and Payment Due), Audit, Dispute Resolution and Amendment and Termination of the Agreement.

1.4 Participant Funding

On November 9th, 2004, the Canadian Environmental Assessment Agency announced funding in the amount of $100,000 (See Appendix10) to assist the public to take part in the Panel Review process. The announcement advised that in Phase I up to $25,000 was

being provided to the public for the review of the Environmental Impact Statement (EIS) Guidelines. In Phase II that amount rose to $75,000 to prepare for and participate in the public hearings. Applications for Phase I funding were to be received by the CEAA no later than December 10th, 2004.

A funding review committee, independent of the Joint Review Panel, assessed the applications and on December 30th, 2004, announced that seven groups had been awarded funding in the amount of $25,583 to assist with participation in the review of the draft EIS Guidelines. (See Appendix 10)

The groups are as follows:

- The Community Liaison Committee for Whites Point Quarry
- Enviro-Clare
- The Sierra Club of Canada
- The Clean Annapolis River Project
- The Ecology Action Centre
- The Partnership for Sustainable Development of Digby Neck and Islands Society
- The Digby Neck Community Development Association

On April 30th, 2005, the CEAA announced that $81,300 was available to participate in the review of the EIS and the panel hearings to follow. Applications for this funding were to be received by the CEAA by May 11th, 2005. A funding review committee, independent of the panel, again reviewed the applications and on July 26th, 2005, the CEAA announced that funding had been awarded to the following groups (See appendix 10):

- The Canadian Parks and Wilderness Society - Nova Scotia Chapter
- The Sierra Club of Canada - Atlantic Canada Chapter
- The Ecology Action Centre
- The Confederacy of Mainland Mi'kmaq (CMM)
- The Partnership for Sustainable Development of Digby Neck and Islands Society
- The Digby Neck Community Development Association
- The Clean Annapolis River Project
- Tony Kelly (Residents group)

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2.0 THE REVIEW PROCESS

2.1 Scope of the Assessment

The factors that define the scope of the environmental impact assessment review are described in general terms in Part III of the Panel's Terms of Reference (TOR)-(See Appendix 24).

2.2 Environmental Impact Statement (EIS)

Environmental impact assessment is a planning tool intended to identify and mitigate significant adverse environmental effects induced by projects.

The definition of environmental effect forms the basis for the assessment and includes consideration of the physical, biological and human elements and the interactions between them. In understanding impacts, the Panel is guided by federal and provincial legislation and definitions of environmental effects and adverse effects; in the case of different standards in the legislation, the higher standard will prevail.

The *Canadian Environmental Assessment Act* (1992) defines "environmental effect" to mean: any change that the Project may cause in the environment, including any change it may cause to a listed wildlife species, its critical habitat or the residence of individuals of that species, as those terms are defined in subsection 2(1) of the *Species at Risk Act*, any effect of any change referred to in paragraph (a) on health and socio-economic conditions, physical and cultural heritage, the current use of lands and resources for traditional purposes by Aboriginal persons, any structure, site or thing that is of historical, archaeological, paleontological or architectural significance, or any change to the Project that may be caused by the environment, whether any such change or effect occurs within or outside Canada.

In addition, the Panel is mandated to consider the direct socio-economic effects of the Project. The *Nova Scotia Environment Act* defines "adverse effect" to mean "an effect that impairs or damages the environment, including an adverse effect respecting the health of humans or the reasonable enjoyment of life or property".

The EIS document produced by the Proponent identifies the effects (both beneficial and adverse) of the Project on the environment. The EIS will serve as the cornerstone of the Panel's review and evaluation of the potential impacts of the Project.

The public (including Aboriginal peoples), interested parties and government representatives will be invited to comment on the completeness and accuracy of the EIS, and to submit materials for the Panel to consider. Should the Panel deem further information necessary, it may arrange for additional studies which it will include in the Public Registry. The Panel will consider all materials included in the Registry in evaluating the Project. The EIS will help regulators and members of the public to understand the Project, the existing environment, and the potential adverse or beneficial effects of the Project - (See Reference 37 - EIS Guidelines, Chapter 2, Environmental Impact Statement).

2.3 Purpose of the Guidelines

The document entitled "Environmental Impact Statement Guidelines for the Review of the Whites Point Quarry and Marine Terminal Project" dated March 2005 provides specific direction to the Proponent regarding the preparation and structure of the EIS. The EIS Guidelines define the issues that the Proponent must address. It is the responsibility of the Proponent to provide sufficient data and analysis on any potential adverse environmental effects to permit proper evaluation by the Panel, the public, and technical and regulatory agencies. The Guidelines outline the minimum information required by the Panel while leaving the Proponent some latitude in selecting methods to compile the EIS - (See Reference 37 - EIS Guidelines, Chapter 2, Purpose of the Guidelines).

2.4 Timing

Following submission of the EIS to the Panel, the Panel will make the EIS available to the public and other stakeholders for examination and comments regarding the document's completeness, accuracy, and compliance with the guidelines The Panel will receive written comments during a review period of not less than 90 days. Comments submitted in writing to the Panel will immediately be provided to the Proponent and added to the Registry. Following the examination period, the Panel may determine that deficiencies identified during the review of the submitted EIS require additional information from the Proponent. The Panel will issue requests for additional information within fifteen (15) days of either the expiration of the public examination period or receipt of the Proponents response to the public's written comments, whichever occurs later.

As appropriate, not later than fifteen (15) days after the completion of the public examination period, the Proponent shall provide to the Panel a response to written comments provided by the public and other stakeholders.

Following the Proponent's response, should the Panel believe that deficiencies remain in the EIS, or that the Panel requires additional information for a proper evaluation of evidence, the Panel has the authority to commission expert studies. Any such studies will be provided to the Proponent and added to the Registry.

Once the Panel is satisfied that sufficient information has been provided it will hold public hearings. The Panel will set hearing dates after considering the volume of material accumulated for public review and the right of the Proponent to a timely hearing. In any event, the Panel will give not less than thirty (30) days notice of the hearings.

Within ninety (90) days, of completion of public hearings, the Panel will prepare and submit its report to the provincial Minister of Environment and Labour and the federal Minister of the Environment. The report will include recommendations on all factors set out in section 16 of the *Canadian Environmental Assessment Act* and pursuant to Part IV of the Nova Scotia *Environment Act*. At that time, the Panel will recommend either approval (including mitigation measures) or rejection of the Project- (See Reference 37 - EIS Guidelines, Chapter 2, Timing).

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3.0 PRINCIPLES

3.1 Use and Respect for Traditional and Community Environmental Knowledge

The value of traditional and community environmental knowledge in the preparation of Environmental Impact Statements is widely accepted. Bilcon of Nova Scotia Corporation, for the subject study, gathered extensive input with respect to community environmental knowledge over a four-year period and this was used extensively throughout the preparation of the EIS.

It is, however, unfortunate that the Aboriginal Community did not make their Traditional Knowledge available to Bilcon of Nova Scotia Corporation until January 10th, 2006, when the study entitled *"Mi'kmaq Use of Oositookum (Digby Neck), It's Surrounding Waters, and The Mainland Shore of St. Mary's Bay Report*", (see Appendix 16), prepared by the Confederacy of Mainland Mi'kmaq was submitted to the Panel. Reference to Section 9.3.5 of the EIS sets out the steps taken by Bilcon of Nova Scotia Corporation to engage the Aboriginal Community in consultation from the fall of 2002.

Notwithstanding past difficulties, Bilcon of Nova Scotia Corporation is committed to working with the Aboriginal Community and looks forward to further dialogue.

Valuable information was obtained during the preparation of the EIS from the Community Environmental Knowledge gathering process on virtually all the Valued Environmental Components (VECs) and this information was instrumental in the selection of the VECs and contributed significantly to a better understanding of the potential impacts of the project.

3.2 Public Involvement

Bilcon of Nova Scotia Corporation recognises public participation as a crucial objective in the environmental assessment process and the EIS sets out the various elements of public involvement and consultation which contributed to the EIS.

In this regard, it should be noted that Bilcon of Nova Scotia Corporation commenced public consultation in July 2002, with the formation of the Community Liaison Committee (CLC) for the 4 hectare quarry, and has maintained an office in Digby since July 2002. Bilcon of Nova Scotia Corporation initiated these activities almost a year prior to the Project being placed in a Panel Review process.

Bilcon of Nova Scotia Corporation has encouraged public consultation through:

- The CLC
- Open Houses
- Newsletters
- Attitude Survey
- Quality of Life Survey
- Traditional Knowledge Gathering
- Bilcon of Nova Scotia Website
- Office Drop-ins

Bilcon of Nova Scotia Corporation is committed to continuing the public consultation process throughout the life of the Project.

All comments received from the public have been addressed and a Concordance Table (see Chapter 5) sets out each of the issues and concerns raised over three and a half years of consultation, in addition to the section of the EIS that deals with those issues and concerns.

3.3 Sustainable Development

The Canadian Environmental Assessment Act defines sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". This means managing any adverse effects of the Whites Point Project to achieve the goal of protecting the environment, as well as the economic and social health of present and future generations. Paragraph 3.3 of the Environmental Impact Statement Guidelines provides project related specifics.

To realize the aims of sustainable development, this EIS takes the first step of identifying ecosystem boundaries and ecosystem elements, or valued environmental components (VECs), such as physical, biological, and human resource elements. This is followed by establishing measures to ensure the protection of these elements from adverse effects of the project through the conservation of ecosystem health within predetermined boundaries.

Protection of the ecosystem elements is to be ensured through the proactive approach of adaptive management. Adaptive management employs the precautionary approach to environmental decision-making and enables Bilcon of Nova Scotia Corporation to intervene in a timely manner to control environmental damage that may arise from the project. This is accomplished through the use of additional mitigation or effects avoidance techniques thus ensuring sustainability. Bilcon's commitment to this approach is outlined elsewhere in the EIS and detailed strategies in this regard are noted throughout the EIS.

Bilcon of Nova Scotia Corporation acknowledges its obligation to ensure that this project is undertaken in a manner consistent with the goals of sustainable development – the efficient and environmentally responsible use of resources. This commitment to sustainable development is reflected throughout this EIS.

3.4 The Ecosystem Approach

The ecosystem approach evolved from the Convention on Biological Diversity (Reference 165-Secretariat of the Convention on Biological Diversity 2001-2005). It is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way. A balance of three objectives – conservation, sustainable use, and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources are the basis of application of the approach.

Further, the ecosystem approach is based on the application of appropriate scientific methodologies focused on levels of biological organization which encompass the essential structure, processes, functions, and interactions among organisms and their environment. It also recognizes that humans, with their cultural diversity, are an integral component of many ecosystems. This focus on the structure, processes, functions and interactions is consistent with the definition of "ecosystem" provided in Article 2 of the Convention on Biological Diversity.

"Ecosystem means a dynamic complex of plant, animal, and micro-organism communities and their non-living environment interacting as a functional unit".

Realizing the complex, dynamic, and dimensional nature of ecosystems in time and space, the ecosystem approach requires adaptive management to deal with uncertainties and in many cases the absence of complete knowledge or understanding of their function. There is no single way to implement the ecosystem approach. However, the following twelve principles create a complementary and inter-linked framework.

1. The objectives of management of land and living resources are a matter of societal choice.

2. Management should be decentralized to the lowest appropriate level.

3. Ecosystem managers should consider effects (actual or potential) of their activities on adjacent and other ecosystems.

4. Recognizing potential gains from management, there is usually a need to understand and manage the ecosystem in an economic context. Any such ecosystem – management programme should: (a) reduce those market distortions that adversely

affect biological diversity: (b) align incentives to promote biodiversity conservation and sustainable use: and (c) internalize costs and benefits in the given ecosystem to the extent feasible.

5. Conservation of ecosystem structure and functioning, in order to maintain ecosystem services, should be a target of the ecosystem approach.

6. Ecosystems must be managed within the limits of their functioning.

7. The ecosystem approach should be undertaken at the appropriate spatial and temporal scales.

8. Recognizing the varying temporal scales and lag-effects that characterize ecosystem processes, objective ecosystem management should be set for the long term.

9. Management must recognize that change is inevitable.

10. The ecosystem approach should seek the appropriate balance between and integration of conservation of biological diversity.

11. The ecosystem approach should consider all forms of relevant information, including scientific and indigenous local knowledge, innovations and practices.

12. The ecosystem approach should involve all relevant sections of society and scientific disciplines.

The following five points provide operational guidance for application of the ecosystem approach.

1. Focus on the functional relationships and processes within ecosystems.
2. Enhance benefit-sharing.
3. Use adaptive management practices.
4. Carry out management actions at the scale appropriate for the issue being addressed, with decentralization as appropriate.
5. Ensure intersectoral cooperation.

The preparation of this Environmental Impact Statement has applied, to the extent practical under the EIS Guidelines (Reference 37) requirements, the principles and guidance contained in Division V/6 of the Convention on Biological Diversity. As advancements in ecosystem knowledge and science evolve over time, Bilcon of Nova Scotia Corporation will adhere to a precautionary approach and an adaptive management process as more fully described in the next section of this report.

3.5 The Precautionary Approach

The precautionary principle is now commonly used to guide environmental decision-making when faced with scientific uncertainty and insufficient knowledge. The most widely accepted definition of the precautionary principle is that developed at the 1992 Rio Conference **(**Reference 95 - Anonymous 1992**).** This definition states that "where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation".

At the Whites Point Quarry and Marine terminal, Bilcon will apply the precautionary principle to all phases of the project through its approach to environmental risk management. In this case, risk management combines an understanding of baseline conditions with the effects of the project operation itself to determine the appropriate techniques to ensure that mitigation and monitoring objectives are respected.

Where there is uncertainty with respect to the effectiveness of measures that are used to prevent serious or irreversible environmental damage, Bilcon will take an adaptive management approach. Adaptive management uses monitoring results to accommodate uncertainty. This will permit early intervention through the use of additional mitigation, or avoidance, to control potential environmental damage.

The use of an adaptive management approach, based on scientifically defensible performance based standards, will be adhered to by Bilcon during the life of the project. Performance based standards are physical, biological and human indicators or thresholds that approximate and rank the quality of the environment in the area. As scientific knowledge expands, these standards may be refined to provide more confidence in environmental decision-making.

Bilcon's commitment to the use of the precautionary approach in environmental decision-making is reflected throughout this Environmental Impact Statement. Various phases of the project exhibit this approach including project planning, design, construction, operation, and closure. Specific examples of how the precautionary approach was applied are contained in subsequent sections of the Environmental Impact Statement.

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4.0 PREPARATION OF THE EIS

4.1 Approach

Bilcon of Nova Scotia Corporation's approach to the preparation of the EIS is set out in Section 6.05.

4.2 Format

Bilcon of Nova Scotia Corporation considered with great care the suggestions set out in the EIS Guidelines for the Review of the Whites Point Quarry and Marine Terminal dated March 2005, and in general has attempted to follow the format suggested. However, Bilcon of Nova Scotia Corporation felt that a consideration of existing conditions, research, analyses, mitigation, potential impacts and monitoring would be much clearer if all these elements were set out in the same order in the consideration of each VEC.

Accordingly, Sections 9, 10, 12.4 and 12.5 in the Guidelines have been combined in the consideration of each VEC. Tables, however, have been prepared showing each of the VECs with the mitigation and monitoring set out in tabular format thus drawing all mitigation and monitoring together as suggested in the Guidelines.

Maps have been included in the sections where they are most helpful. However, because some of the maps are referenced in multiple sections, a volume of maps at a larger size has been prepared to make map referencing easier.

The individual issues set out in the Guidelines have been cross referenced to indicate where each issue is dealt with in the EIS. This cross reference is bound in a separate volume. A Concordance Table which sets out each of the issues raised by the public or regulatory authorities throughout the process and where they have been dealt with in the EIS is found in Chapter 5.

Appendices are bound in four volumes and are clearly labled and tabbed. References in the text of the EIS are clearly numbered, i.e. Reference 37. These can be found in the bibliography which is in EIS Volume VII.

Reference documents are bound in six volumes, arranged in groupings of issues and all references noted in the text of the EIS are clearly tabbed , i.e. Ref. Vol II tab 10.

The Executive Summary, as requested in the guidelines, has been bound separately as EIS Volume I - Plain Language Summary. The condensed Executive Summary is found in EIS Volume IV

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Type of Issue	Issue	Concerns	Source	EIS Chapter
Environmental Effects	**Air**	Dust could be generated during the construction and operation activities at the quarry Dust and air particulates could affect residents' quality of life as well as their property (e.g. paint of the exterior of houses)	Interview 15-1/6/05 CLC Meeting 19-1/7/05 Meeting 24-1/1/05 & 9/22/05 Interview 56-9/22/05 Interview 60-1/6/05 Interview 67-1/6/05 Interview 84-3/1/05 Interview 99-1/9/05 Interview 101-12/1/04 Interview 154-5/10/05 Interview 165-1/9/05	**9.1.8.1** **9.1.8.2** **9.1.8.3** **9.1.8.4** **9.1.8.5** **9.3.2.1** **9.3.22.3**
	Cumulative Effects	Project could expand and/or other similar basalt quarry projects could occur in area because of approval and presence of infrastructure such as marine terminal. Fear exists that once this project is initiated, nobody will be able to stop other projects Socio-economic cumulative effects should also be considered Cumulative effect of draw-down water	Interview 4-1/6/05 Meeting 72-1/8/05 Interview 77-1/8/05 Meeting 91-1/8/05 Interview 102-1/7/05 Meeting 171-1/11/05	**10.0** **7.8** **10.9** **10.10** **10.12** **10.13** **9.1.3**
	Fish	Potential impact of the terminal on lobster spawning and nursery area Potential impact of the blasting (sound and vibration) and disturbance of fish, lobster and juvenile stocks	Meeting 7-1/7/05 CLC Meeting 36-1/7/05 Interview 56-9/22/05 Interview 59-1/6/05 Interview 60-1/6/05	**9.2.4** **9.2.9** **9.2.10**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Environmental Effects	**Fish**	Potential impact of runoff on fish and associated impact of increased sediments on marine species Importance of fish for local economy Low trust in scientific data on fisheries "that never matches what's in the water". Fishermen expressed their desire to corroborate, through traditional knowledge, the findings of the marine studies	Meeting 74-9/23/05 Interview 96-1/6/05 Interview 102-1/7/05 Interview 165-1/9/05 Meeting 167-1/9/05 Meeting 171-1/11/05	**9.1.6** **9.3.10** **9.3.11** **9.3.12** **9.3.13**
	Food	One report of a concerned blueberry farm owner about potential dusty blueberries	CLC	**9.3.21**
	Landscape	Quarry development will affect the spectacular and pristine beauty of the place. Landscape valued by locals and tourists Digby Neck and North Mountain is a place of sightseeing Site will be visible from the road in addition to from the sea Site lights will illuminate the sky at night Will the site be rehabilitated? How will it end up? What will be left?	Meeting 6-1/6/05 Interview 12-5/1/04 & 9/23/05 CLC Meeting 19-1/7/05 Meeting 24-1/1/05 & 9/22/05 Meeting 36-1/7/05 Interview44-12/1/03 &5/1/04 Interview 49-1/7/05 & 1/9/05 Interview 59-1/6/05 Interview 67 1/6/05 Meeting 74-9/23/05 Interview 81-4/1/04 Interview 85-1/7/05 Interview 87-12/17/03 Interview 95-1/8/05 Meeting 171-1/11/05	**9.3.6** **9.3.14** **9.3.6** **9.3.14** **9.3.6.2** **9.1.12** **7.10**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Environmental Effects	**Noise**	Impact of blasting, equipment use and ship loadings-nearby residents, nearby businesses (two campgrounds adjacent) and marine species (vibration in water) Noise impact on resident's physical health and result in sleep deprivation. Anxiety for others to "put up" with noise and other inconveniencies in their own backyards How loud will the blasting be?	Interview 4-1/6/05 Interview 15-1/6/05 CLC Meeting 19-1/7/05 Interview 54-1/6/05 Interview 59-1/6/05 Interview 60-1/6/05 Interview 67-1/6/05 Meeting 74-9/23/05 Interview 81-4/1/04 Interview 96-1/6/05 Interview 165-1/9/05 Meeting 167-1/9/05 Meeting 171-1/11/05	**9.1.9** **9.1.10** **9.1.11** **9.2.9** **9.2.10** **9.2.11** **9.2.12** **9.3.22.3** **Ref. Vol V, Tab 31** **Ref. Vol. VI, Tab 34**
	Other Environmental Effects	Project activities and diesel consumption will increase greenhouse gas emissions for Canada Land geography, because of its narrowness, can't support blasting of such magnitude General environmental degradation and pollution. The rock is a non-renewable resource Effects of local weather on project activities (e.g. marine traffic, winter storms) and local environment	Meeting 6-1/6/05 Meeting 7-1/7/05 Meeting 9-1/6/05 Interview 14-1/6/05 Meeting 19-1/7/05 Meeting 25-1/6/05 Meeting 31-1/8/05 Meeting 33-1/7/05 Interview 34-6/1/04 Interview 38-1/7/05 Interview 40-12/1/03 Interview 48-1/9/05 Interview 49-1/7/05 & 1/9/05 Interview 54-1/6/05 Interview 60-1/6/05 Interview 67-1/6/05 Interview 69-1/8/05 Meeting 72-1/8/05 Meeting 74-9/23/05 Interview 77-1/8/05 Interview 81-4/1/04 Interview 84-3/1/05 Meeting 91-1/8/05 Interview 95-1/8/05;	**9.1.1** **9.1.2** **9.1.9** **9.1.10** **Impact Summary Table 2** **9.1.1** **9.3.8** **7.2.1** **9.1.7**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Environmental Effects	**Other Environmental Effects**		Interview 96-1/6/05 Interview 102-1/7/05 Interview 103-1/6/05 Meeting 104-1/8/05 Interview 111-5/10/05 Interview 128-5/10/05 Interview 159-5/10/05 Interview 164-1/6/05 Interview 165-1/9/05 Meeting 171-1/11/05	**Impact Summary Table 2**
	Soil and Sediments	Basalt rock abundance in region which could later be exploited outside of current project area Potential sedimentation of silt generated by project activities if runoff is not to be managed properly Concern about sediment	Interview 4-1/6/05 Meeting 6-1/6/05 CLC Meeting 42-12/31/03 Meeting 43-7/24/04 Interview 48-1/9/05 Interview 50-12/31/03 Interview 165-1/9/05 Meeting 167-1/9/05 Meeting 171-1/11/05	**9.1.2** **Ref. Vol III, Tab 19** **9.1.6** **Ref. Vol. II, Tab 9** **Ref. Vol. II, Tab 12**
	Water	Groundwater used by local residents and industries could be affected (quantity and quality) by project blasting through potential lowering of the water table (draw down) and infiltration of salt water: resulting in brackish water Loss of water wells due to blasting Surface water environmental quality degradation as a result of project related activities	Interview 4-1/6/05 Interview 11-4/1/05 Interview 14-1/6/05 Interview 16-1/9/05 CLC Meeting24-1/1/05 &9/22/05 Meeting 31-1/8/05 Interview 38-1/7/05 Interview 48-1/9/05 Interview 49-1/7/05 &1/9/05 Interview 54-1/6/05	**9.1.3** **9.1.3** **9.2.2** **9.1.5** **9.1.6**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Environmental Effects	**Water**	Waters from the Bay will be affected by the washing of the rock and surface runoff (if inadequate erosion and silt control) and thus could impact fishing ground High tide could cause silt to migrate further in the Bay The practice of emptying the ballast water of ships near dock or at large perceived as a threat to fisheries and healthy ecosystems since it could introduce non-indigenous organisms and cause environmental impacts (e.g. shell diseases, impact on seaweed) Concerns with the archaeology and sea level history	Interview 60-1/6/05 Interview 61-1/6/05 Interview 63-3/1/05 Interview 76-12/16/03 Interview 79-1/6/05 Interview 84-3/1/05 Interview 87-12/17/03 Meeting 88-12/31/03 Meeting 91-1/8/05 Interview 96-1/6/05 Interview 99-1/9/05 Interview 101-12/1/04 Interview 102-1/7/05 Interview 111-5/10/05 Interview 160-5/10/05 Interview 164-1/6/05; Interview 165-1/9/05 Meeting 167-1/9/05 Interview 170-12/17/03 Meeting 171-1/11/05	**9.1.6** **7.7.1** **Ref. Vol. III, Tab 19** **9.2.14** **9.3.1** **Ref. Vol. III, Tab 14**
	Wildlife	Impact of project and related activities on whales, to a less extent on migratory birds and other marine mammals Concern blasting (noise and vibration) could affect directly whales (i.e. right whales) and the runoff andand sedimentation could affect the whales' food supply Potential whale mortality, including the rare Northern Right Whale, caused by increased marine traffic Fear that marine traffic will decrease sociability of whales	Meeting 5-7/1/04 Meeting 9-1/6/05 Interview 12-5/1/04 & 9/23/05 Interview 13-2/1/05 CLC Interview 21-1/22/04 Meeting 24-1/1/05 & 9/22/05 Meeting 36-1/7/05 Interview 41-2/1/05 Interview 49-1/7/05 & 1/9/05 Interview 50-12/31/03 Interview 60-1/6/05	**9.2.4** **9.2.7** **9.2.8** **9.2.11** **9.2.12** **9.2.13** **9.2.15** **9.1.6** **9.2.13**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Environmental Effects	**Wildlife**	Effect on the Northern Right Whale population	Interview 66-12/31/03 &1/1/04 Interview 68-1/8/05 Meeting 74-9/23/05 Interview 79-1/6/05 Interview 80-7/1/04 Interview 81-4/1/04 Interview 85-1/7/05 Meeting 91-1/8/05 Interview 96-1/6/05 Interview 165-1/9/05 Meeting 167-1/9/05 Meeting 171-1/11/05	**9.2.11** **9.2.13** **9.2.15**
Project Socio-Economic Context	**Consultation Process**	Some organizations and groups felt that they had not been directly contacted by the proponent to discuss if project could affect them Proponent must cooperate with groups of stakeholders interested in healthy prosperous local economies Not enough opportunities to meet with Bilcon	Meeting 7-1/7/05 Meeting 9-1/6/05 Interview 12-5/1/04 & 9/23/05 Interview 16-1/9/05 CLC Interview 18-10/1/04 Meeting 25-1/6/05 Meeting 33-1/7/05 Interview 56-9/22/05 Interview 64-1/6/05 Meeting 78-1/6/05 Interview 81-4/1/04 Meeting 171-1/11/05	**8.2** **Ref. Vol. IV** **Tab 21** **Tab 22** **Tab 23** **8.2** **Appendix Vol II**
	Environmental Impact Assessment Methodology	Numerous concerns raised by the public at the scoping session meetings on the EIS guidelines. These are not reported here in since they were addressed by the joint-panel review in the production of the final EIS guidelines	Interview 4-1/6/05 Meeting 6-1/6/05 Meeting 7-1/7/05 Meeting 9-1/6/05;16; CLC Meeting 19-1/7/05 Meeting 25-1/6/05 Interview 30-1/6/05 Meeting 33-1/7/05	**6.05** **6.7** **8.0**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Project Socio-Economic Context	**Environmental Impact Assessment Methodology**		Meeting 36-1/7/05 Interview 49-1/7/05 & 1/9/05 Interview 57-1/8/05 Interview 64-1/6/05 Meeting 78-1/6/05 Interview 81-4/1/04 Meeting 91-1/8/05 Interview 102-1/7/05 Interview 110-5/10/05 Interview 165-1/9/05	
	Mitigation	Concerns that mitigation measures will not be in place to prevent environmental effects or damage to resources (water table and private wells) valued by stakeholders or their equipment (e.g. fixed-gear used by fisherman at sea) Site restoration "Mitigation is an oxymoron when talking about the use of a non-renewable resource" Access to beach for periwinkle and dulse harvesters would have to be provided by proponent	Interview 4-1/6/05 CLC Interview 49 1/7/05 & 1/9/05 Interview 64-1/6/05 Interview 81-4/1/04 Interview 103-1/6/05 Interview 165-1/9/05	**Mitigation Table 11.5** **Commitments Table -Vol. IV Executive Summary** **9.1** **9.2** **9.3** **7.10** **9.3.12.3**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Project Socio-Economic Context	**Other Regulatory Issues**	Proponents could use rights under NAFTA, Chapter 11 Project activities and burning of diesel fuel will increase greenhouse gas and limit capacity of Canada to respect its engagements under Kyoto Litigation with a resident of Little River over defamation was reported by stakeholders on numerous occasions and created resentment against the proponent	Interview 3-1/7/05 CLC Meeting 19-1/7/05 Interview 46-1/8/05 Interview 49-1/7/05 & 1/9/05 Interview 54-1/6/05 Interview 81-4/1/04 Meeting 91-1/8/05 Interview 103-1/6/05	**6.6.1** **9.1.1** **6.6.2** **Ref. Vol. IV** **Tab 21** **Tab 22** **Tab 23**
	Panel Review	Some stakeholders voiced their concerns on the importance of panel transparency and impartiality. Some level of distrust exists of the whole environmental assessment process.	Meeting 9-1/6/05 Interview 16-1/9/05 Interview 30-1/6/05 Interview 56-9/22/05 Interview 64-1/6/05 Interview 67-1/6/05 Meeting 78-1/6/05 Interview 81-4/1/04	**1.2**
	Provincial and Federal Regulations	Mention of provincial environmental regulations, including conditions to obtain permit for quarry, and concerns about compliance and surveillance	Interview 4-1/6/05 CLC Interview 30-1/6/05 Meeting 33-1/7/05 Interview 81-4/1/04	**6.5**
Socio-Economic Effects	**Compensation**	The issue of compensation has been raised under various circumstances. Three groups of compensation comments	Meeting 7-1/7/05 CLC Meeting 19-1/7/05 Interview 38-1/7/05	**11.8**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Socio-Economic Effects	**Compensation**	1) Where the project could have an impact of the livelihood of residents and, therefore, on local business and industries. For example, if the fisheries were affected by the project or damage to lobster traps 2) Where stakeholders referred to compensation as a way to mitigate predicted social and environmental impacts and impact on individual's wealth and quality of life such as loss of property value, loss of water, having to cope with dust and noise, mental anguish because of tensions between proponents and residents 3) Where it was mentioned that the proponent should share project benefits with the community since, apart from a few jobs, the project is not seen as having a beneficial impact on the community. Some suggested that some profits be invested to enhance social and historical activities for communities in the project area but being careful not to buy people's acceptance of the project	Interview 48-1/9/05 Interview 49-1/7/05 & 1/9/05 Interview 60-1/6/05 Interview 69-1/8/05 Interview 79-1/6/05 Interview 99-1/9/05 Interview 102-1/7/05 Interview 103-1/6/05 Interview 165-1/9/05 Meeting 167-1/9/05 Meeting 171-1/11/05	**9.3.13.3** **11.8** **9.1.3** **9.1.8** **9.3.15** **9.1.9** **9.1.10** **9.3.9** **6.0.1** **9.3.24** **9.3.23**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Socio-Economic Effects	**Employment**	First Nations and African Canadian Communities would like opportunities for the members of their community to obtain employment Locals would welcome the project to provide employment to those currently unemployed, to diversify local industries and to retain young people in the project area communities Quality and quantity of new jobs Whether locals will be offered the jobs before outsiders Quarry activities could put at risk other local industries (fishing and eco-tourism) because of potential environmental degradation. In other words, concern that new jobs could be gained at the expense of current jobs in the fishing and tourism industry and threaten stable employment Some local employers fear losing current employees to the quarry because of better working conditions for unskilled employees. They are also concerned at having to offer similar conditions	Meeting 9-1/6/05 Interview 10-1/8/05 Interview 12-5/1/04 & 9/23/05 CLC Interview 18-10/1/04 Interview 21-1/22/04 Meeting 24-1/1/05 & 9/22/05 Interview 27-9/22/05 Interview 29-12/1/03 Interview 49-1/7/05 & 1/9/05 Interview 56-9/22/05 Interview 59-1/6/05 Interview 60-1/6/05 Interview 66-12/31/03 & 1/1/04 Interview 70-2/1/04 Meeting 74-9/23/05 Interview 75-11/1/04 Interview 76-12/16/03 Interview 77-1/8/05 Interview 81-4/1/04 Interview 85-1/7/05 Interview 92-12/1/03 Interview 94-12/1/03 Interview 97-12/16/03 Interview 108-5/10/05 Interview 109-5/10/05 Interview 110-5/10/05 Interview 111-5/10/05 Interview 114-5/10/05 Interview 117-5/10/05 Interview 128-5/10/05 Interview 162-5/10/05 Interview 166-12/1/03 Interview 167-1/9/05 Meeting 171-1/11/05	**9.3.23** **7.6** **9.3.3** **Ref. Vol. IV, Tab 21** **9.3.23** **7.6** **Commitments Table- Vol. IV** **Executive Summary** **9.3.6** **9.3.10** **9.3.11** **9.3.12** **9.3.13** **9.3.23** **9.3.23** **Commitments Table- Vol. IV** **Executive Summary**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Socio-Economic Effects	**Fisheries**	Fisherman, their families and their coastal communities expressed concern that the project would cause environmental effects that could impact the marine environment and fishery Fishing has been a way of subsistence and a way of life in the project area for hundred of years Fishermen are afraid that their living could be threatened by the project. For some, investments made in their equipment are considerable. They would like assurance that if a project related effect damages their fishery or equipment, they will be compensated Fishermen want the opportunity to review any expert studies that would be done by scientists on fishing	Meeting 7-1/7/05 Interview 8-7/1/04 Interview 11-4/1/05 Interview 15 1/6/05 Interview 18-10/1/04 Meeting 24-1/1/05 & 9/22/05 Meeting 25-1/6/05 Meeting 36-1/7/05 Interview 37-12/1/03 Interview 38-1/7/05 Interview 41-2/1/05 Interview 43-7/24/04 Interview 44-12/1/03 &5/1/04 Interview 47-1/1/04 Interview 48-1/9/05 Interview 49-1/7/05 & 1/9/05 Interview 50-12/31/03 Interview 54-1/6/05 Interview 56-9/22/05 Interview 59-1/6/05 Interview 60-1/6/05 Interview 63-3/1/05 Interview 69-1/8/05 Meeting 72-1/8/05 Meeting 74-9/23/05 Interview 75-11/1/04 Interview 76-12/16/03 Interview 79-1/6/05 Interview 80-7/1/04 Interview 84-3/1/05 Interview 94-12/1/03 Interview 96-1/6/05 Interview 99-1/9/05 Interview 101-12/1/04 Interview 108-5/10/05 Interview 111-5/10/05 Interview 128-5/10/05 Interview 165-1/9/05	**9.3.10** **9.3.11** **9.3.12** **9.3.13** **9.2.3** **9.2.4** **9.2.9** **9.2.10** **9.2.14** **9.2.15** **10.2** **11.8** **Ref. Vol II** **Tabs 8 - 13** **Ref. Vol. III** **Tabs 14 - 20** **Ref. Vol. V** **Tab 25** **Tab 27**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Socio-Economic Effects	**Human Health**	Many have raised the issue of health effects for nearby residents (e.g. impact on their drinking water, air quality, noise) and impact on quality of life such as lack of peace and quiet. Sleep deprivation could have an effect on one's health and wellbeing Impacts of the project on mental health, such as anguish that the project will be built against their will and from being worried about the impact on their way of life and livelihood (fisheries and tourism)	Interview 10-1/8/05 Interview 14-1/6/05 CLC Meeting 22-4/11/05 Meeting 25-1/6/05 Meeting 32-7/8/05 Interview 67-1/6/05 Interview 79-1/6/05 Meeting 93-9/22/05 Interview 103-1/6/05 Meeting 167-1/9/05	**9.1.8** **9.1.9** **9.1.10** **9.1.11** **9.1.12** **9.3.17** **9.3.18** **9.3.19** **9.3.20** **9.3.21** **9.3.22**
	Interactions with Project Proponent	Overall, stakeholders both for and against the project reported that the proponent's working relationship with the community could have been better. Criticisms ranged from the initial buy of the land, where some claimed that the proponent was less than honest about the land's future use, to interactions through the CLC hat was created at the request of the province, to litigation against a critic.	Meeting 9-1/6/05 Interview 11-4/1/05 Interview 12-5/1/04 & 9/23/05 Interview 14-1/6/05 CLC Interview 18-10/1/04 Meeting 25-1/6/05 Meeting 36-1/7/05 Interview 37-12/1/03	**8.2**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Socio-Economic Effects	**Interactions with Project Proponent**	Interactions have been described as negative because currently some stakeholders do not trust the proponent or find the company credible. They feel that the proponent does not respect their concerns, has tried to intimidate them, has undermined their social values and had acted inappropriately on a few occasions Because of past changes in the proponent's name, people question who the company is and what is their record with communities?	Interview 46-1/8/05 Interview 49-1/7/05 & 1/9/05 Interview 59-1/6/05 Interview 64-1/6/05 Interview 65-12/31/03 Interview 67-1/6/05 Interview 80-7/1/04 Interview 87-12/17/03 Interview 99-1/9/05	**6.0.1** **6.1**
	Land Sale	A few stakeholders said that the land bought by the owner was not bought fairly either because the intention was not clear or because they could have exerted pressure-some older people Some residents were curious to know if it would be an option to get their land bought instead of having to live up with the inconvenience of dust, noise, etc What is being done with the additional land that is being acquired?	Interview 14-1/6/05 CLC Interview 59-1/6/05 Meeting 171-1/11/05	**9.3.15** **6.1** **11.8** **9.3.15**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Socio-Economic Effects	**Other Construction and Operation Issues**	Curiosity and interest in getting more details-project operations Proximity of properties to operations Marine traffic and increased risks to fishermen's fixed-gear, especially during lobster season Increased potential for forest fires Continuity of operations (day and night) and associated inconvenience (such as noise) and multi-year duration of the project Restricted-access to Whites Cove Fear that hazardous waste will be transported instead of ballast water and buried on site Concerned about the increase in vehicle traffic, (i.e. trucks) Issue with ships berthing. Status of geoscience knowledge in the Bay of Fundy on overall Concern over the nature of the seabed (bedrock) off Brier Island.	Interview 4-1/6/05 Meeting 7-1/7/05 Meeting 9-1/6/05 Interview 15 1/6/05 CLC Interview 18-10/1/04 Meeting 19-1/7/05 Meeting 36-1/7/05 Interview 38-1/7/05 Meeting 43-7/24/04 Meeting 48-1/9/05 Interview 49-1/7/05 & 1/9/05 Interview 50-12/31/03 Interview 59-1/6/05 Interview 60-1/6/05 Interview 67-1/6/05 Interview 69-1/8/05 Meeting 71 in 03, Interview 80-7/1/04 Interview 81-4/1/04 Interview 84-3/1/05 Interview 85-1/7/05 Meeting 91-1/8/05 Interview 95-1/8/05 Interview 101-12/1/04 Interview 103-1/6/05 Meeting 171-1/11/05	**7.7** **7.8** **8.2** **7.4** **7.5** **9.3.13** **11.2** **9.1.8.3** **9.1.9** **9.1.10** **9.1.11** **9.3.16.3** **7.10** **Commitments Table - 5.0** **9.3.8** **7.7.2** **Ref. Vol. III Tabs 14-20** **Ref. Vol. III Tabs 14-20**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Socio-Economic Effects	**Other Socio-Economic Issues**	Why is the project in the project area? American and big corporation factor. Who is proponent and does it have a good corporate history? Site decommissioning. If proponent fails to meet its obligation, who will be responsible to restore the site? Historical ties to Loyalist Communities' participation in planning of their future. Capacity to take part in decision-making Impact-social, cultural and historical values as well as possibility for residents to have reasonable access to enjoyment of life and property especially for seniors Economic impacts, cost-benefit analysis should be undertaken Other industries that would have tried to establish in Digby before would have been rejected, such as Michelin Tire The project causes strong reactions,including emotional issues	Interview 10-1/8/05 Interview 11-4/1/05 Interview 12-5/1/04 & 9/23/05 Interview 14-1/6/05 CLC; Meeting 19-1/7/05 Meeting 24-1/1/05 & 9/22/05 Meeting 25-1/6/05 Meeting 28-9/22/05 Interview 30-1/6/05 Meeting 31-1/8/05 Meeting 33-1/7/05 Meeting 36-1/7/05 Interview 38-1/7/05 Interview 46-1/8/05 Interview 49-1/7/05 & 1/9/05 Interview 56-9/22/05 Interview 57-1/8/05 Interview 60-1/6/05 Interview 62-12/31/03 Interview 63-3/1/05 Interview 67-1/6/05 Interview 68-1/8/05 Interview 69-1/8/05 Meeting 74-9/23/05 Interview 77-1/8/05 Meeting 78-1/6/05 Meeting 82-12/31/03 Interview 85-1/7/05 Interview 87-12/17/03 Meeting 91-1/8/05 Interview 95-1/8/05 Interview 103-1/6/05 Meeting 104-1/8/05 Interview 163-1/8/05 Interview 165-1/9/05 Meeting 167-1/9/05 Interview 170-12/17/03 Meeting 171-1/11/05	**7.1** **6.1** **6.01** **7.10** **Commitments Table- Vol. IV Executive Summary** **8.2** **9.3.7** **9.3.22** **9.3.17** **9.3.18** **9.3.19** **9.3.20** **9.2.21** **9.3.9** **9.3.22** **Ref. Vol. VI, Tab 34**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Socio-Economic Effects	**Other Socio Economic Issues**	Community cohesion has been affected by project. It was reported that some stores have been boycotted because of their position on the project and some people have reported others being intimidated. Many residents who provided Elgin Consulting with stories on traditional knowledge said they were in favour of the project because it created employment, but they were afraid to say this publicly		**9.3.22** **Ref. Vol. VI, Tab 34**
		Need for Archeological survey		**9.3.3** **9.3.4** **9.3.5** **Ref. Vol. VI,Tab 35**
		Impact on quality of life		**9.3.22**
		Site is location of "Fog Magic" story		**Ref. Vol. IV, Tab 23**
		Psychosocial damage of environmental degredation		**9.3.22**
	Project Area Economic and Environmental Sustainability	People earning living from fishing and tourism industries and other local businesses all care for the project area's sustainability because they depend on the areas environmental diversity, renewability and productivity for their living.	Interview 12-5/1/04 & 9/23/05 Interview 13-2/1/05 Interview 14-1/6/05 Meeting 19-1/7/05 Interview 27-9/22/05 Meeting 31-1/8/05	**Impact Summary Table 2 - 9.4** **Commitments Table - 5.0** **9.3.9** **9.3.10** **9.3.11** **9.3.12** **9.3.13**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Socio-Economic Effects	**Project Area Economic & Environmental Sustainability**	This might explain the importance residents from the Digby Neck area place-economic and environmental sustainability in the project area Digby Neck, in the opinion of many stakeholders, houses healthy rural communities with prosperous traditional local economies From what some residents and local and regional organizations say, they don't see how the quarry fits with the vision they have for the area Some residents are extremely concerned that the project might cause environmental degradation and that their current industries will be affected by it. They want to make sure that they can sustain their living and their way of life How will the proposed project contribute to the sustainability of their communities? Other stakeholders, especially those that are not directly relying on fisheries, pointed out that in the past	Meeting 33-1/7/05 Meeting 36-1/7/05 Interview 41-2/1/05 Interview 44-12/1/03 & 5/1/04 Interview 48-1/9/05 Interview 49-1/7/05 & 1/9/05 Interview 54-1/6/05 Interview 56-9/22/05 Interview 59-1/6/05 Interview 65-12/31/03 Interview 69-1/8/05 Meeting 72-1/8/05 Meeting 74-9/23/05 Interview 76-12/16/03 Interview 77-1/8/05 Interview 79-1/6/05 Interview 81-4/1/04 Interview 83-5/1/04 Interview 84-3/1/05 Interview 85-1/7/05 Interview 87-12/17/03 Meeting 91-1/8/05 Interview 97-12/16/03 Interview 102-1/7/05 Interview 103-1/6/05 Meeting 104-1/8/05 Interview 108-5/10/05 Interview 117-5/10/05 Interview 128-5/10/05 Interview 165-1/9/05	**9.3.14** **9.3.15** **9.3.16** **9.3.17** **9.3.22** **9.3.24** **Impact Summary Table 2 - Vol IV - Executive Summary** **9.3.9**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Socio-Economic Effects	**Project Area Economic & Environmental Sustainability**	the fishing industry has not always been sustainable for communities because of the fluctuation in resource availability (e.g. collapse of ground fisheries) and that with the current importance of lobster fisheries, economic diversification would, in the long run, benefit the area's economic sustainability	Interview 166-12/1/03 Meeting 167-1/9/05 Meeting168,date unknown, Interview 170-12/17/03	**9.3.14** **9.3.15** **9.3.16** **9.3.17** **9.3.22** **9.3.24**
	Project Economic Benefits	Numerous concerns were expressed about potential project economic benefits. While for some it is obvious that the project will create economic benefits for the area, for others the project will have overall a negative impact on local and regional economies. Concern that all project benefits will go to the Americans If there are economic gains for the area, there might be other social and environmental costs	Meeting 9-1/6/05 Interview 10-1/8/05 Interview 18-10/1/04 Meeting 19-1/7/05 Meeting 36-1/7/05 Interview 40-12/1/03 Interview 48-1/9/05 Interview 49-1/7/05 & 1/9/05 Meeting 53-6/1/04 Interview 54-1/6/05 Interview 59-1/6/05 Interview 63-3/1/05 Meeting 72-1/8/05 Interview 76-12/16/03	**9.3.9** **9.3.10** **9.3.11** **9.3.12** **9.3.13** **9.3.14** **9.3.15** **Ref. Vol. VI, Tab 32** **Ref. Vol. VI, Tab 32** **Ref. Vol. VI, Tab 32**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Socio-Economic Effects	**Project Economic B enefits**	Benefits going to the proponent while communities will have to deal with the consequences of the project including environmental degradation and impact on their quality of life and economic sustainability The eco-tourism industry sustainability and potential growth was seen as having more potential to bring money to local economy than mining operations especially when considered the time scale of the project likely being over in approximately 25 years The quarry is not valued as an economic development project. The idea that most benefits would go to an American company, with no royalties or benefits to Nova Scotia or communities, left a few bitter. Residents, in particular, were not willing to make a lot of sacrifices for a company in the States to make big profits	Interview 77-1/8/05 Interview 81-4/1/04 Interview 87-12/17/03 Interview 108-5/10/05 Meeting 167-1/9/05 Interview 170-12/17/03 Meeting 171-1/11/05	**9.3.9** **9.3.10** **9.3.11** **9.3.12** **9.3.13** **9.3.14** **9.3.15** **Ref. Vol. VI, Tab 32** **Ref. Vol. VI, Tab 32** **Ref. Vol. VI, Tab 32**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Socio-Economic Effects	**Project Expansion**	Proposed project could expand and result in additional exploitation of basalt in contiguous areas or the project approval could open the door to similar basalt quarry in the area to extract the remaining length of the deposit The natural area around the quarry is so small that it needs adequate protection. A buffer zone around the project was proposed to make sure the project would not result in a domino effect Additional concern is that NAFTA, Chapter 11, could influence future plans for expansion for the basalt quarry in Nova Scotia and leave out the option of local and regional stakeholders to oppose future plans	Meeting 6-1/6/05 Meeting 33-1/7/05 Interview 56-9/22/05 Interview 59-1/6/05 Meeting 72-1/8/05 Meeting 74-9/23/05 Interview 77-1/8/05 Interview 81-4/1/04 Interview 10	**7.3** **9.3.15** **6.6.1**
	Project Related Business Opportunities	Potential economic spin-offs from additional employment and other project activities and the benefits on local businesses Creation of additional business opportunities, including manufacturing. Could the proponent identify opportunities for local residents?		**9.3.9** **9.3.23** **Committments Table - Economy in Executive Summary**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Socio-Economic Effects	**Property Value**	Some nearby and Little River residents expressed concern that the project would affect property values Concern was raised that the presence of the project could affect real estate (one's capacity to obtain a mortgage, construction activities, sales),especially in an area where summer residents are buying properties	Interview 15 1/6/05 CLC Meeting 167-1/9/05	**9.3.15** **11.8**
	Tourism	The direct and indirect impacts of the project on tourism are a key issue to stakeholders Eco-tourism is an important feature of Digby Neck Although no tourist activity appears to take place at the project location, it is feared that the project could affect whales on which operators rely and the interest of summer residents and visitors by coastal destruction and environmental effects such as noise and dust Development organizations in the area have invested time and money in the promotion of the area to sustain current activities and are hoping to attract even more visitors as an eco-tourism destination. A proposal is	Meeting 5-7/1/04 Meeting 6-1/6/05 Interview 8-7/1/04; Interview 11-4/1/05 Interview 12-5/1/04 & 9/23/05 Interview 13-2/1/05 CLC Meeting 19-1/7/05 Interview 21-1/22/04 Meeting 24-1/1/05 &9/22/05 Meeting 25-1/6/05 Interview 27-9/22/05 Meeting 28-9/22/05 Interview 29-12/1/03 Interview 41-2/1/05 Interview 44-12/1/03 & 5/1/04 Interview 47-1/1/04 Interview 48-1/9/05 Interview 49-1/7/05 & 1/9/05 Interview 56-9/22/05 Interview 60-1/6/05 Interview 62-12/31/03	**9.3.14**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Socio-Economic Effects	**Tourism**	being developed to build the Bay of Fundy Discovery Centre as well as a proposal to have Digby Neck recognized by UNESCO. Fear exists that the project could damage the area's reputation and affect investors (summer residents and eco-tourism operators)	Interview 63-3/1/05 Interview 65-12/31/03 Interview 66-12/31/03 & 1/1/04 Interview 69-1/8/05 Interview 70-2/1/04 Meeting 72-1/8/05 Meeting 74-9/23/05 Interview 76-12/16/03 Interview 77-1/8/05 Interview 79-1/6/05 Interview 81-4/1/04 Interview 83-5/1/04 Interview 84-3/1/05 Interview 85-1/7/05 Interview 87-12/17/03 Interview 92-12/1/03 Interview 97-12/16/03 Interview 101-12/1/04 Meeting 104-1/8/05 Interview 105-9/22/05 Interview 166-12/1/03 Meeting 167-1/9/05 Interview 169-3/1/04 Interview 170-12/17/03	**9.3.25**
	Workers' and Residents' Safety	The Proponent has built a fence, and access to site is restricted (to prohibit access because of machinery and other site activities as per provincial requirements) Potential hazards for workers	CLC Interview 81-4/1/04	**11.0** **11.2** **11.0** **11.2**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Traditional and Community Environmental Knowledge (TCEK)	**Traditional Knowledge**	More than 60 individuals/ meetings contributed to overall traditional and community knowledge. The following headings detail some of that knowledge.	Meeting 9-1/6/05 Interview 11-4/1/05 Interview 14-1/6/05 CLC Meeting 19-1/7/05 Meeting 25-1/6/05 Meeting 36-1/7/05 Interview 46-1/8/05 Interview 49-1/7/05 & 1/9/05 Interview 50-12/31/03 Meeting 52-12/1/03 Interview 54-1/6/05 Interview 57-1/8/05 Interview 59-1/6/05 Interview 61-1/6/05 Interview 67-1/6/05 Interview 69-1/8/05 Meeting 72-1/8/05 Interview 77-1/8/05 Interview 79-1/6/05 Interview 95-1/8/05 Interview 102-1/7/05 Interview 103-1/6/05 Interview 106-162-5/10/05 Interview 163-1/8/05 Interview 165-1/9/05	**Ref. Vol. II, Tab 23** **8.2** **8.3** **9.1** **9.2** **9.3**
	Berries	Whites Cove was reported as one location to gather berries	Interview 106-5/10/05 Interview 111-5/10/05 Interview 117-5/10/05 Interview 139-5/10/05	**9.3.21**
	Employment	School was not attended for very long since manual jobs were more attractive.	Interview 112-5/10/05 Interview 114-5/10/04 Interview 117-5/10/05 Interview 128-5/10/05	**9.3.22** **9.3.23**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Traditional and Community Environmental Knowledge (TCEK)	**Education**	Some residents have reported migrating outside of the area in the past to find employment to sustain them. At first, most people were living from fisheries	Interview 150-5/10/05 Interview 159-5/10/05 Interview 160-5/10/05 Interview 162-5/10/04	**9.3.23** **9.3.22** **9.3.7**
	Family	Previously, families were more numerous and there were more young people in communities	Meeting 36-1/7/05 Interview 54-1/6/05 Interview 61-1/6/05 Interview 69-1/8/05 Interview 77-1/8/05 Interview 79-1/6/05 Interview 103-1/6/05 Interview 110-5/10/05 Interview 111-5/10/05 Interview 113-5/10/05 Interview 114-5/10/05 Interview 117-5/10/05 Interview 128-5/10/05 Interview 139-5/10/05 Interview 160-5/10/05 Interview 163-1/8/05	**9.3.7** **9.3.22**
	Farming	Whites Cove would have been used as a pasture. In surrounding communities most families had gardens to provide them with vegetables. Product trades were much more common	Interview 106-5/10/05 Interview 110-5/10/05 Interview 114-5/10/05 Interview 117-5/10/05 Interview 128-5/10/05 Interview 139-5/10/05 Interview 150-5/10/05 Interview 160-5/10/05 Interview 161-5/10/05 Interview 162-5/10/05	**Ref. Vol. IV, Tab 23** **9.3.15** **Ref. Vol. VI, Tab 33**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Traditional and Community Environmental Knowledge (TCEK)	**Fishing**	Whites Cove was used in the past for fishing. At that time of the hook-and-line fishery, a small boat such as a dory was the preferred way. white fish, pollock, hake and haddock were harvested. Many remember the changes to bigger boats and new technologies that some say negatively affected stocks because of the effectiveness	Meeting 25-1/6/05 Meeting 36-1/7/05 Interview 59-1/6/05 Interview 61-1/6/05 Interview 69-1/8/05 Meeting 72-1/8/05 Interview 77-1/8/05 Interview 102-1/7/05 Interview 106-5/10/05 Interview 107-5/10/05 Interview 108-5/10/05 Interview 110-5/10/05 Interview 117-5/10/05 Interview 128-5/10/05 Interview 139-5/10/05 Interview 150-5/10/05 Interview 160-5/10/05 Interview 161-5/10/05 Interview 163-1/8/05	**9.3.4** **9.3.10** **Ref. Vol. IV, Tab 23**
	History	Residents knew about the history of the community and were interested in preserving it	CLC Meeting 25-1/6/05 Meeting 36-1/7/05 Interview 49-1/7/05 & 1/9/05 Meeting 52-12/1/03 Interview 54-1/6/05 Interview 59-1/6/05 Interview 79-1/6/05 Interview 102-1/7/05 Interview 110-5/10/05 Interview 111-5/10/05	**9.3.2** **9.3.4** **9.3.5** **Ref. Vol. VI, Tab 33** **Ref. Vol. IV, Tab 23**
	Quality of Life	Stakeholders reported having a fair quality of life despite some periods of rougher times (e.g. during the Second World War and the Depression)	Interview 11-4/1/05 CLC Meeting 19-1/7/05 Meeting 25-1/6/05 Meeting 36-1/7/05 Interview 50-12/31/03 Interview 67-1/6/05 Interview 69-1/8/05 Meeting 72-1/8/05	**9.3.7** **9.3.22** **Ref. Vol. IV, Tab 23**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Traditional and Community Environmental Knowledge (TCEK)	**Quality of Life**		Interview 77-1/8/05 Interview 79-1/6/05 Interview 102-1/7/05 Interview 107-5/10/05 Interview 109-5/10/05 Interview 110-5/10/05 Interview 120-5/10/05 Interview 162-5/10/05 Interview 162-1/9/05	
	Neck and Island Memories	These memories were primarily about traditional knowledge issues addressed above	Meeting 36-1/7/05 Interview 79-1/6/05 Interview 103-1/6/05 Interview 106-5/10/05 Interview 107-5/10/05 Interview 108-5/10/05 Interview 109-5/10/05 Interview 110-5/10/05 Interview 111-5/10/05 Interview 112-5/10/05 Interview 113-5/10/05 Interview 114-5/10/05 Interview 117-5/10/05 Interview 128-5/10/05 Interview 139-5/10/05 Interview 159-5/10/05 Interview 160-5/10/05 Interview 161-5/10/05 Interview 162-5/10/05	**9.3.2** **9.3.4** **9.3.5** **Ref. Vol. IV, Tab 23**
	Other Traditional Knowledge Issues	Stakeholders were also knowledgeable about the sources of water and its importance for various uses	Meeting 9-1/6/05 Interview 14-1/6/05 CLC Meeting 36-1/7/05 Interview 54-1/6/05 Interview 56-9/22/05	**9.1.3** **Ref. Vol. IV, Tab 23**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Traditional and Community Environmental Knowledge (TCEK)	**Other Traditional Knowledge Issues**	Stakeholders were also knowledgeable about the sources of water and its importance for various uses	Interview 69-1/8/05 Meeting 72-1/8/05 Interview 77-1/8/05 Interview 95-1/8/05 Interview 102-1/7/05 Interview 103-1/6/05 Interview 108-5/10/05 Interview 109-5/10/05 Interview 110-5/10/05 Interview 111-5/10/05 Interview 112-5/10/05 Interview 128-5/10/05 Interview 139-5/10/05 Interview 150-5/10/05 Interview 159-5/10/05 Interview 160-5/10/05 Interview 161-5/10/05 Interview 162-5/10/05 Interview 163-1/8/05	
	Religion	The Church played a central role in people's existence. Church suppers were quite popular social events	Interview 108-5/10/05 Interview 109-5/10/05 Interview 139-5/10/05 Interview 150-5/10/05	**9.3.22** **Ref. Vol. IV, Tab 23**
	Road	The development and paving of Highway #217 in the 1950's had a great impact on the insular communities. Mobility was increased and exchanges between communities were more frequent. The road also brought summer residents from outside the area including New England	Interview 106-5/10/05 Interview 107-5/10/05 Interview 108-5/10/05 Interview 109-5/10/05 Interview 111-5/10/05 Interview 112-5/10/05 Interview 117-5/10/05 Interview 128-5/10/05 Interview 139-5/10/05 Interview 150-5/10/05 Interview 159-5/10/05 Interview 162-5/10/05	**9.3.7** **9.3.22** **9.3.8** **9.3.14** **Ref. Vol. IV, Tab 23**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Traditional and Community Environmental Knowledge (TCEK)	**Social Cohesion**	Each community was living of itself and interactions between them were not frequent prior to Highway #217 being built. Some people reported occasional tensions between communities (e.g. Sandy Cove and Little River) in the past, the sense of community was perceived as stronger with people caring for each other	Interview 109-5/10/05 Interview 139-5/10/05 Interview 150-5/10/05 Interview 159-5/10/05 Interview 161-5/10/05 Interview 162-5/10/05	**9.3.7** **9.3.22** **Ref. Vol. IV, Tab 23** **Ref. Vol. VI, Tab 34**
	Technologies	Elders remembered the impact of various technologies-their way of life including cars, televisions, more complex fishing equipment	Interview 59-1/6/05 Interview 112-5/10/05 Interview 117-5/10/05 Interview 139-5/10/05 Interview 160-5/10/05 Interview 161-5/10/05 Interview 162-5/10/05	**Ref. Vol. IV, Tab 23** **9.3.22**
	Whites Cove Memories	Few respondents spent much time at the Whites Cove, but they went to visit, collect berries, log wood and access the shore for leisure or for fishing. After the 1900s, a camp belonging to a Reverend was used for social meetings and family gatherings. Later on, Whites Cove was also use as gravel pit for the paving of Highway #217	Meeting 36-1/7/05 Interview 46-1/8/05 Interview 59-1/6/05 Interview 106-5/10/05 Interview 107-5/10/05 Interview 108-5/10/05 Interview 109-5/10/05 Interview 110-5/10/05 Interview 111-5/10/05 Interview 112-5/10/05 Interview 113-5/10/05 Interview 114-5/10/05 Interview 117-5/10/05 Interview 128-5/10/05 Interview 139-5/10/05 Interview 150-5/10/05 Interview 159-5/10/05 Interview 160-5/10/05 Interview 161-5/10/05 Interview 162-5/10/05	**Ref. Vol. IV, Tab 23** **9.3.22**

Type of Issue	Issue	Concerns	Source	EIS Chapter
Traditional and Community Environmental Knowledge (TCEK)	**Whites Cove Settlement**	It was remembered by some, of a past settlement with only a few houses prior to the 1900s. Some knew that their ancestors lived there and then migrated to nearby settlements. Regarding a cemetery, many could recall seeing the white painted stones and even participating in their painting but recollections on why were vague. One stakeholder thought that it could have been done as a gesture for babies and children who died. However, many doubted that the bodies could have been buried there because little soil covered the extreme rock out cropping.	Interview 59-1/6/05 Interview 107-5/10/05 Interview 108-5/10/05 Interview 109-5/10/05 Interview 110-5/10/05 Interview 113-5/10/05 Interview 117-5/10/05 Interview 139-5/10/05 Interview 150-5/10/05 Interview 159-5/10/05 Interview 161-5/10/05 Interview 162-5/10/05	**9.3.2** **9.3.4** **Ref. Vol. IV, Tab 23**

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6.0 INTRODUCTION TO THE EIS

6.0.1 The Proponent

Bilcon of Nova Scotia Corporation is a registered Nova Scotia company and is a subsidiary of Bilcon of Delaware, a holding company controlled by the Clayton group of companies of New Jersey. Details of the Proponent and its relationship with other companies is set out in 6.1.

The Clayton group of companies has been operating in New Jersey for over fifty years and has been widely recognized for the excellence of its products and its outstanding community contributions. Clayton has received over two hundred citations for excellence of design and manufacturing and has made literally thousands of contributions to health, education, and other community causes (examples are shown in Appendix 12) Clayton has been recognized in both Houses of the New Jersey Legislature as an outstanding corporate citizen and in 2004, was recognized by both Houses as the outstanding corporate citizen of the year in New Jersey.

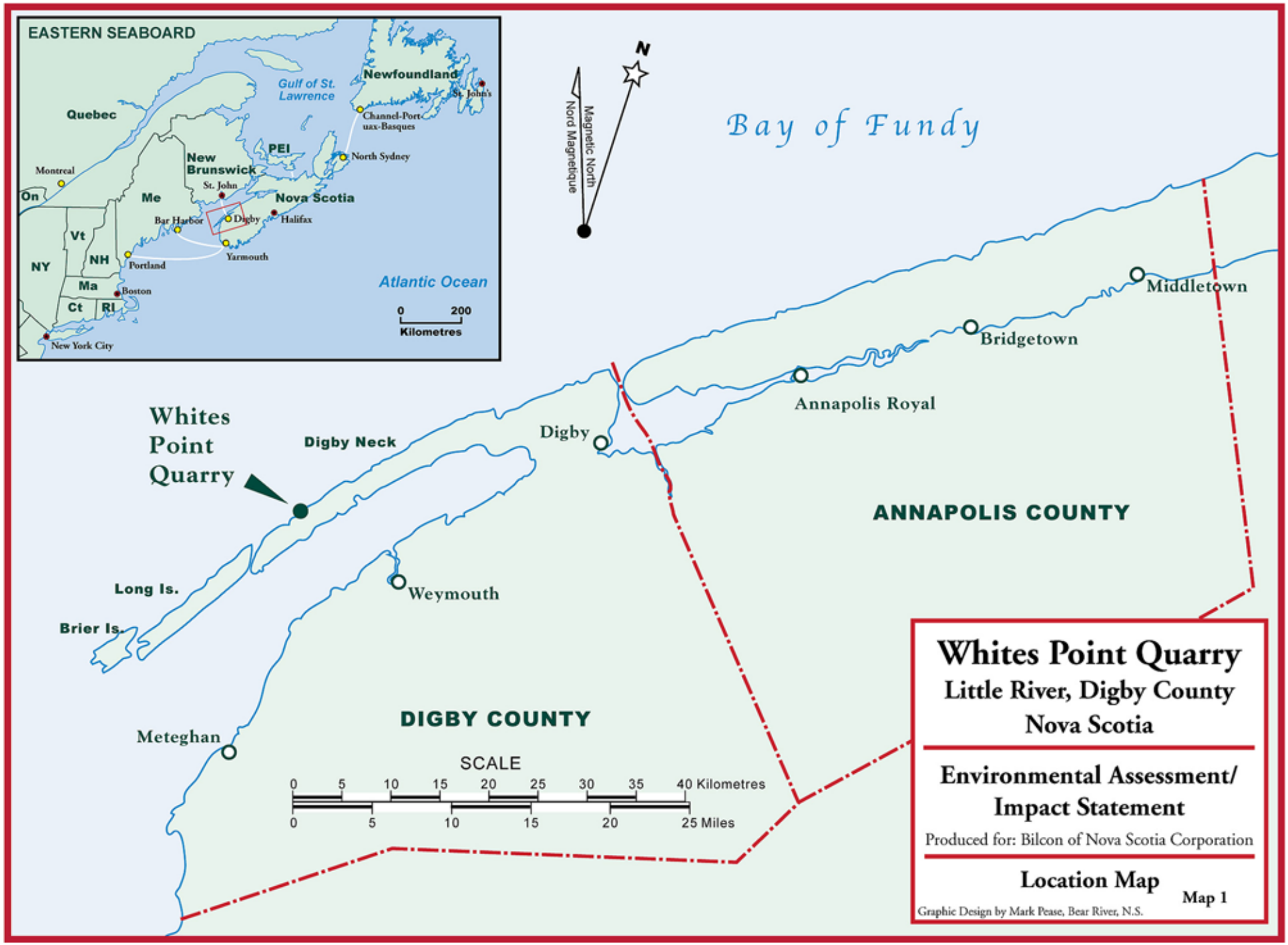
Clayton employs over 850 staff at its various operations in New Jersey and has an enviable record with respect to employee relations, benefits, and occupational health and safety.

Clayton has the internal financial resources to construct and operate the Whites Point facility without government assistance for any aspect of the project and has not, and will not, make application for government assistance.

6.0.2 The Setting

The Whites Point Quarry and Marine Terminal is located on Digby Neck, Digby County, Nova Scotia see **Map 1 and Aerial View**. Digby Neck is a narrow, 30 km long peninsula extending between the Bay of Fundy and St. Mary's Bay and leads to two Islands - Long Island and Brier Island. The 2001 population of Digby Neck and Islands was 1,890. Land use on Digby Neck is primarily rural residential with the majority of the land forested. Small fishing villages exist on both the St. Mary's Bay and Bay of Fundy shores.

The proposed site for the quarry comprises approximately 380 acres with 2.6 kms of coastline along the Bay of Fundy. The land is in private ownership, forested, with no land or coastline developments. Soils are thin overlying the North Mountain Basalt. Existing topography slopes toward the Bay of Fundy with several intermittent water courses. The physical oceanography in this area of the outer Bay of Fundy is typical with basalt bedrock extending into the near shore waters. Lobster is fished seasonally in the near shore and is the most lucrative species landed on Digby Neck and Islands.


EASTERN SEABOARD
Gulf of St. Lawrence
Newfoundland
St. John's
Channel-Port aux-Basques
Quebec
PEI
North Sydney
New Brunswick
Montreal
St. John
On
Me
Nova Scotia
Bar Harbor
Digby
Halifax
Vt
NH
NY
Portland
Yarmouth
Ma
Boston
Ct
RI
New York City
Atlantic Ocean
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Kilometres
N
Magnetic North
Nord Magnetique
Bay of Fundy
Middletown
Bridgetown
Annapolis Royal
Digby
Whites Point Quarry
Digby Neck
ANNAPOLIS COUNTY
Long Is.
Brier Is.
Weymouth
DIGBY COUNTY
Meteghan
SCALE
0 5 10 15 20 25 30 35 40 Kilometres
0 5 10 15 20 25 Miles
Whites Point Quarry
Little River, Digby County
Nova Scotia
Environmental Assessment/
Impact Statement
Produced for: Bilcon of Nova Scotia Corporation
Location Map
Map 1
Graphic Design by Mark Pease, Bear River, N.S.

Aerial View of the Whites Cove Site
Photo By Ron Cooper

Marine mammals, including the endangered North Atlantic Right Whale, frequent these outer Bay waters and whale watching is a seasonal tourism attraction. A more detailed description of the human, physical and biological resources of the quarry site is contained in subsequent sections of the EIS.

6.0.3 The Assessment Process

In early 2002, Nova Stone Exporters Inc.(Nova Stone), a Nova Scotia company, applied for and was granted a permit for the operation of a less than 4 hectare quarry at Whites Cove on Digby Neck. Subsequent to the granting of this permit, Nova Stone joined with Bilcon of Nova Scotia Corporation (Bilcon) to form Global Quarry Products, with the purpose of expanding the Whites Cove operation to increase production and add a marine terminal to ship the product.

To this end, Global Quarry Products made application for the installation of a marine terminal serving ships in excess of 25,000 Dead Weight Tonnes. This application under the Navigable Waters Protection Act triggered an assessment under the Canadian Environmental Assessment Act (CEAA). A meeting was held with Federal and Provincial regulators in January 2003, and it was determined that the Department of Fisheries and Oceans Canada was the Responsible Authority and that a Comprehensive Study would be required to assess the project. Global Quarry Products submitted a project description and commenced the preparation of a Comprehensive Study.

In June of 2003, Global Quarry Products was advised that the project had been referred to a Review Panel. A letter dated June 26, 2003, from the Honourable Robert Thibault, Minister of Fisheries and Oceans Canada, to the Honourable David Anderson, Minister of Environment Canada, set out the reasons for the referral - see Appendix 19.

Due to the additional cost and extended time frame required for a Review Panel, Nova Stone withdrew from the Global Quarry Products partnership which was dissolved, leaving Bilcon of Nova Scotia Corporation as the sole Proponent.

Draft Guidelines for the Preparation of the Environmental Impact Statement for the Whites Point Quarry and Marine Terminal Project were distributed to the Proponent, the community, and stakeholders in November, 2004, and the Panel Members were announced in November, 2004. The Panel conducted a series of Public Hearings on the Guidelines in January, 2005, in Sandy Cove, Digby, Meteghan, and Wolfville. Following these hearings and consideration of the verbal and written presentations, the Panel issued the final Environmental Impact Statement Guidelines for the Whites Point Quarry and Marine Terminal project on March 31st, 2005.

Bilcon of Nova Scotia Corporation, as the sole Proponent, has prepared an EIS which was submitted to the panel in the spring of 2006. The EIS starts the process of assessment which will culminate with recommendations by the panel to the joint ministers, and a decision by the joint ministers. The process will involve public hearings and a review by the panel of the findings.

6.0.4 The Regulatory Environment

See 6.5

6.0.5 Study Strategy and Methodology

Rather than engaging a multi-disciplinry consulting group to carry out the EIS, Bilcon of Nova Scotia Corporation engaged a Senior Environmental Consultant to manage the process and in each of the elements under consideration, Bilcon engaged expert individuals or companies to provide the research. A full list of the contributors and their qualifications can be found in Appendix 1. Essentially, Bilcon attempted to engage the most qualified people in their fields of expertise.

In addition, Bilcon carried out extensive discussions with Regulatory Agencies (RA's) throughout the preparation of the EIS and in particular, the Department of Fisheries and Oceans (DFO), Health Canada (HC), Environment Canada (EC) the Nova Scotia Department of Natural Resourses (NSDNR) and the Nova Scotia Department of Environment and Labour (NSDEL). Many of the individual experts also met with regulators and government scientists in the course of preparing their reference documents. The advice and assistance of the DFO over a three and one half year period is particularly acknowledged by Bilcon.

Most importantly, Bilcon conducted an extensive public consultation process commencing in July 2002 encompassing Community Liaison Committee meetings, interviews with business and community stakeholders, traditional knowledge interviews, open houses, newsletters, attitude and quality of life surveys, public information sessions, and fact sheets. Bilcon has maintained an office in Digby since July 2002 to facilitate and encourage drop-ins. Details of the consultation process can be found in Chapter 8.2 of this report.

6.1 The Proponent

In 2001 Nova Stone Exporters Inc. (NSE), a Nova Scotia registered company entered into a lease arrangement with the owners of the 380 acre parcel of land at Whites Cove, Digby County for the purpose of constructing and operating a quarry operation on the site.

In April, 2002, NSE applied for and was granted a permit (See Appendix 33) by the NSDEL to construct and operate a quarry of less than 4 hectares on the Whites Cove site.

In May, 2002, NSE entered into a partnership agreement with Bilcon of Nova Scotia Corporation, a Nova Scotia registered company, forming Global Quarry Products (GQP).

Bilcon of Nova Scotia Corporation is a wholly owned subsidiary of Bilcon of Delaware, which in turn is wholly owned by the principals of the Clayton group of companies of New Jersey, which includes Ralph Clayton and Sons and Clayton Concrete, Block and Sand. Bilcon of Delaware is the holding company for the Clayton's quarrying interests.

In April, 2004, Bilcon of Nova Scotia Corporation bought out the partnership interest of NSE and the partnership was dissolved. Bilcon is now the sole proponent of the Whites Point Project at Whites Cove. Concurrent with the buy-out of NSE, Bilcon entered into a new lease arrangement with the owners of the 380 acre parcel of land at Whites Cove. The lease arrangement is for a 90 year period with the provision for a buy-out of the subject parcel (See Appendix 25).

6.1.1 Management Structure

Permitting Process and Conceptual Design

The permitting process and the conceptual design of the project is the responsibility of the Project Manager for Bilcon, Paul G. Buxton P. Eng.

Detailed Design and Construction

The detailed design and construction of all quarry components is the responsibility of the Operations Manager for Bilcon, John Wall.

Operation and Modification

The operation and plant modification of all quarry components will be the responsibility of the Operations Manager for Bilcon, John Wall.

Implementation of Environmental Mitigation Measures and Environmental Monitoring

The implementation of environmental mitigation measures and all ongoing environmental monitoring will be the responsibility of the Operations Manager for Bilcon, John Wall, assisted by a trained and qualified technical staff.

Management of Potential Adverse Environmental Effects

The management of potential adverse environmental effects will be the responsibility of the Operations Manager, John Wall, assisted by a trained and qualified technical staff.

Corporate Experience in Operating Quarry and Industrial Operations

The Clayton Companies were founded more than fifty years ago with the purchase of fifteen acres of land and one truck. Today, the company operates on over 3,000 acres of land at twenty-five locations with approximately 750 employees.

The Companies are managed by Mr. William Clayton, Sr., the founder, and his three sons who all actively participate in the Companies' operations, assisted by a team of twenty managers.

The Clayton Companies are now New Jersey's largest masonry building materials suppliers and are principally engaged in the production and sale of ready mixed concrete and concrete block, as well as the mining, processing, and sale of sand.

Clayton is also a 50% owner of Amboy Aggregates, which dredges sand from the Atlantic Ocean and has an investment in aggregate distribution terminals in Brooklyn, New York and Amboy, New Jersey.

The Clayton Sand Company mines sand with hydraulic dredges at three sites, one owned and two leased. The sand operations produce approximately 3 million tons of sand per year, approximately half of which is used internally while the remainder is sold to external customers. The sand is used in concrete, asphalt, concrete block, masonry joints, stucco, and as construction fill.

Ralph Clayton and Sons operates fifteen ready mixed plants at twelve locations and delivers the product with a fleet of 225 concrete mixer trucks.

The Clayton Block Company manufactures block and resells masonry building materials, such as bag cement, reinforcing steel, brick, decorative stone, and tools at twelve masonry yards in New Jersey. Clayton manufactures block at eight locations with an annual capacity of 43 million eight-inch equivalents of block.

Related Transportation Systems

The Clayton fleet includes 225 concrete mixer trucks plus 30 spare concrete mixer trucks, 72 tractors used to haul bulk cement trailers, dump trailers or flat bed trailers, 47 dump trucks, 58 block delivery trucks, and 192 light trucks, pick-up trucks and automobiles. Substantially all of the vehicle service work is performed at Company repair locations.

Amboy Aggregates, formed in 1989, is a joint venture, 50% owned by Clayton and 50% by Great Lakes Dredge and Dock Corporation. This joint venture dredges sand in the Ambrose ship channel entering New York harbour. It produces over 2 million tons of sand per year which is delivered by 30 company-owned deck barges or by truck.

Amboy Aggregates is also a 50% owner of New York Sand and Stone, which is a Brooklyn, New York, based stone terminal that imports crushed stone from New Brunswick in partnership with Florida Rock Industries Inc. and operates two leased aggregate distribution terminals comprising approximately 9.5 acres. Ships used to transport the stone from New Brunswick are essentially the same type and size of vessels contemplated for Whites Point.

6.1.2 Environmental Performance and Capability

The Proponent

The Clayton Companies maintain a highly qualified staff to oversee and direct the corporate operations with respect to environmental issues, as well as occupational health and safety issues.

All facilities are monitored daily by the operations manager, monthly safety and environmental check lists are carried out, and an in-house safety and environmental audit is carried out annually at a minimum.

Spill kits are located in all repair shops and at all major fuel tank facilities. The company operates its own spill response trailer.

The Clayton Companies are continually evaluating new technologies with respect to dust collection, concrete recycling, solar power, etc., and operate recycling operations.

The companies have had no incidents leading to major violations of New Jersey Regulations with respect to the Environment or Safety.

The Clayton Companies work with other groups to promote research into site restoration techniques. For example, Clayton contributed $35,000 USD to Rutgers University (See Appendix 13) to unravel the ecology of the Sickle-leaved Golden Aster, *Chrysopsis falcata*, a small endangered wildflower that seeds into open sandy areas and flourishes there until it is shaded out by taller vegetation.

Management of the Whites Point Site to Date

Management of the Whites Point Quarry project was carried out by NSE until the termination of the partnership agreement in 2004. Bilcon has managed the site since that time.

In 2003, NSE stripped approximately half of the permitted 4 Hectare site and created a settling pond to capture particulates from the runoff from the stripped area. During construction of the settling pond - (see photos) , a major rain storm caused an overflow from the pond. The settling pond berms were raised and the settling pond and the additional check dams have functioned well since that time. Water samples were collected on a weekly basis during 2002 and 2003 (See Appendix 45) which show that levels of particulates in water discharged from the site have not exceeded the levels set out in the Permit issued for the 4 hectare quarry.

The Whites Cove Road #422 from Highway #217 to the Bay of Fundy shore adjacent to the quarry site is an abandoned provincial road but still gives access for four wheel drive hicles. At the west end of the road as it turns to the north paralleling the shore, there has been considerable wash out onto the beach area - (see photos). Repairs to the road were carried out by the Nova Scotia Department of Transportation and Public Works in 2003, but these have long since washed out. Bilcon agreed to permit drainage of flood water to enter the quarry site to alleviate the problems at the beach and this has reduced the flows and the amount of sediment flowing into the Bay from the road to some extent.

Bilcon has requested the sale of the road property from the Nova Scotia Department of Transportation and Public Works, but this request has been denied to date and essentially there is little that Bilcon can do to prevent the continuing flow of particulates from the Whites Cove Road.

Since 2002, the site itself has been the subject of significant vandalism. Three of the original four bore holes were blocked, hay stacked for emergencies was burnt, the fence around the working area was pulled down on many occasions, check dams and silt fences were destroyed, and seeded areas are continuously damaged by four wheelers. In the face of this and the open access from the Whites Cove Road, it has been difficult to maintain a secure site.

It is the intent of Bilcon to fence the quarry area and maintain security during construction and operation of the quarry. In February, 2006 three of the six new monitoring wells were vandalized and blocked.

Environmental Record of Key Subcontractors

Bilcon has entered into no contractual arrangements for the construction of the on-site structures or the marine terminal structure, nor has it entered into any contractual arrangements for the shipment of the crushed product.

Bilcon, however, will ensure that all subcontractor work, including the shipment of crushed stone, will be carried out by experienced contractors who will be required to demonstrate excellent environmental records and to carry appropriate insurance and bonding.

Sedimentation Pond Looking Toward the Bay of Fundy

Access for Beach Harvesters

Erosion of the Whites Cove Road

6.2 Project Overview and Purpose

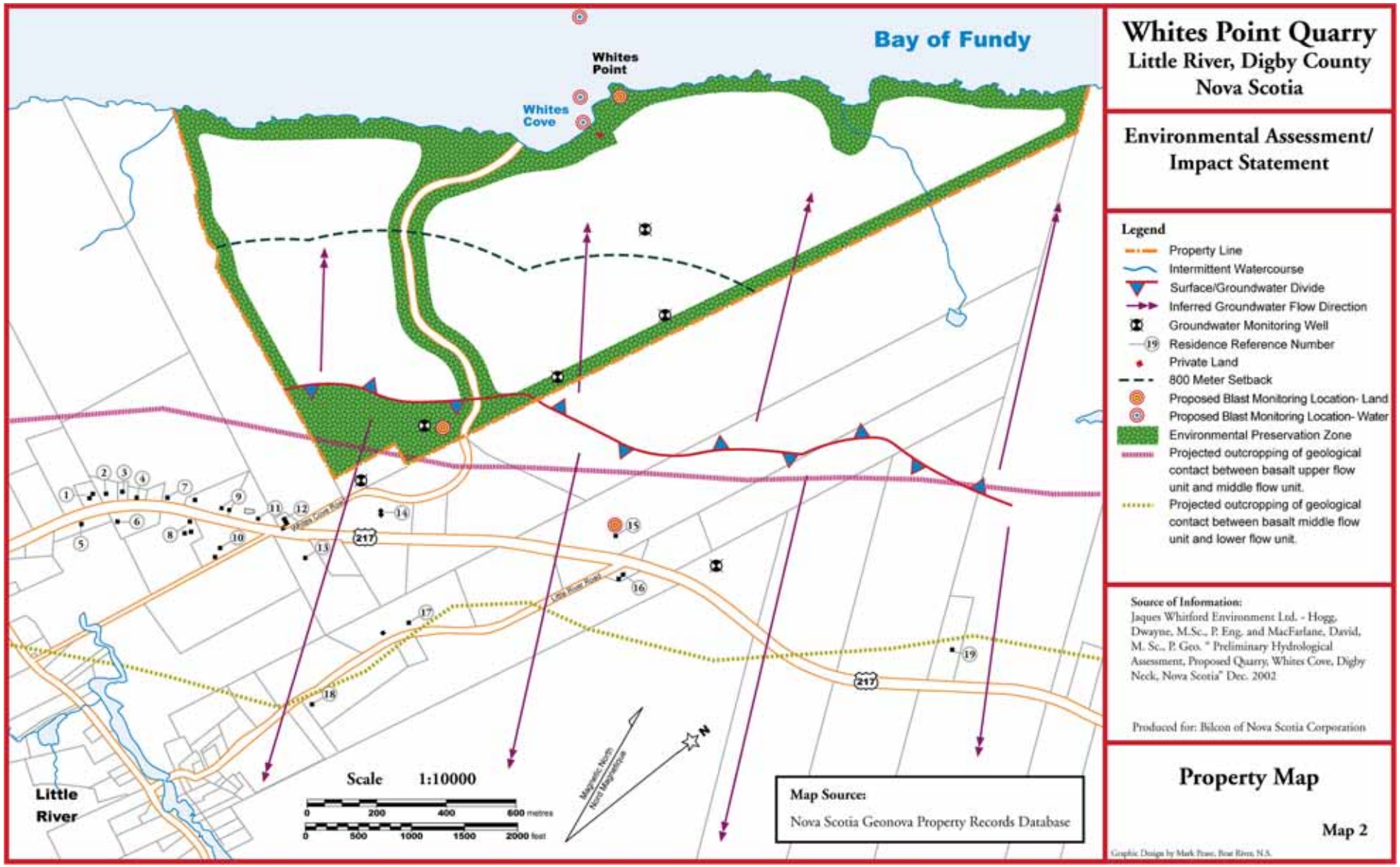
The proposed Whites Point Quarry and Marine Terminal is located at Little River, Digby Neck, Digby County, Nova Scotia. The regional location of the project is shown on **Map 1.** The purpose of the proposed project is to quarry basalt rock and ship processed aggregate products to New Jersey. The quarry property is on private land and comprises approximately 380 acres – **see Map 2.** PID number of the property is 30161160. The location of the marine terminal along the Bay of Fundy coast is 44º 27' 47" N, 66º 08' 31" W.

Three major phases of the project are proposed including construction, operation and maintenance, and decommissioning and reclamation. Major components of the quarry infrastructure include an on land aggregate processing plant, a marine terminal for shipping aggregate products and environmental control structures – see **Figures 1 and 4.** An overall plan of development for the quarry property in years 1 to 5 is shown on **Plan OP-1.** The artist's rendering gives an overall perspective.

A total thirty-four person workforce, working two shifts, will be required to produce the two million tons of aggregate per year. Equipment to produce this amount of aggregate products will include stationary and mobile equipment. Stationary equipment will include rock crushers, screens, conveyors, a radial arm ship loader, and mooring dolphins. Mobile equipment will include off-road rock trucks, loaders, excavators, and bulldozers.

Activities at the quarry site will include drilling and blasting the basalt rock, processing the rock (crushing, screening, washing) and ship loading. The proposed construction phase is one year and is scheduled for 2007 – 2008. The operational phase will extend over a fifty year time period. Decommissioning and final reclamation will be completed in year fifty.

The estimated capital cost of the project is 40.6 million dollars with yearly operating expenditures exceeding 20.0 million dollars. More detailed descriptions of the aforementioned project elements are contained in subsequent sections of this Environmental Impact Statement.


Bay of Fundy
Whites Point
Whites Cove
Little River
Scale 1:10000
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Magnetic North
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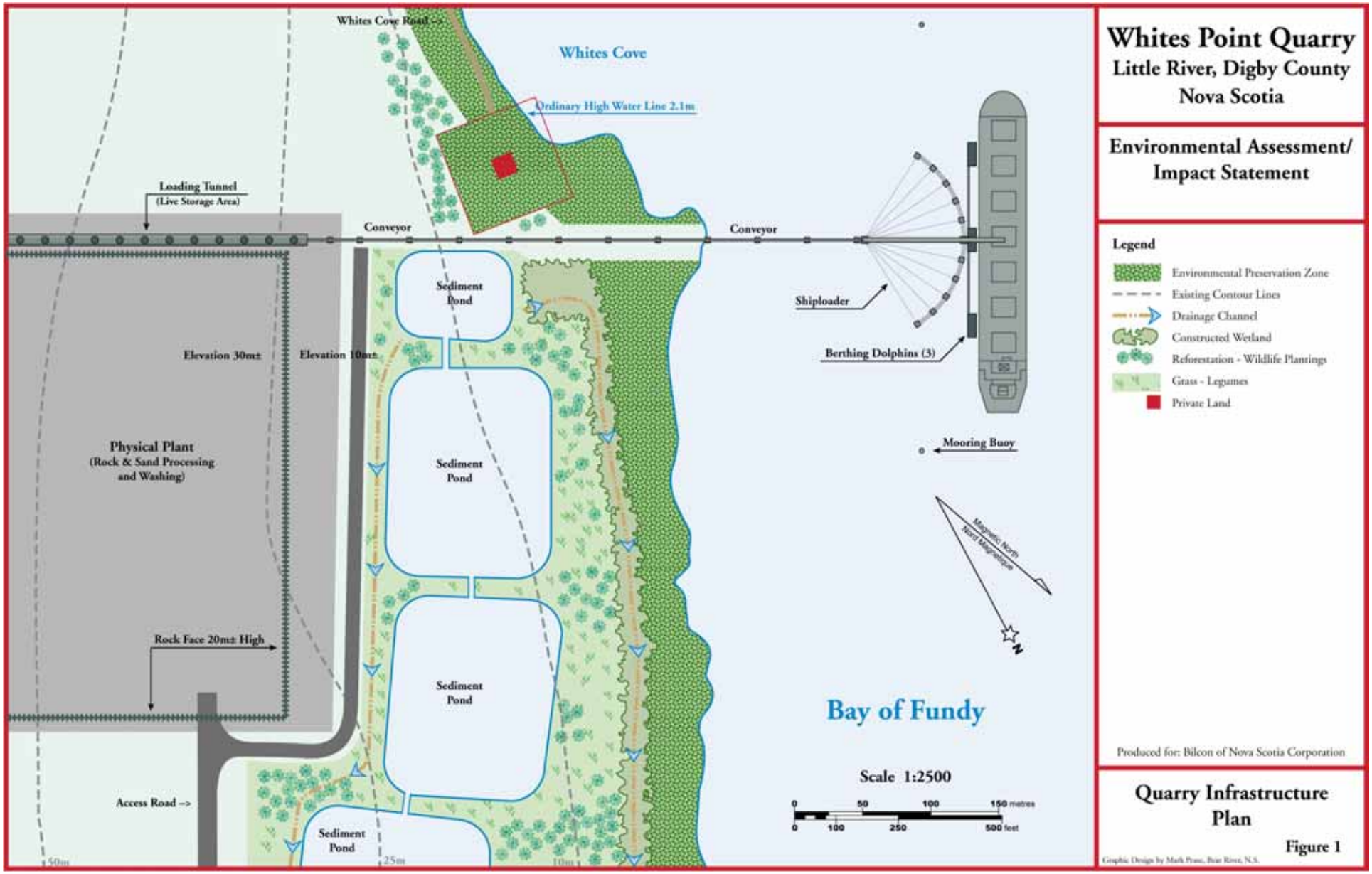
Map Source:
Nova Scotia Geonova Property Records Database
Whites Point Quarry
Little River, Digby County
Nova Scotia
Environmental Assessment/
Impact Statement
Legend
Property Line
Intermittent Watercourse
Surface/Groundwater Divide
Inferred Groundwater Flow Direction
Groundwater Monitoring Well
Residence Reference Number
Private Land
800 Meter Setback
Proposed Blast Monitoring Location- Land
Proposed Blast Monitoring Location- Water
Environmental Preservation Zone
Projected outcropping of geological contact between basalt upper flow unit and middle flow unit.
Projected outcropping of geological contact between basalt middle flow unit and lower flow unit.
Source of Information:
Jaques Whitford Environment Ltd. - Hogg, Dwayne, M.Sc., P. Eng. and MacFarlane, David, M. Sc., P. Geo. " Preliminary Hydrological Assessment, Proposed Quarry, Whites Cove, Digby Neck, Nova Scotia" Dec. 2002
Produced for: Bilcon of Nova Scotia Corporation
Property Map
Map 2
Graphic Design by Mark Pranc, Boat River, N.S.



Whites Point Quarry

Little River, Digby County
Nova Scotia

Environmental Assessment/ Impact Statement

Legend

- Environmental Preservation Zone
- Existing Contour Lines
- Drainage Channel
- Constructed Wetland
- Reforestation - Wildlife Plantings
- Grass - Legumes
- Private Land

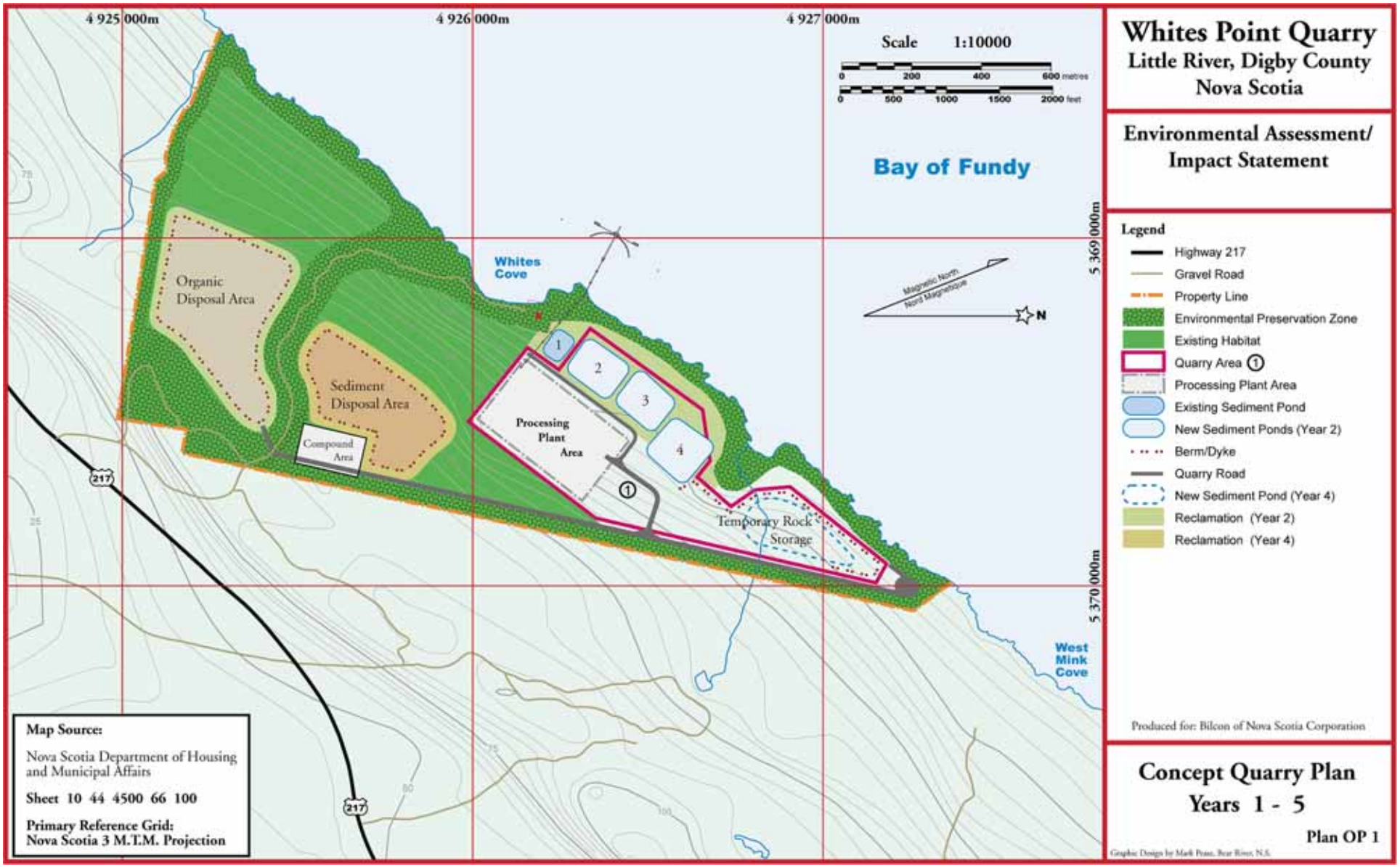
Produced for: Bilcon of Nova Scotia Corporation

Quarry Infrastructure Plan

Figure 1

Graphic Design by Mark Pease, Bear River, N.S.


Disposal Area Dyke
Fuel Storage
Disposal Area Dyke
Sediment Spoil Area
Organic Spoil Area
Maintenance Shop
Office
Electrical
Parking
Gate
Gate
To Quarry
Whites Cove Road
Scale 1:1200 (1 inch = 100 feet)
Whites Point Quarry
Little River, Digby County
Nova Scotia
Environmental Assessment/
Impact Statement
Legend
Environmental Preservation
Zone - 30M wide
Security Fence
Landscaped Areas
Well
Septic Field
Electrical Power Poles
Produced for: Bilcon of Nova Scotia Corporation
Quarry Compound
Plan
Figure 4
Graphic Design by Mark Feast, Beat River, N.S.


4 925 000m
4 926 000m
4 927 000m
Scale 1:10000
0 200 400 600 metres
0 500 1000 1500 2000 feet
Bay of Fundy
5 369 000m
5 370 000m
Whites Cove
Organic Disposal Area
Sediment Disposal Area
Compound Area
Processing Plant Area
1
2
3
4
Temporary Rock Storage
West Mink Cove
Magnetic North
Nord Magnétique
N
217
Map Source:
Nova Scotia Department of Housing and Municipal Affairs
Sheet 10 44 4500 66 100
Primary Reference Grid:
Nova Scotia 3 M.T.M. Projection
Whites Point Quarry
Little River, Digby County
Nova Scotia
Environmental Assessment/
Impact Statement
Legend
Highway 217
Gravel Road
Property Line
Environmental Preservation Zone
Existing Habitat
Quarry Area
Processing Plant Area
Existing Sediment Pond
New Sediment Ponds (Year 2)
Berm/Dyke
Quarry Road
New Sediment Pond (Year 4)
Reclamation (Year 2)
Reclamation (Year 4)
Produced for: Bilcon of Nova Scotia Corporation
Concept Quarry Plan
Years 1 - 5
Plan OP 1
Graphic Design by Mark Prust, Bear River, N.S.

Artist's Rendering of the Whites Point Quarry and Marine Terminal
by
Mark Pease

6.3 The Project Setting

Terrestrial

The geographic setting of the Whites Point Quarry and Marine Terminal is along the coast of the Bay of Fundy on the Digby Neck peninsula. Physical components of the land include the North Mountain Basalt which extends from Brier Island north to Cape Blomidon, a distance of over 200 km. Glacial deposits of overburden along Digby Neck consist of the Basalt Till Facies of the Beaver River Till Unit. This till is generally thin and mantled over the basalt bedrock. Rossway soils cover the entire quarry site and are generally stony and well drained.

The existing topography of the proposed quarry site slopes toward the Bay of Fundy. Relief at the highest point is over 90 m (See **Map 1B** and photo). Extreme gradients range up to 50% slope with more common slopes in the range of 10 % to 20%. Several areas such as those along the shoreline, the abandoned pit, and the southeast ridge of the site are relatively flat. Surface water runoff from the majority of the site flows toward the Bay of Fundy except for an approximate 10 hectare area at the southeast corner which drains toward Saint Mary's Bay. Ground water flows generally follow the same pattern as surface waters. Several, small, intermittent, irregularly defined water courses, typical of the North Mountain, are evident flowing down the mountain side and dispersing into the Bay.

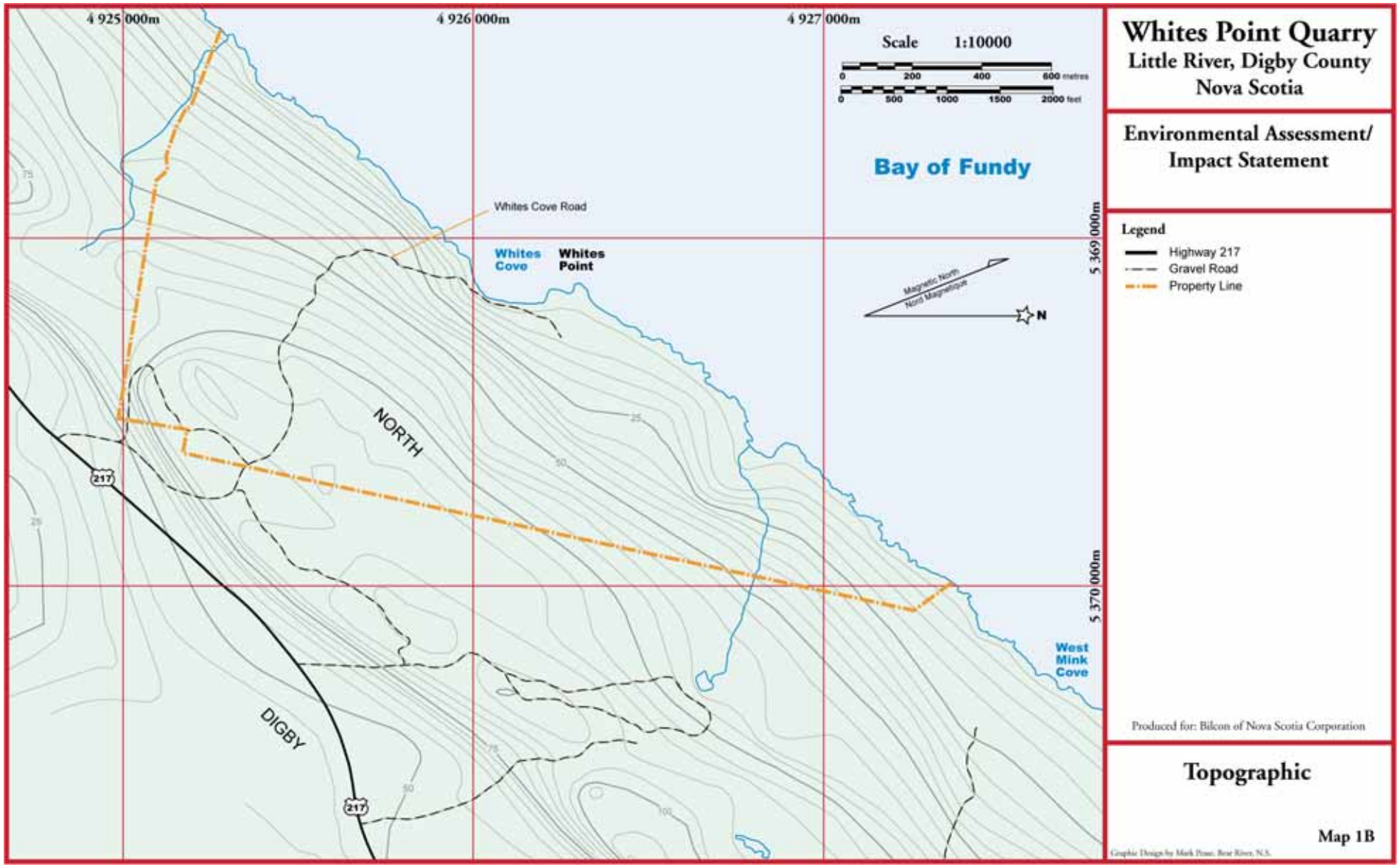
Forests and the habitats they provide are typical of the area and of coastal forests of the North Mountain Basalt Ridge Natural Landscape extending from Cape Blomidon to Brier Island. The property is almost entirely forested, dominated by coniferous species, with the exception of two coastal barrens south of Whites Cove and a coastal bog north of the Cove.

Wildlife consists of common animal, bird, reptile, amphibian, and arthropod species. Provincially identified wetlands and sensitive terrestrial habitats existing on the property will be contained in an environmental preservation zone.

Aquatic

A few intermittent water courses flow down the mountain side into the Bay of Fundy. Also, a small coastal bog exists where one of the watercourses enters the Bay. These watercourses, due to their intermittent flow are not suitable or are marginal as freshwater fish habitat.

The intertidal zone - (see photo) is comprised mainly of bedrock outcrops with a cobble zone at Whites Cove. Most of the mid and lower intertidal zone bedrock is covered with


4 925 000m
4 926 000m
4 927 000m
Scale 1:10000
0 200 400 600 metres
0 500 1000 1500 2000 feet
Bay of Fundy
Whites Cove Road
Whites Cove
Whites Point
Magnetic North
Nord Magnétique
N
5 369 000m
5 370 000m
NORTH
DIGBY
217
West Mink Cove
Whites Point Quarry
Little River, Digby County
Nova Scotia
Environmental Assessment/
Impact Statement
Legend
Highway 217
Gravel Road
Property Line
Produced for: Bilcon of Nova Scotia Corporation
Topographic
Map 1B
Graphic Design by Mark Peace, Bear River, N.S.

Existing Topography at Whites Point

Marine Intertidal Zone

a thick mat of rockweed. Periwinkles, blue mussels, hermit crabs, dog welks and green crabs inhabit the areas of the intertidal zone. The bottom composition of the subtidal and nearshore waters is primarily bedrock and supports lobster, starfish, sea urchins, sea cucumbers, and various pelegic fish including herring. Marine mammals such as minke whales, porpoises, and harbour seals also frequent the nearshore waters. Seabirds, waterfowl, and other waterbirds such as common eiders, scoters, gulls and double-crested cormorants also inhabit the intertidal and nearshore waters of the Bay of Fundy in this region.

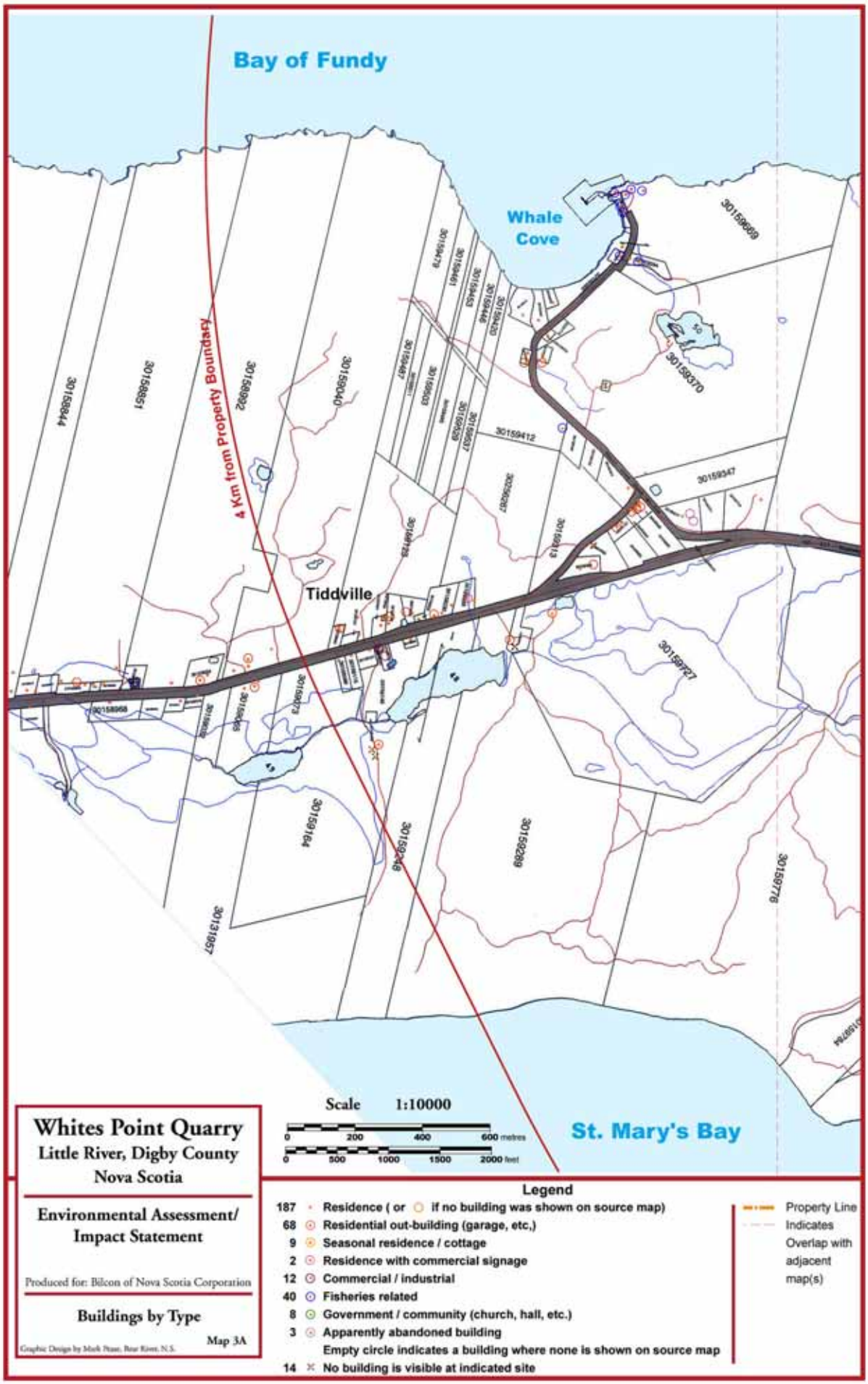
Socio-cultural Interrelationships

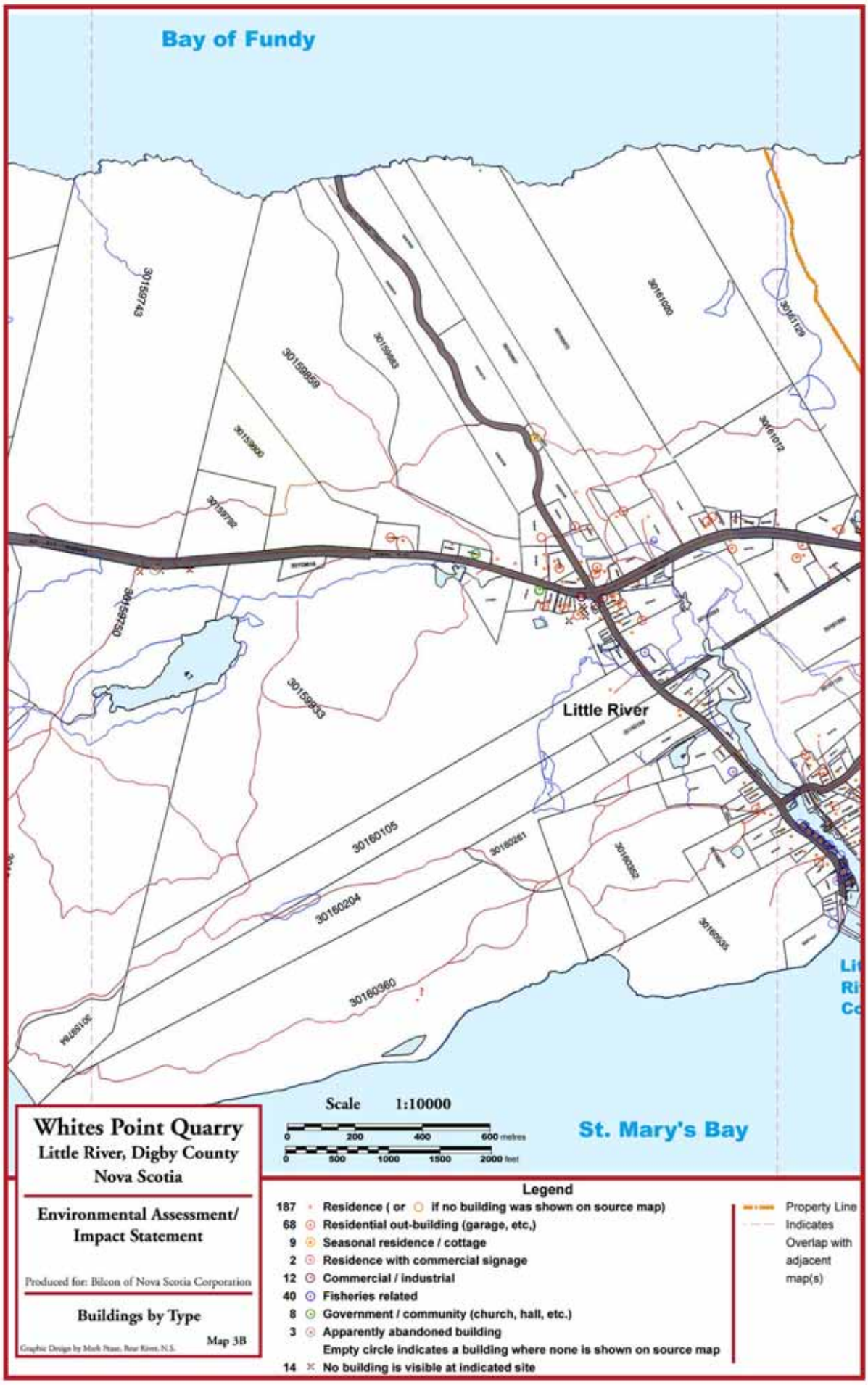
The regional land use setting of the project is primarily rural residential with limited commercial and industrial development. The only land transportation route on Digby Neck is Highway #217. The mix of rural development, by building type, within 4 km of the quarry project is shown on **Maps 3A, 3B, 3C, 3D and 3E** More specifically, five residences are within 500 m of the working area of the quarry, nineteen within 500 – 1000 m, sixty within 1000 – 1500 m and twelve within 1500 – 2000 m.

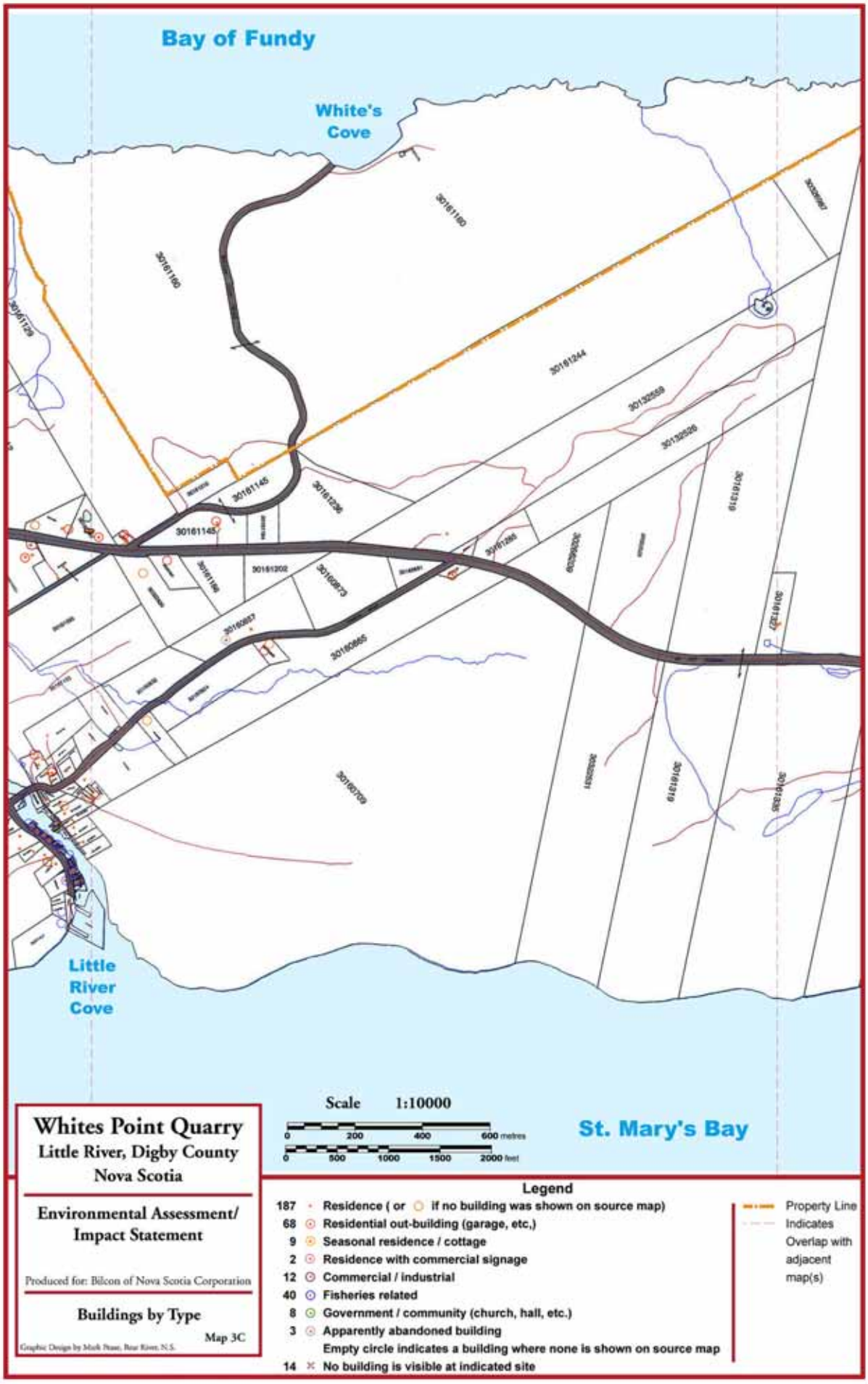
Historically, primary resource industries such as agriculture and forestry dominated the land and the fishery dominated the water. Although technology has changed the fishing industry over the past fifty years, the fishery remains the primary industry on Digby Neck. Small fishing villages within the immediate area of the quarry property such as those located in Little River, Whale Cove, and Sandy Cove remain the centres of the rural community.

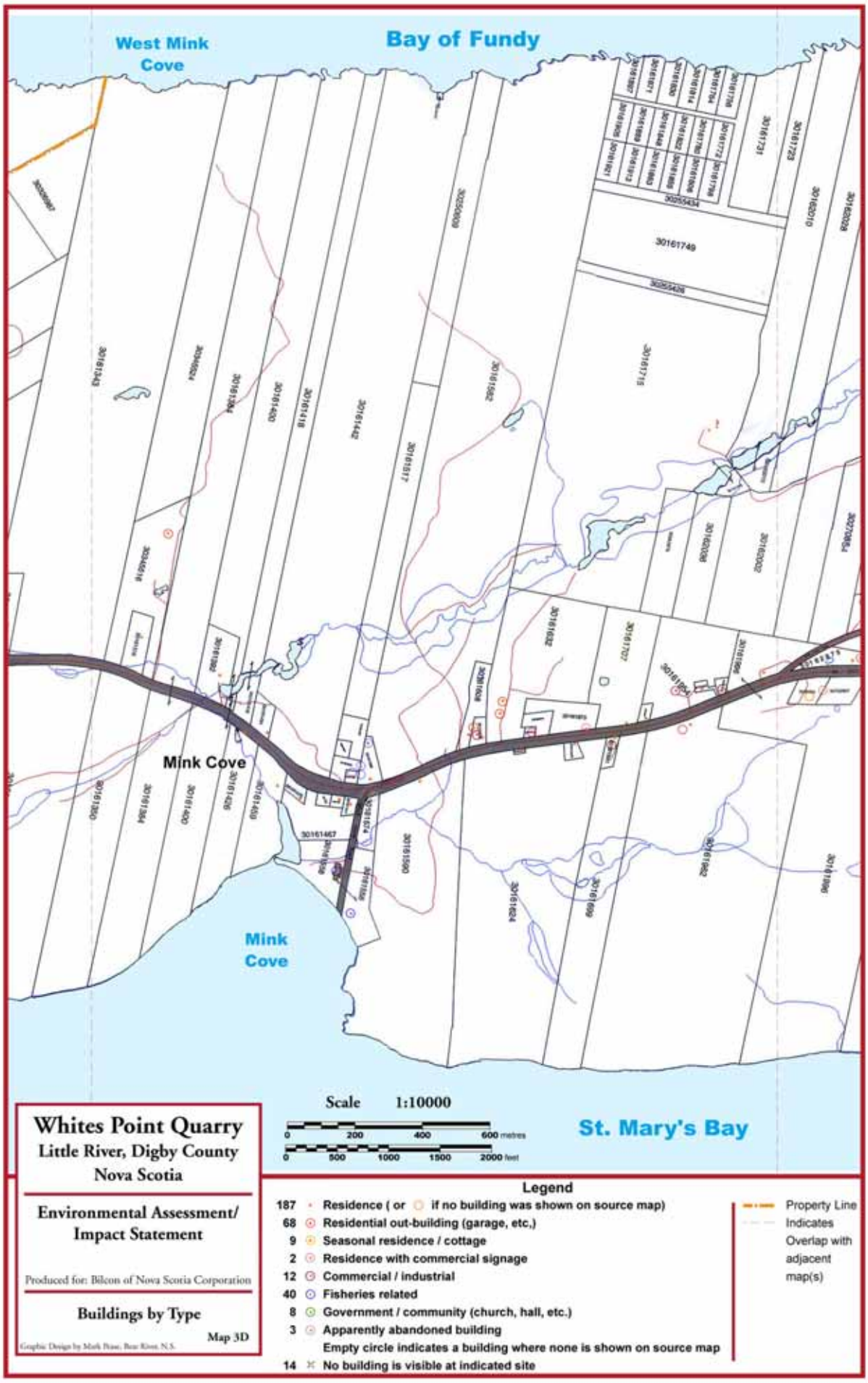
Presently, the quarry property has no development and is partially forested after recent clear-cutting. The practice of clear-cutting is typical of the surrounding region. Traditional community knowledge indicates land use on the property has included farming, a haul-up/boat skidway at Whites Cove, fish shacks/camps, homes and an abandoned gravel pit.

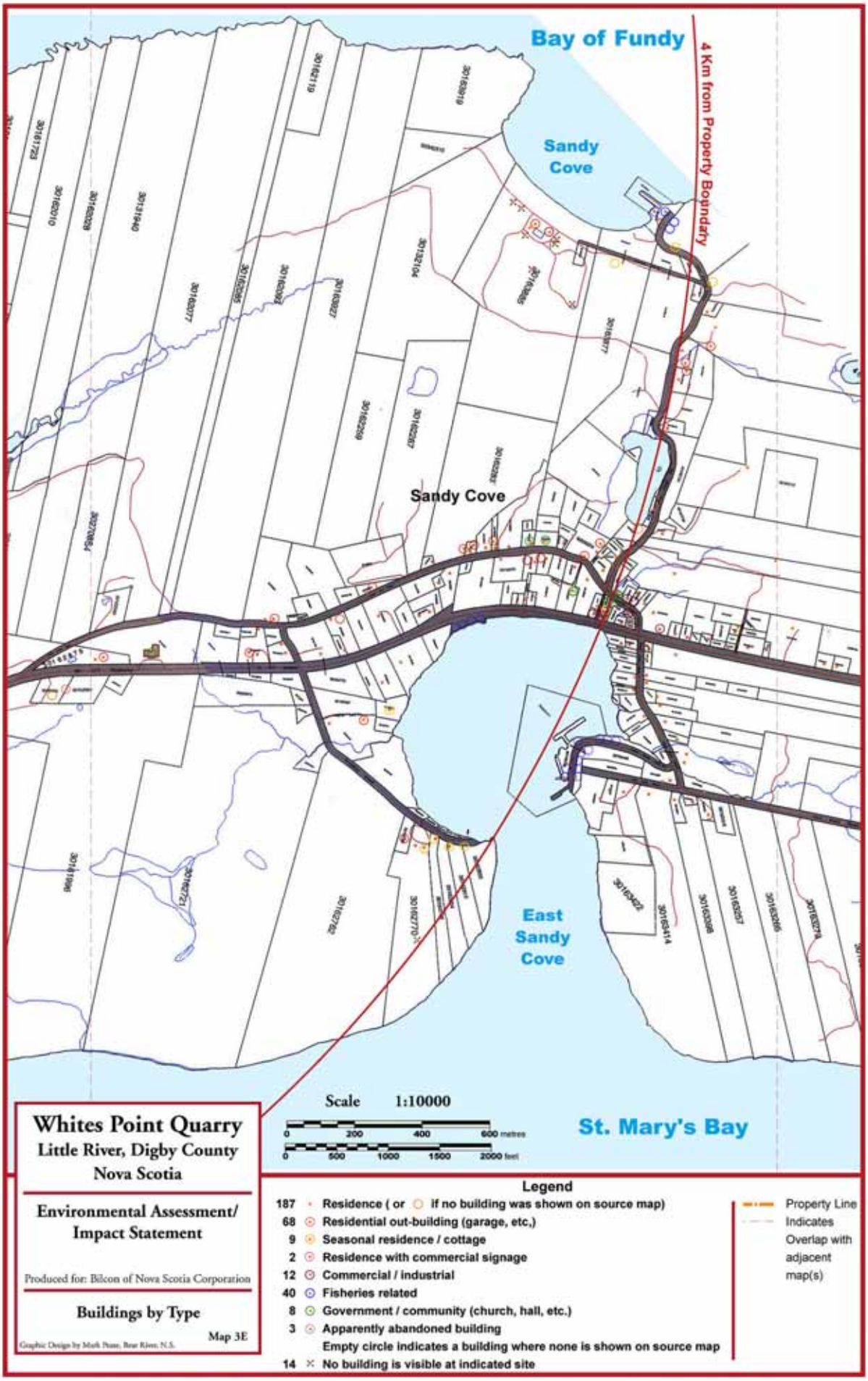
The nearshore portion of the Bay of Fundy is used primarily by lobster, herring, and sea cucumber fishers. During the six month lobster fishing season, lobster boats can frequent the nearshore waters on a daily basis. Other fishing boats, whale and seabird cruise boats, bulk container and tanker vessels use the offshore waters. The proposed shipping route from the inbound shipping lane to the marine terminal and from the terminal to the outbound shipping lane is shown on **Map 4.**

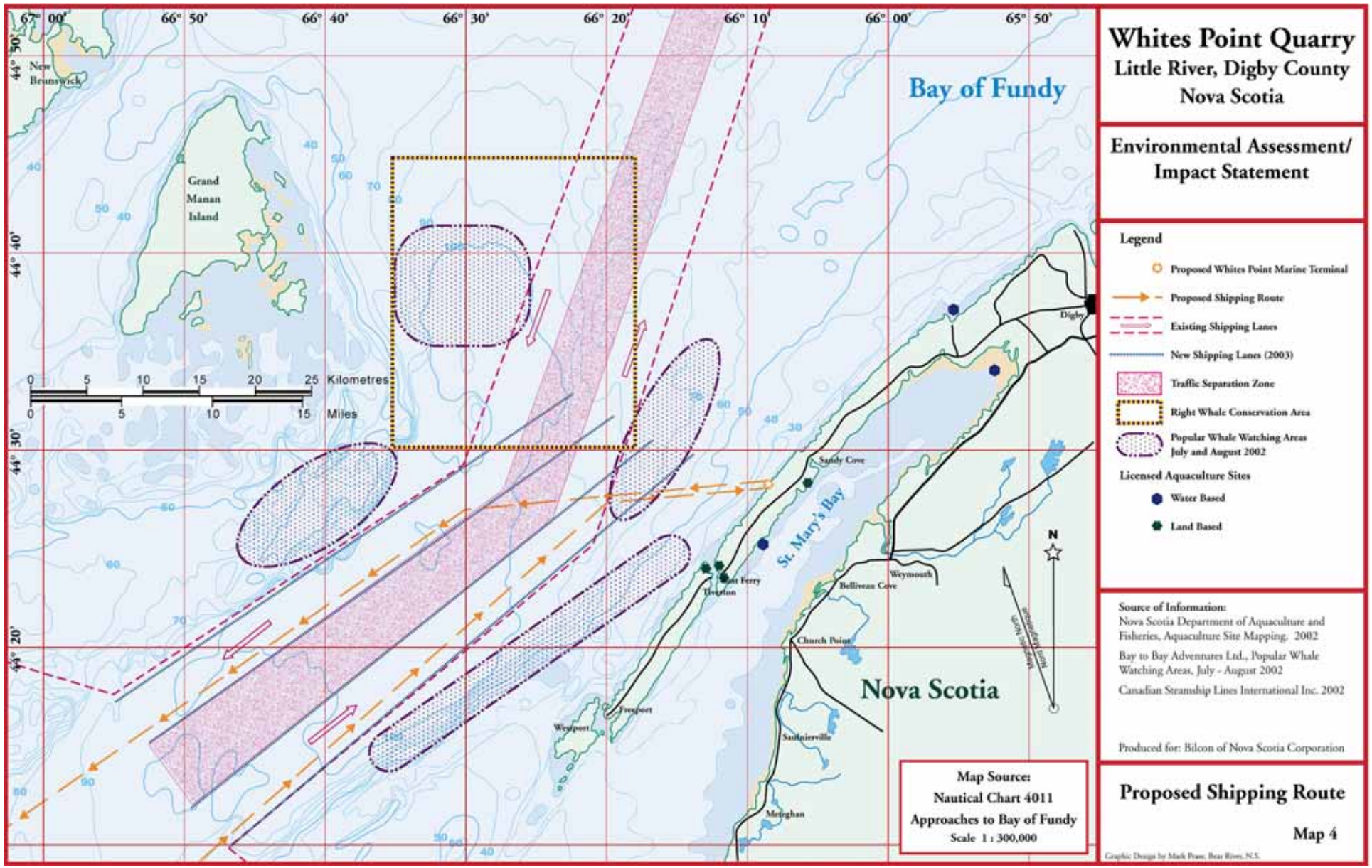

Bay of Fundy
Whale Cove
4 Km from Property Boundary
Tiddville
St. Mary's Bay
Scale 1:10000
0 200 400 600 metres
0 500 1000 1500 2000 feet
Whites Point Quarry
Little River, Digby County
Nova Scotia
Environmental Assessment/
Impact Statement
Produced for: Bilcon of Nova Scotia Corporation
Buildings by Type
Map 3A
Graphic Design by Mark Nase, Bear River, N.S.
Legend
187 Residence (or if no building was shown on source map)
68 Residential out-building (garage, etc.)
9 Seasonal residence / cottage
2 Residence with commercial signage
12 Commercial / industrial
40 Fisheries related
8 Government / community (church, hall, etc.)
3 Apparently abandoned building
Empty circle indicates a building where none is shown on source map
14 No building is visible at indicated site
Property Line
Indicates
Overlap with
adjacent
map(s)


Bay of Fundy
Little River
St. Mary's Bay
Scale 1:10000
0 200 400 600 metres
0 500 1000 1500 2000 feet
Whites Point Quarry
Little River, Digby County
Nova Scotia
Environmental Assessment/
Impact Statement
Produced for: Bilcon of Nova Scotia Corporation
Buildings by Type
Map 3B
Graphic Design by Mark Nuse, Bear River, N.S.
Legend
187 Residence (or if no building was shown on source map)
68 Residential out-building (garage, etc,)
9 Seasonal residence / cottage
2 Residence with commercial signage
12 Commercial / industrial
40 Fisheries related
8 Government / community (church, hall, etc.)
3 Apparently abandoned building
Empty circle indicates a building where none is shown on source map
14 No building is visible at indicated site
Property Line
Indicates
Overlap with
adjacent
map(s)


Bay of Fundy
White's Cove
Little River Cove
St. Mary's Bay
Scale 1:10000
0 200 400 600 metres
0 500 1000 1500 2000 feet
Whites Point Quarry
Little River, Digby County
Nova Scotia
Environmental Assessment/ Impact Statement
Produced for: Bilcon of Nova Scotia Corporation
Buildings by Type
Map 3C
Graphic Design by Mark Nuse, Bear River, N.S.
Legend
187 Residence (or if no building was shown on source map)
68 Residential out-building (garage, etc.)
9 Seasonal residence / cottage
2 Residence with commercial signage
12 Commercial / industrial
40 Fisheries related
8 Government / community (church, hall, etc.)
3 Apparently abandoned building
Empty circle indicates a building where none is shown on source map
14 No building is visible at indicated site
Property Line
Indicates Overlap with adjacent map(s)


West Mink Cove
Bay of Fundy
Mink Cove
Mink Cove
St. Mary's Bay
Scale 1:10000
0 200 400 600 metres
0 500 1000 1500 2000 feet
Whites Point Quarry
Little River, Digby County
Nova Scotia
Environmental Assessment/ Impact Statement
Produced for: Bilcon of Nova Scotia Corporation
Buildings by Type
Map 3D
Graphic Design by Mark Pease, Bear River, N.S.
Legend
187 Residence (or if no building was shown on source map)
68 Residential out-building (garage, etc.)
9 Seasonal residence / cottage
2 Residence with commercial signage
12 Commercial / industrial
40 Fisheries related
8 Government / community (church, hall, etc.)
3 Apparently abandoned building
Empty circle indicates a building where none is shown on source map
14 No building is visible at indicated site
Property Line
Indicates Overlap with adjacent map(s)


Bay of Fundy
4 Km from Property Boundary
Sandy Cove
Sandy Cove
East Sandy Cove
St. Mary's Bay
Scale 1:10000
0 200 400 600 metres
0 500 1000 1500 2000 feet
Whites Point Quarry
Little River, Digby County
Nova Scotia
Environmental Assessment/ Impact Statement
Produced for: Bilcon of Nova Scotia Corporation
Buildings by Type
Map 3E
Graphic Design by Mark Penz, Bear River, N.S.
Legend
187 Residence (or if no building was shown on source map)
68 Residential out-building (garage, etc,)
9 Seasonal residence / cottage
2 Residence with commercial signage
12 Commercial / industrial
40 Fisheries related
8 Government / community (church, hall, etc.)
3 Apparently abandoned building
Empty circle indicates a building where none is shown on source map
14 No building is visible at indicated site
Property Line
Indicates Overlap with adjacent map(s)



Whites Point Quarry
Little River, Digby County
Nova Scotia

Environmental Assessment/ Impact Statement

Legend

- Proposed Whites Point Marine Terminal
- Proposed Shipping Route
- Existing Shipping Lanes
- New Shipping Lanes (2003)
- Traffic Separation Zone
- Right Whale Conservation Area
- Popular Whale Watching Areas July and August 2002

Licensed Aquaculture Sites

- Water Based
- Land Based

Source of Information:

Nova Scotia Department of Aquaculture and Fisheries, Aquaculture Site Mapping. 2002

Bay to Bay Adventures Ltd., Popular Whale Watching Areas, July - August 2002

Canadian Steamship Lines International Inc. 2002

Produced for: Bilcon of Nova Scotia Corporation

Proposed Shipping Route

Map 4

Graphic Design by Mark Fraser, Briar Rivers, N.S.

6.4 The Environmental Impact Assessment Process and Approvals

6.4.1 Overview

On June 26th, 2003, in accordance with the request by the Minister of Fisheries and Oceans to the minister of the Environment (see Appendix 19), the Whites Point Quarry and Marine Terminal project was placed under an Environmental Assessment (EA) by a Joint Federal - Provincial Review Panel.

The following sections address the arrangements surrounding the practice of environmental assessments and those by the Whites Point Quarry and Marine Terminal Review Panel in particular. Information on the environmental assessment Review Panel process is available on the Environment Canada (EC) website: www.ec.gc.ca and Canadian Environmental Assessment Act (CEAA) website: www.ceaa.gc.ca and is specified below. Highlights of the EA processes applied specifically to the proposed Whites Point Quarry and Marine Terminal project follow the general information on the process. Specific project descriptions are found elsewhere within this EIS document and the project details will not be repeated.

Federal Environmental Assessment

Environmental assessment is a process to predict the environmental effects of proposed initiatives before they are carried out. An environmental assessment:

- Identifies possible environmental effects
- Proposes measures to mitigate adverse effects
- Predicts whether there will be significant adverse environmental effects, even after the mitigation is implemented

For clarity section 4 of the Environmental Assessment Act states:

(1) The purposes of this Act are

(a) to ensure that projects are considered in a careful and precautionary manner before federal authorities take action in connection with them, in order to ensure that such projects do not cause significant adverse environmental effects;

(b) to encourage responsible authorities to take actions that promote sustainable development and thereby achieve or maintain a healthy environment and a healthy economy;

(b.1) to ensure that responsible authorities carry out their responsibilities in a coordinated manner with a view to eliminating unnecessary duplication in the environmental assessment process;

(b.2) to promote cooperation and coordinated action between federal and provincial governments with respect to environmental assessment processes for projects;

(b.3) to promote communication and cooperation between responsible authorities and Aboriginal peoples with respect to environmental assessment;

(c) to ensure that projects that are to be carried out in Canada or on federal lands do not cause significant adverse environmental effects outside the jurisdictions in which the projects are carried out; and

(d) to ensure that there be opportunities for timely and meaningful public participation throughout the environmental assessment process.

Duties of the Government of Canada

(2) In the administration of this Act, the Government of Canada, the Minister, the Agency and all bodies subject to the provisions of this Act, including federal authorities and responsible authorities, shall exercise their powers in a manner that protects the environment and human health and applies the precautionary principle.

In summary the main purposes of environmental assessment:

- Minimize or avoid adverse environmental effects before they occur
- Incorporate environmental factors into decision making
- May reduce environmental liability for parties involved in EA

Timely and efficient environmental assessments result in more informed decision-making that supports sustainable development.

By considering environmental effects and mitigation early in the project planning cycle, environmental assessment can have many benefits, such as:

- An opportunity for public participation
- Increased protection of human health
- The sustainable use of natural resources
- Reduced project costs and delays
- Minimized risks of environmental disasters
- Increased government accountability

Many important steps help to identify possible environmental effects and mitigative measures.

- Determine if an environmental assessment is required
- Identify who's involved
- Plan the environmental assessment - scope of the proposed project
- Conduct the analysis and prepare the environmental assessment report
- Review environmental assessment report
- Make environmental assessment decision
- Implement mitigation and follow-up program, as appropriate

Public participation is an important element of an environmental assessment process. It strengthens the quality and credibility of environmental assessments. The public is an important source of local and traditional knowledge about a proposed project's physical site and likely environmental effects. Through public participation activities, project proponents can obtain information, better understand and respond to public concerns, and inform people about decisions.

Canadian Environmental Assessment Act

The Canadian Environmental Assessment Act is the legal basis for the federal environmental assessment process. The Act sets out the responsibilities and procedures for carrying out the environmental assessments of projects, which involve federal government decision-making. A number of regulations have been established under the Act. Some are essential to the functioning of the Act. Others apply in special circumstances. The four essential regulations are the:

- Inclusion List Regulations
- Law List Regulations
- Exclusion List Regulations
- Comprehensive Study List Regulations

The federal environmental assessment process is applied whenever a federal authority has a specified decision-making responsibility in relation to a project, also known as a "trigger" for an environmental assessment. Specifically, it is when a federal authority:

- Proposes a project
- Provides financial assistance to a proponent to enable a project to be carried out
- Sells, leases, or otherwise transfers control or administration of federal land to enable a project to be carried out
- Provides a license, permit or an approval that is listed in the *Law List Regulations* that enables a project to be carried out

The subject project was triggered under the latter point.

If a project does not involve any of the "triggers" to the Act, an environmental assessment under the Act may still be possible. If the Minister of the Environment receives a petition from individuals or interested parties requesting a project to be referred to a mediator or Review Panel and the Minister considers the project has the potential to cause significant adverse environmental effects across boundaries between non-federal and federal lands, or across provincial or international boundaries, then the Minister has the authority to require an assessment of the transboundary effects in some circumstances. In the subject Project, the Minister of Fisheries and Oceans requested that the Minister of Environment refer the project to a Review Panel.

Types of Environmental Assessment

The Act describes different types of environmental assessment that may be required: Screenings (including class screenings), comprehensive studies, mediations and review panels. Screenings and comprehensive studies are conducted under the auspices of the federal agency / department most affected or in control of the proposed works. That agency is referred to as the responsible authority or RA. In the subject project, there are two Responsible Authorities, Department of Fisheries and Oceans (DFO) and Transport Canada (TC). Review panels and mediations are independent of government. For additional information on screenings, comprehensive studies and mediations, the reader is referred to the CEAA web site.

Review Panel

A Review Panel is a group of experts selected on the basis of their knowledge and expertise and appointed by the Minister of the Environment. The Minister also appoints one of the panel members as chair.

A Review Panel is appointed to review and assess, in an impartial and objective manner, a project that may cause significant adverse environmental effects. A Review Panel may also be appointed in cases where public concerns warrant it. Such projects may be referred by the responsible authority to the Minister of the Environment for assessment by a Review Panel. Only the Minister of the Environment may order an assessment by a Review Panel. A Review Panel submits its recommendations to the Minister of the Environment and to the RA for subsequent action and decision.

Review panels have the unique capacity to encourage an open discussion and exchange of views. They also inform and involve large numbers of interested groups and members of the public by allowing individuals to present evidence, concerns and recommendations at public hearings. A panel allows the proponent to present the project to the public and explain the projected environmental effects, and provides opportunities for the public to hear the views of government experts about the project.

When a project requires a decision from the federal government and another level of government, they may choose to conduct the assessment through a Joint Review Panel to save time and money. The government has developed harmonization agreements with some provinces to facilitate such reviews.

In the case of the Whites Point Quarry and Marine Terminal, a Joint Canada-Nova Scotia Review Panel has been struck as follows:

- Panel Chair — Dr. Robert O. Fournier, Ph.D.
- Panel Member — Dr. Gunther Mueke, D.Phil.
- Panel Member — Dr. Jill Grant, Ph.D.

Once the Review Panel has completed the public hearings and its analysis, it must prepare an environmental assessment report, which summarizes its rationale, conclusions and recommendations, and includes a summary of comments received from the public. This report is submitted to the responsible authorities and the Minister of the Environment who then makes it public. The RAs must take the Review Panel's report into consideration before making any decision with regard to the project. It must also respond to the report, with the approval of Cabinet.

6.4.2 Key Elements, Milestones and Actions

A number of important steps that pre-dated the establishment of the Review Panel, illustrate the progression of the EA process.

June 2002 — Initial meetings between Project Managers and Nova Scotia Environment and Labour (NSDEL)

July 2002	Meeting of Project Managers with representatives of Habitat Management Division (DFO) and Navigable Waters Protection Program (TC)
Jan 2003	Meeting of Project Managers with Federal and Provincial agencies, EC, CEAA, administrators of NWPA, DFO, NSDEL. Designation of DFO as RA by application of Law list under Subsection 35(2) of *Fisheries Act* concerning fish habitat,
March 2003	Proponent submission of Project Description to CEAA

The intended and stated outcome of these preliminary meetings and actions during the early part of 2003 was the designation of a Comprehensive Study as the EA process. The regulator group notified the Proponent that a Memorandum of Understanding would be prepared to harmonize the Federal and Provincial EA requirements and also that a draft Scoping Document for the comprehensive study would be made available for public and proponent review and comment. That initiative was never completed.

In June of 2003, The Hon. Robert Thibault, Minister of Fisheries and Oceans and also the RA, requested the Minister of the Environment to refer the project for a Review Panel in accordance with paragraph 21(b) of the CEAA. The Minister of the Environment consented to the request and decided to submit the Whites Point Quarry and Marine Terminal project to an EA Panel Review.

6.4.3 Joint Panel Review Process and Timeline

By means of a joint press release on August 11, 2003, (Appendix 32 - Federal Minister of the Environment David Anderson and Nova Scotia Minister of Environment and Labour Ronald Russell, released a draft Agreement on the Joint Environmental Assessment Panel Review Process for the Proposed Whites Point Quarry and Marine Terminal in Digby County for public comment. “In deciding to refer this project to a Review Panel,” stated Minister Anderson, “I believe that a public process will help Nova Scotians better understand the potential impacts of this project. Public discussion and debate are crucial elements in the review process.”

Following the comment period for the draft agreement a final agreement was signed by the Federal and Provincial Governments. The Whites Point Quarry and Marine Terminal Project Joint Review Panel was announced in Halifax on November 5, 2004**.** A three-member panel chaired by Dr. Robert O. Fournier was set up to review the proposed project. The Panel was established on the basis of the Agreement, establishing the Panel, setting out the rules for conducting the joint review process, the procedures for appointing Panel members and the Panel’s terms of reference.

On November 10th, 2004, the agencies invited the public to comment on draft Guidelines for the preparation of the EIS for the Whites Point Quarry and Marine Terminal project in Digby County. The Guidelines identify the issues that Bilcon will be required to address in its environmental assessment of the proposed project. The Guidelines also provide direction to Bilcon on how to describe and assess these issues, and how to structure the EIS that will be submitted to the Joint Review Panel.

December 2nd, 2004, the Joint Review Panel invited the public to attend public meetings where their views were sought on the draft EIS Guidelines. These scoping meetings were a part of the public participation process that began November 10, 2004 with the release of the draft EIS guidelines for public comment.

The times and locations for the scoping meetings were:

January 6: Digby Neck Consolidated School, Sandy Cove, 7:00 p.m. - 10:00 p.m.
January 7: Digby Regional High School (cafeteria), Digby, 7:00 p.m. - 10:00 p.m.
January 8: Horton High School (cafeteria), Wolfville, 1:00 p.m. - 4:00 p.m.
January 9: Meteghan Fire Hall, Meteghan, 1:00 p.m. - 4:00 p.m.

As a product of these sessions and also the written comments received, the Review Panel released the final Guidelines on March 31st, 2005 for the preparation of the EIS. In transmitting the Guidelines to the proponent, the Panel asked the Proponent to provide a schedule indicating the anticipated timeframe to produce the EIS. The Proponent offered a tentative date for the completion of the EIS as October 31st, 2005 later revised to mid December, 2005 and again revised to March 31st, 2006.

Following the receipt of the EIS from Bilcon, the public will be invited to assist in the EIS review by submitting written comments over a period of at least 90 days, on the statement's conformity to the Guidelines. Once the Review Panel has determined that the EIS is complete and no additional information is required, public hearings will be scheduled.

The Panel will hold public hearings in locations determined by the Panel within the area likely to be affected by the project, or in any area where appropriate reasonably close to where the project is proposed to be carried out.

The Panel shall deliver its report and recommendations to the Minister of the Environment and to the Minister of Fisheries and Oceans within ninety days (90) following the close of the public hearings.

6.4.4 Stakeholders

The stakeholders with interest in the Whites Point Quarry and Marine Terminal project are:

Proponent

Bilcon of Nova Scotia Corporation as project owner

Community

- Residents of communities of Digby Neck and surrounding areas
- Municipal, Provincial and Federal Governments
- Various commercial and environmental and industrial associations
- Potential future employees as quarry and screening plant operators, ship loaders, labourers, supervisors, office workers and management
- Commercial suppliers of goods and services to the project
- Near shore fishers of the Bay of Fundy close to the marine terminal

Governments

The principal agencies are listed. The specific roles of Government agencies are detailed in section 6.5 of this document.

Municipality of Digby as regulator and tax collector

Province of Nova Scotia as regulator

- NS Department of Environment and Labour
- NS Department of Natural Resources
- NS Department of Finance

Government of Canada as regulator

- Environment Canada
- Canadian Environmental Assessment Agency
- Canadian Wildlife service
- Fisheries and Oceans Canada
- Transport Canada
- Revenue Canada
- Health Canada
- Natural Resources Canada

6.5 Regulatory Environment

6.5.1 Overview and Approach

Three levels of government, Municipal, Provincial and Federal, regulate commercial operations in Nova Scotia. General matters relating to zoning, noise and other bylaws, building permits etc. are administered under the authority of Municipal Councils. The Province of Nova Scotia regulates matters relating to environmental approvals, labor concerns, and land leases under provincial authorization. Some aspects of commercial operations are regulated under provincial taxation laws with respect to road tax, business tax and requirements relating to workers compensation. All businesses are regulated under federal corporate taxation law. In this particular case, where environmental issues are deemed important federal issues, regulations under the Departments of the Environment Canada, Fisheries and Oceans Canada, Transport Canada, and Health Canada, among others, will apply.

The following sections will address the various acts and requirements that will apply to the proposed Whites Point Quarry and Marine Terminal project in sufficient detail to meet the requirements of the EIS guidelines.

In the case of the federal statutes, those Acts and Regulations that apply strictly to the actual quarry and marine terminal installation have been listed. There are a great many regulations that apply to all shipping vessels operating in Canadian waters. Of these, only those that pertain to the proposed project defined parameters and limits have been identified. For example, “Aids to Navigation Protection Regulations under the Shipping Act” has been identified as being relevant to near shore navigation but “Boat and Fire Drill Regulations” as not being project specific.

Clearly the project conducting an approved and lawful business will have to adhere to all the laws of the land, and the legislation that is most relevant to the current EA approvals and associated proposed commercial operations has been listed.

The preceding section of text addressed all of the matters relating to the environmental assessment processes and therefore those topics will not be repeated in detail here. In accordance with the instructions presented in the EIS guidelines, the various pieces of legislation tabulated in the prescribed manner have been listed.

6.5.2 Municipality of Digby

By Laws and Regulations

The Municipality of Digby advises that bylaws dealing with Buildings and Noise are enforced. The Municipality does not have a municipal development plan and does not impose any zoning restrictions or exercise any planning guidelines for establishing industries or projects.

Assessments of Land, building, and equipment values performed by Nova Scotia tax assessors forms the basis of the value of taxation revenues collected by the Municipality.

Table 6A presents a list of the relevant Municipal legislation.

6.5.3 Government of Nova Scotia

Acts and Regulations

The Government of Nova Scotia under the authority of the Environment Act and Labour Standards Code will regulate all of the on site activities relating to operations, ranging from the construction activities associated with the access and infrastructure, quarry development and marine terminal construction phase. During operational phases of quarry and ship loading worker safety and monitoring of environmental controls will be the prime areas of regulator concern.

Issuance of a lease for a water lot to accommodate the marine shipping terminal and ship berthing structure is required from the Province of Nova Scotia.

Site reclamation planning, bonding with progressive and final execution is normally regulated by Nova Scotia. In the case of the Whites Point Quarry and Marine Terminal as a joint Canada / Nova Scotia Environmental Assessment, some of the on going environmental and final reclamation requirements may also be approached on a joint Canada / Nova Scotia basis. It is possible that the environmental monitoring and regulator management may also be performed on a joint basis as well. The conditions of EA release will specify the final arrangements, particularly the responsibilities assigned to the various levels of government regulators.

Matters of provincial taxation assessment are a provincial responsibility. Harmonized Sales Tax (HST) is a provincial concern although administered by the CCRA (Canada Customs and Revenue Agency). Likewise the provincial share of corporate and employee income tax will be of interest to the Province of Nova Scotia. Table 6A presents a list of the relevant Nova Scotia legislation.

6.5.4 Government of Canada

Acts and Regulations

Canadian Environmental Assessment Act

The Government of Canada's responsibilities for Environmental Assessment is mandated primarily by the Canadian Environmental Assessment Act. The details of the EA process are given in Sec 6.4. Following release from the joint EA, ongoing environmental monitoring and regulator management may also be performed on a joint basis as well. The conditions of EA release will specify the final arrangements, particularly the responsibilities assigned to the various levels of government regulators.

The Canadian Environmental Protection Act, 1999 (CEPA 1999)

CEPA 1999 is a major legislative initiative guided by a set of principles that ensure consistent approaches for achieving clear objectives to:

- Contribute to sustainable development by preventing pollution;
- Promote coordinated action with provinces, territories, Aboriginal governments, and federal departments to achieve the highest level of environmental quality for the health of Canadians; and
- Manage risks from harmful substances and virtually eliminate releases of those substances determined to be the most dangerous

CEPA 1999 contributes to sustainable development, which means meeting the needs of the present without compromising the ability of future generations to meet their own needs. The Minister of the Environment is accountable to Parliament for the administration of all of CEPA 1999.

In consultation with representatives of EC the following summarizes the key thrusts, legislation, programs, plans and policies administered by Environment Canada.

Toxic Substances

Toxic substances and waste materials are controlled by Environment Canada under the authority of the *Canadian Environmental Protection Act*, 1999 (CEPA 1999)

Substances found to be toxic and listed in Schedule 1 of CEPA 1999 can be controlled by a variety of instruments such as regulations, guidelines, codes of practice and pollution prevention plans. These instruments may be applicable to any aspect of the life cycle of a toxic substance - from the research and development stage through manufacture, use, storage, transport and ultimate disposal.

New Substances Notification

The New Substances Notification Regulations of CEPA 1999 stipulate the information that must be submitted to Environment Canada *prior* to the import or manufacture of any new substance in Canada. The Domestic Substances List, which is a list of approximately 24,000 substances that are presently in Canadian commerce, is the basis for determining if a substance is considered to be new.

Export and Import of Hazardous Wastes

The transboundary movement of hazardous wastes intended for disposal and hazardous recyclable material intended for recycling is subject to the requirements set out in Part 7, Division 8 of CEPA 1999 and the *Export and Import of Hazardous Wastes Regulations* also made under that Act and administered by EC.

The Whites Point Quarry and Marine Terminal project will not engage in trade of hazardous wastes therefore this element of CEPA 1999 will not be relevant to the EA of the project.

Environmental Emergency Regulations

The Environmental Emergency (E2) Regulations under Section 200 of CEPA apply to any person in Canada who owns, or has charge, management or control of, a substance listed on Schedule 1 of the regulations that is present in a quantity equal to or greater than that specified in the Schedule.

Protection of Migratory Birds

The *Migratory Birds Convention Act, 1994* (MBCA) implements the 1916 treaty of the same name under which Canada and the United States coordinate their efforts to conserve and protect migratory birds. The Parksville Protocol, an amendment to the Convention, came into force in October 1999. Migratory birds include those species listed in the Canadian Wildlife Service Occasional Paper No. 1, *Birds Protected in Canada under the Migratory Birds Convention Act*.

The MBCA and the Migratory Birds Regulations include general prohibitions against harming migratory birds, their nests and their eggs. For example, the Migratory Birds Regulations prohibit the deposition of any "…oil, oil wastes or any other substance harmful to migratory birds in any waters or any area frequented by migratory birds" (s. 35).

Protection of Species at Risk

The *Species at Risk Act* (SARA) came into force in June 2003 with the exception of prohibition and penalty provisions that came into force in June 2004. The SARA fulfils, in part, Canada's commitments under the *United Nations Convention on Biological Diversity, 1992*. SARA aims to prevent wildlife species from becoming extinct, and to secure the necessary actions for their recovery. Environment Canada is responsible for the overall administration of SARA. However, the Minister of Fisheries and Oceans is responsible for aquatic species, and the Minister of Environment is responsible for all other species including migratory birds.

Protection of Water Quality

Environment Canada is responsible for the administration and enforcement of Section 36 of the *Fisheries Act, which* prohibits the deposit of a deleterious substance into waters frequented by fish.

The Government of Canada has also developed a number of plans, policies and programs to support environmental and conservation initiatives with relevance to the Whites Point Quarry and Marine Terminal project listed below. Where relevant, the provisions of these various plans, policies and programs will be consulted and adhered to as the project develops.

- A Wildlife Policy for Canada
- Canadian Biodiversity Strategy
- Canadian Shorebird Conservation Plan
- Federal Policy on Wetland Conservation
- Federal Water Policy
- North American Waterbird Conservation Plan
- North American Waterfowl Management Plan
- Partners in Flight – Canada
- Pollution Prevention – Federal Strategy for Action
- Sea Duck Joint Venture
- Toxic Substances Management Policy
- Western Hemisphere Shorebird Reserve Network

For the convenience of the reader additional selected information on these items are presented as an addendum at the end of this section.

Canada Health Act

Both the Minister of the Environment and the Minister of Health jointly administer the task of assessing and managing the risks associated with existing and new substances. The Minister of Health is required to conduct research on the role of substances in illnesses and health problems. Health Canada must provide expert information and knowledge on health issues when requested by other federal departments carrying out environmental assessments under CEAA. Therefore, Health Canada's role in the EA process is legislated under CEAA and HC is responsible for providing expert advice as a Federal Authority on projects where human health is an issue.

Fisheries Act

Section 35 of the Fisheries Act, reproduced below, addresses the matter of fish habitat that will apply to the Whites Point Quarry and Marine Terminal project. The required permit application has been filed together with a compensation plan. The compensation plan has been approved in principle by the Department of Fisheries and Oceans (SeeAppendix 17).

> 35. (1) No person shall carry on any work or undertaking that results in the harmful alteration, disruption or destruction of fish habitat.
>
> (2) No person contravenes subsection (1) by causing the alteration, disruption or destruction of fish habitat by any means or under any conditions authorized by the Minister or under regulations made by the Governor in Council under this Act.

Navigable Waters Protection Act

The Navigable Waters Protection Program ensures the protection of the public right to navigation and the protection of the environment through the administration of the Navigable Waters Protection Act (NWPA). The NWPA regulates the following:

- The approval of any works built or placed in, on, over, under, through or across navigable water in Canada prior to construction of the work(s)
- The removal of obstructions to navigation including unauthorized works or other obstructions such as sunken or wrecked vessels.
- The regulation of the provision and maintenance of lights, markers, etc. required for safe navigation during and/or on completion of the construction of certain works.

Issues relating to marine shipping including communication licenses and navigational related fees are regulated by Transport Canada under the Canada Shipping act. Taxation measures are administered by CCRA that will include corporate and employee income tax. An application under the Navigable Waters Protection Act was submitted with respect to the marine terminal in December 2002 (See Appendix 26). An application was also filed under the Navigable Waters Protection Act with respect to the fish shelters proposed under the Fish Habitat Compensation Plan (See Appendix 17).

Table 6A - Relevant Legislation

Municipality of Digby

Act, Regulation or Bylaw	Agency	Project Activity
Building Bylaw	Municipality	Construction and approval phase
Building Bylaw	Municipality	Construction and approval phase

Province of Nova Scotia

Act, Regulation or Bylaw	Agency	Project Activity
Crane Operators & Power Engineers Act Regulations	NSDEL	Construction and operational phase
Crown Lands Act & Regulations Beaches Act & Regulations Beaches & Foreshores Act & Regulations	NSNR	Water Lot Lease Construction and operational phase
Dangerous Goods Transportation Act & Regulations	NSTPW	Operational phase explosives & fuel storage
Electrical Installation& Inspection Act Regulations	NSDEL	Construction & operational phase
Elevators & Lifts Act Regulations	NSDEL	Construction & operational phase
Environment Act & Regulations	NSDEL	EA approval & operational phase
Endangered Species Act & Regulations	NSDEL	EA approval & operational phase

Province of Nova Scotia

Act, Regulation or Bylaw	Agency	Project Activity
Fire Safety Regulations	NSDEL	Construction and operational phase
Labour Standards Code	NSDEL	Construction and operational phase
Occupational Health and Safety Act and Regulations	NSTPW	Construction and operational phase
Pit and Quarry Guidelines	NSDEL	Approval, Construction and operational phase
Water Resources Protection Act	NSDEL	Construction and operational phase
Wildlife Act and Regulations	NSNR	EA approval and operational phase
Workers' Compensation Act	WCB	Project operational phase

Government of Canada

Act, Regulation or Bylaw	Agency	Project Activity
Canada Wildlife Act and Regulations	EC	Construction and operational phase
Migratory Birds Convention Regulations	EC	Construction and operational phase
Species at Risk	EC	Construction and operational phase
Canadian Environmental Assessment Act and Regulations	CEAA	EA approval

Act, Regulation or Bylaw	Agency	Project Activity
Canadian Environmental Protection Act	Marine Environment Division Environmental Protection Service EC, HC	Project operational phase, hazardous wastes
Canadian Environmental Protection Act Part VI (Ocean Dumping Regulation 1988)	Marine Environment Division Environmental Protection Service EC, EPS	Marine Terminal
Navigable Waters Protection Act Navigable Waters Works Regulations	TC DFO	Works or construction activity in navigable waters
Canada Shipping Act Aids to Navigation Protection Regulations Air Pollution Regulations Anchorage Regulations Charts and Nautical Publications Regulations Eastern Canada Vessel Traffic Services Zone Regulations Garbage Pollution Prevention Regulations Non-Pleasure Craft Sewage Pollution Prevention Regulations Oil Pollution Prevention Regulations Pollutant Discharge Reporting Regulations Ship Radio Inspection Fees Regulations Ship Station Technical Regulations VHF Radiotelephone Practices and Procedure Regulations	CCG DFO TC	Shipping operations Worker health and safety

Government of Canada

Act, Regulation or Bylaw	Agency	Project Activity
Transportation of Dangerous GoodsAct 1992 and Regulations	TC	Transporting and handling dangerous goods
Explosives Act Explosives Regulations	NRC	Provision of expertise to EA Approval
Transportation Act Flammable Liquids Bulk Storage Regulations	CTC	Storage of flammable liquids at site
National Building Code of Canada	Canadian Commission on Building and Fire Codes	Facilities
Radio Communications Act	Industry Canada	Ship to shore communication

6.5.5 Regulatory Approvals and Guidelines

Pending release from EA and subject to any stipulations or restrictions as may be recommended by the Review Panel, the proposed Whites Point Quarry and Marine Terminal will need to apply for and secure a number of approvals and authorizations from all levels of Government. Generally these approvals are required of any project regardless of the nature of EA. Table 6B lists the various approvals organized by level of government and in accordance with the instructions in the EIS Guidelines

Table 6B Regulatory Approvals and Guidelines

Municipality of Digby

Regulation/Act	RA	Activity	When Required
Approval under the National Building Code of Canada and other codes adopted by NS	Municipality of Digby	Approval under the National Building Code of Canada	Design and Construction

Province of Nova Scotia

Regulation/Act	RA	Activity	When Required
Transportation Act	NSDTPW	Permit for Access Road	In advance of operational startup
Water Approval Environment Act and Regulations	NSDEL NSNR	Permits the extraction of surface and ground water for project use in quantities greater than 23,000 litres per day	In advance of operational l startup
Water Lot Grant		Assigns ownership of submerged land in coastal waters to permit the construction of large wharves, causeways, infills or breakwaters	In advance of construction

Government of Canada

Regulation/Act	RA	Activity	When Required
Release from EA Environment Act EC and Regulalations	Review Panel	EA	Release from EA Environment Act EC & Regulalations
Permit for Construction within Navigable Waters	DFO Coast Guard	5. (No work shall be built, or placed in, on, over, under, through or across any navigable water unless (a) the work and the site and plans thereof have been approved by the Minister, on such terms and conditions as the Minister deems fit, prior to commencement of construction	Permit for Construction within Navigable Waters
Authorization for Works or Undertakings Affecting Fish Habitat	DFO	35.(1) No person shall carry on any work or undertaking that results in the harmful alteration, disruption or destruction of fish habitat	Authorization for Works or Undertakings Affecting Fish Habitat
Explosives Transportation Permit	TC	Explosives transport by licenced contractor	Explosives Transportation Permit

6.5.6 Addenda

This addendum provides selected additional information on federal legislation, programs and policies for the convenience of the reader.

The Canadian Environmental Protection Act, 1999 (CEPA 1999)

The health of Canadians and economic and social progress are fundamentally linked to the quality of the environment. The Canadian Environmental Protection Act, 1999 is one of the Government of Canada's primary tools for achieving sustainable development and pollution prevention. In Canada, the federal government, as well as provincial, territorial and Aboriginal governments, share responsibility for protecting the environment — an approach that calls for close collaboration as governments work to support the well being of Canadians. As a cornerstone of the Government of Canada's environmental legislation, CEPA 1999 is aimed at preventing pollution and protecting the environment and human health.

One of CEPA 1999's major thrusts is the prevention and management of risks posed by harmful substances. As well, CEPA 1999 provides for the assessment and/or management of the environmental and human health impacts of new and existing substances. This includes products of biotechnology, marine pollution, disposal at sea, vehicle, engine and equipment emissions, fuels, hazardous wastes, environmental emergencies and other sources of pollution. CEPA 1999 contributes to sustainable development, which means meeting the needs of the present without compromising the ability of future generations to meet their own needs.

CEPA 1999 is a major legislative initiative guided by a set of principles that ensure consistent approaches for achieving clear objectives to:

- Contribute to sustainable development by preventing pollution;
- Promote coordinated action with provinces, territories, Aboriginal governments, and federal departments to achieve the highest level of environmental quality for the health of Canadians; and
- Manage risks from harmful substances and virtually eliminate releases of those substances determined to be the most dangerous.

The Minister of the Environment is accountable to Parliament for the administration of all of CEPA 1999. Both the Minister of the Environment and the Minister of Health jointly administer the task of assessing and managing the risks associated with existing and new substances. The Minister of Health is required to conduct research on the role of substances in illnesses and health problems. Work carried out under CEPA 1999 is complemented by other federal Acts administered (fully or partially) by the Minister of

the Environment for example, the Fisheries Act, the Canada Water Act, the Species at Risk Act, the Canada Wildlife Act, and the Canadian Environmental Assessment Act.

CEPA 1999 Guiding Principles

Work under CEPA 1999 is guided by principles that contribute to and reinforce the importance of:

- Sustainable development — development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
- Pollution prevention — the use of processes, practices, materials, products, substances or energy that avoid or minimize the creation of pollutants or waste and reduce the overall risk to the environment and human health.
- Virtual elimination — ensuring that releases into the environment of non-naturally occurring, persistent (meaning they take a long time to break down) and bioaccumulative substances (meaning they collect in living organisms) resulting from human activity are reduced to extremely low levels.
- Ecosystem approach — reflecting the dynamic interrelationships between living organisms (plant, animal and microorganism communities) and their non-living environment.
- Precautionary principle — where there are threats of serious or irreversible damage, lack of full scientific certainty will not postpone cost-effective measures to prevent environmental degradation.
- Intergovernmental cooperation — recognition that all governments in Canada face environmental problems that can benefit from cooperative resolution.
- Polluter-pays principle — producers and users of harmful substances, pollutants and wastes have a responsibility for bearing the costs associated with the safe use and disposal of these substances and wastes.
- Science-based decision-making — decisions based on scientific information and traditional Aboriginal knowledge (where available), using a weight of evidence approach along with the application of the precautionary principle, where necessary.

Environment Canada Policy on Public Consultations

The involvement of the public in matters related to CEPA 1999 is an integral part of the success of this Act. Environment Canada shares its responsibility to protect the environment and to promote sustainable development with all sectors of society and with individual Canadians. This warrants their meaningful participation in the decisions related to the development and amendment of policies, legislation, programs and services. Environment Canada's commitment to public consultations is directly related to the priority to make sustainable development a reality in Canada. Environment Canada believe that meaningful public consultations will help Environment Canada and the government as a whole make better decisions. At Environment Canada, consultation is an interactive and iterative process that elicits and considers the ideas of people and provides opportunities to influence decisions before they are made.

Environment Canada's policy on public consultations provides a framework to support the ongoing activities of the department. Commitments to public consultation and the related issues of access to information and public right to know are also reinforced by relevant provisions of legislation such as the Canadian Environmental Protection Act (CEPA) and the Canadian Environmental Assessment Act (CEAA). Environment Canada will seek to improve the application and relevance of public consultations in legislation under its responsibility. Environment Canada will promote its commitment to effective public consultations in its joint initiatives with other federal departments, other levels of government and, the non-governmental sectors. This policy also provides the basic framework for consulting aboriginal peoples on environmental policy, program or legislative issues where Environment Canada plays the lead federal role.

The Declaration of the Canadian Environmental Protection Act, 1999 states that "the protection of the environment is essential to the well-being of Canadians and the primary purpose of this Act is to contribute to sustainable development through pollution prevention". The Declaration underscores the importance placed by the Government of Canada on prevention of harm to the environment and its commitment to sustainable development.

The Canadian Environmental Protection Act, 1999 has the following key elements:
Authority and provisions to:

- Require submission of information on any subject covered by the Act;
- Control the introduction into Canadian commerce of substances that are new to Canada;
- Obtain information on and to require testing of both new substances and substances already existing in Canadian commerce;

- Control all aspects of the life cycle of toxic substances from their development, manufacture or importation, transport, distribution, storage and use, their release into the environment as emissions at various phases of their life cycle, and their ultimate disposal as waste;

- Create guidelines and codes for environmentally sound practices as well as objectives that set desirable levels of environmental quality;

- Control nutrients, such as phosphates, in water conditioners or cleaning products, including detergents, which can interfere with the use of waters by humans, animals, fish or plants;

- Issue permits to control disposal at sea from ships, barges, aircraft and structures (excluding normal discharges from off-shore facilities involved in exploration for, exploitation and processing of seabed mineral resources);

- Regulate fuels and components of fuels;

- Control emissions from motors that power automobiles, trucks and other equipment such as lawnmowers, outboard motors and all-terrain vehicles;

- Control the export, import and transit through Canada, as well as shipments within Canada which cross internal provincial or territorial borders, of hazardous waste and hazardous recyclable material;

- Identify, by regulation, specific non-hazardous waste which may be exported, imported or travel through Canada in transit to another destination, where that non-hazardous waste is destined for final disposal, and authority to impose controls on those shipments;

- Control sources of air or water pollution in Canada where a violation of an international agreement would otherwise result, or where the air or water pollution caused in Canada affects another country;

- Deal with environmental emergencies, where no other federal Act does so in a manner that protects the environment and human health;

- Regulate activities of federal departments, boards, agencies and Crown corporations to ensure that those activities have as little as possible negative impact on the environment;

- Regulate federal works, undertakings and to regulate activities on federal land and aboriginal land, where no other federal legislation and/or regulations are in force and, in the opinion of the Governor in Council, provide sufficient protection to the environment and human health;

- Sign agreements with a provincial, territorial or aboriginal government or aboriginal people regarding administration of the Act;

- Sign agreements that recognize that legislation or regulations adopted by a provincial, territorial or aboriginal government are equivalent to CEPA regulations and will apply instead of the CEPA requirements; and

- Delegate the powers that may be exercised by the Minister, enforcement officers and CEPA analysts in enforcing the legislation.

The Minister of Health has responsibility under the Act to provide advice in relation to human health aspects to the Minister of Environment. Among the subjects on which the Minister of Health may give advice are the toxicity of substances, the ability of the substance to become incorporated into and to accumulate in human tissue, and the ability of the substance to cause biological change, as well as the human health effects of emissions and discharges from Canadian sources of international air or international water pollution. In addition, jointly with the Minister of Environment, the Minister of Health recommends regulatory actions for toxic substances to the Governor in Council.

The areas of CEPA, 1999 that are open to an order by the Governor in Council declaring the requirements of another government to be equivalent to those developed under CEPA, 1999 are:

- Regulations dealing with toxic substances;
- Regulations dealing with Canadian sources of international air or international water pollution;
- Regulations dealing with environmental emergencies; and
- Regulations respecting the practices of federal departments, boards, agencies, commissions, federal Crown corporations, federal works or undertakings, or respecting federal land or aboriginal land and persons on that land or whose activities involve that land.

Regulations

A regulation is the manifestation of a legislative power conferred by Parliament on the executive branch of government. *The Statutory Instruments Act* (R.S., 1985, C. S-22) defines the term regulations and establishes the basic legal process the federal government must follow when developing regulations.

Current Regulations with potential application to the Whites Point Quarry and Marine Terminal project are:.

- Contaminated Fuel
- Disposal at Sea
- Environmental Emergency
- Fuels Information, No. 1
- New Substances Fees
- New Substances Notification
- New Substances Notification (Chemicals and Polymers)
- New Substances Notification (Organisms)
- Off-Road Compression-Ignition Engine Emission
- Off-Road Small Spark-Ignition Engine Emission
- On-Road Vehicle and Engine Emission
- Respecting the Form and Content of an Application for a Permit for Disposal at Sea
- Rules of Procedure for Boards of Review
- Sulphur in Diesel Fuel
- Sulphur in Gasoline

Toxic Substances List -Updated Schedule 1 as of August 31, 2005

CEPA, 1999 provides the Government of Canada instruments, including regulations, to protect the environment and human health, and establishes strict timelines for managing substances found toxic under the Act. Substances that are determined to be "toxic" under CEPA 1999 are recommended for addition to the List of Toxic Substances (Schedule 1) of the Act. Preventive or control actions such as regulations, guidelines or codes of practice, are then considered for any aspect of the substance's life cycle from the research and development stage through manufacture, use, storage, transport and ultimate disposal or recycling. Furthermore, substances determined to be "toxic", persistent, bioaccumulative, anthropogenic, and which are not naturally occurring radionuclides or naturally occurring inorganic substances shall be proposed for implementation of virtual elimination under Section 65 (3) of CEPA, 1999.

Guidelines and Codes of Practice

In Part 3 of CEPA 1999, the Minister of the Environment (Section 54) and the Minister of Health (Section 55) are enabled to create a wide range of non-regulatory tools, such as guidelines and codes for environmentally sound practices, and objectives for desirable levels of environmental quality. Such tools provide a scientific basis for the development of environmental quality/human health objectives and for performance measures for Strategic Options and risk management initiatives. Guidelines can be developed to set a numerical concentration for toxic substances in water, agricultural water, soil, sediment, and human and animal tissue. Similarly, codes of practice can be developed, providing

systematic collections of principles or rules describing accepted (desirable) professional or operating practice.

Guideline for the Release of Ammonia Dissolved in Water Found in Wastewater Effluents

> *Whereas ammonia dissolved in water is a substance specified on the List of Toxic Substances in Schedule 1 of the Canadian Environmental Protection Act, 1999;*
>
> *Whereas the Minister of the Environment published a Proposed Notice requiring the preparation and implementation of pollution prevention plans for ammonia dissolved in water, inorganic chloramines and chlorinated wastewater effluents in the Canada Gazette, Part I, on June 7, 2003;*
>
> *Whereas persons were given the opportunity to file comments with respect to the Proposed Notice for a comment period of 60 days;*
>
> *Whereas the Minister has considered all comments received;*
>
> *Whereas this Guideline is issued as an instrument respecting preventive and control actions in relation to ammonia dissolved in water found in wastewater effluents in application of section 92 of the Act;*
>
> *And whereas the Minister of the Environment has published a Notice requiring the preparation and implementation of pollution prevention plans for inorganic chloramines and chlorinated wastewater effluents;*
>
> *Therefore, the Minister of the Environment, pursuant to subsection 54(1) of the Canadian Environmental Protection Act, 1999, has decided to issue a Guideline as a means to reduce the impact of releases of ammonia dissolved in water to surface water, and pursuant to subsection 54(4) directs that it be published in the Canada Gazette, Part I.*

Environmental Emergency Plans

Section 201 of CEPA 1999 requires that, when an environmental emergency occurs for any of the substances on the list established on Schedule 1 under the Environmental Emergency Regulations, any person who owns or has the charge, management or control of the substance immediately before the emergency shall, as soon as possible, notify an enforcement officer or any other person designated pursuant to the Regulations. In addition, this person must abide by a number of other requirements, such as taking all reasonable

measures consistent with protection of the environment and public safety and providing a written report.

There are no environmental emergency notification and reporting thresholds associated with the 174 substances listed in Schedule 1 of the Regulations at this time. Specific notification and reporting points of contact as well as verbal and written report information requirements are contained in Appendix 6 of these Guidelines.

Part 8 of CEPA 1999 on environmental emergencies provides various powers to address the prevention of, preparedness for, response to or recovery from environmental emergencies caused by uncontrolled, unplanned or accidental releases of toxic or other hazardous substances. In investigating various measures to increase the safety and security of Canadians in the event of an environmental emergency, the Government of Canada has identified sections 200 and 199 of Part 8 as important tools. These sections allow the Government of Canada to require environmental emergency plans for toxic or other hazardous substances. The primary objective for requiring environmental emergency planning under sections 200 and 199 is to ensure that appropriate risk management measures are adopted and implemented for potential risks associated with the manufacture, storage and use of toxic and other hazardous substances in Canada.

Section 199 gives the Minister authority to require the preparation and implementation of environmental emergency plans for substances listed on Schedule 1 of CEPA 1999 (the List of Toxic Substances) or for substances that the Ministers of the Environment and Health have recommended the Governor in Council add to Schedule 1.

Environment Canada's objective for environmental emergency planning in Part 8 of CEPA 1999 is to ensure that risk management measures adopted for hazardous substances include effective prevention, preparedness, response and recovery components. The Government of Canada has the authority to require environmental emergency plans to complement other existing or forthcoming risk management measures (e.g., regulations and guidelines) for hazardous substances. When a substance is declared toxic under CEPA 1999 or determined to have other hazardous properties, it may be necessary to ensure that environmental emergency measures are implemented immediately to prevent, prepare for, respond to and recover from sudden, unplanned or accidental releases of that substance. Under section 193, CEPA 1999 defines an environmental emergency as:

1 An uncontrolled, unplanned or accidental release in contravention of regulations made under this Part, of a substance into the environment; or

2 The reasonable likelihood of such a release into the environment.

Notification and Reporting of Environmental Emergencies

Canadian Environmental Protection Act 1999 - Section 201 Verbal and Written Report Information Requirements

- Verbal Notification is to be made by telephone as soon as possible in the circumstances to the authorities named in column 2 of Schedule 6 of the Regulations and Appendix 6 of these Guidelines.
- Written Report should be made within 30 days to the relevant authorities

Transportation of Dangerous Goods Act

Accidental Release Reporting Requirements

Class	Amount / Emission Level
Class 1	Any quantity that could pose a danger to public safety or 50 kilograms
Class 2	Any quantity that could pose a danger to public safety or any sustained release of 10 minutes or more
Class 3	At least 200 litres
Class 4	At least 25 kilograms
Class 5.1	At least 50 kilograms or 50 litres
Class 5.2	At least 1 kilogram or 1 litre
Class 6.1	At least 5 kilograms or 5 litres
Class 6.2	Any quantity that could pose a danger to public safety or 1 kilogram or 1 litre
Class 7	Any quantity that could pose a danger to public safety.An emission level greater than the emission level established in section 20 of the “Packaging and Transport of Nuclear Substances Regulations”
Class 8	At least 5 kilograms or 5 litres
Class 9	At least 25 kilograms or 25 litres

For purposes of section 9 of the Environmental Emergency Regulations, environmental emergencies notification:

Nova Scotia

Verbal Notification/24 hr Phone Line	Written Report/Designated Person
902 426-6030- within Halifax area 902 565-1633 -outside Halifax	Director, Environmental Protection Atlantic Region, EC 16th Fl. Queen Sq. Alderney Dr. Dartmouth, NS B2Y 2N6

Pollution Prevention Planning

Part 4 of CEPA 1999 gives the Minister of the Environment the authority to require the preparation and implementation of pollution prevention plans (P2 plans) for CEPA 1999 toxic substances (substances that have been added to Schedule 1 of CEPA 1999). This document provides an indication of the circumstances under which pollution prevention plans will be required. For more information on how these provisions of CEPA 1999 are implemented, go to the Plans section of the CEPA Registry.

Pollution Prevention (P2) Plans

Pollution prevention is defined in CEPA 1999 as "the use of processes, practices, materials, products, substances or energy that avoid or minimize the creation of pollutants and waste and reduce the overall risk to the environment or human health." Pollution prevention planning is a systematic, comprehensive method of identifying and implementing pollution prevention options to minimize or avoid the creation of pollutants or waste. The plan would also identify recycling, treatment and other measures needed to meet environmental goals.

In order to be most effective, P2 plans could be expected to contain the following elements:

- A senior-level sign-off;
- The designation of an accountable senior manager for the plan;
- A clear statement of the risk management (and other) objectives for the plan;
- A schedule for meeting those objectives;
- A review of all significant aspects of the management of the substance (including purchasing, processing, producing, generating, distributing, treating, disposing, storing, or releasing of the substance);
- An identification, review and selection of options;
- A plan and schedule for implementing the selected options;
- A plan for measuring, tracking and evaluating the success of the selected options and for implementing corrective and preventative measures;
- A plan for reporting on progress towards the plan's objectives; and
- A continual improvement program.

A person subject to a P2 Notice requiring the preparation and implementation of P2 plans must submit the following according to the timelines set in the published Notice.

- Declaration of Preparation
- Declaration of Implementation
- Interim Progress Reports (as required)

Environmental Emergency (E2) Plans

The Environmental Emergency Regulations aim at enhancing the protection of the environment and human health in environmental emergency situations by promoting prevention and ensuring preparedness, response and recovery. They require persons who own or manage specified toxic and hazardous substances at or above the specified thresholds to provide required information on the substance(s), their quantities and to prepare and implement environmental emergency plans.

The Regulations contain a list of substances under the Canadian Environmental Protection Act, 1999 (CEPA, 1999), and other hazardous substances which, if they enter the environment as a result of an environmental emergency,

- Have or may have an immediate or long-term harmful effect on the environment or its biological diversity,
- Constitute or may constitute a danger to the environment on which human life depends, or
- Constitute or may constitute a danger in Canada to human life or health.

The role of Enforcement Under CEPA 1999

Enforcement is part of the compliance continuum, and part of the goal in achieving the highest level of environmental quality for all Canadians. Usually, the first stage of enforcement is inspection by site visit or review of submitted reports as a means of verifying compliance with the Act and its regulations. An effective approach by Environment Canada in providing opportunities for input to the creation of regulations and in compliance promotion should result in a high rate of compliance.

In cases of non-compliance, enforcement officers will investigate. If a violation is confirmed, action will be taken using one or more of the enforcement tools available under CEPA 1999 such as warnings, directions, tickets, or environmental protection compliance orders.

Canadian Wildlife Service

Canada's national wildlife agency handles wildlife matters that are the responsibility of the federal government. This includes the protection and management of migratory birds and nationally important wildlife habitat, endangered species, research on nationally important wildlife issues, control of international trade in endangered species, and international treaties. Wildlife management in Canada is shared by the federal and the provincial / territorial governments.

In the early 1900s there was a drastic decline in migratory bird populations, particularly in

eastern North America. As the decline in abundance of migratory birds was a responsibility shared by all states and provinces, an agreement between the Canadian and American federal governments was required to regulate hunting and undertake conservation programs. In 1916, Canada and the U.S. signed the Migratory Birds Convention, and the following year Parliament passed the Migratory Birds Convention Act giving the federal government responsibility for the management of certain species of migratory birds. In 1947, the Dominion Wildlife Service was created, to bring together public servants with responsibilities for conservation of birds and terrestrial mammals.

By the late 1960s, it was clear that action by the federal government was required on many other issues, such as management of mammals that cross international boundaries and the serious problem of species becoming threatened with extinction. As a result, in 1973 the Canada Wildlife Act was passed enabling the federal government to carry out wildlife research and, in cooperation with the provinces, to undertake a wide range of wildlife conservation and interpretation activities for "any non-domestic animals or their habitats."

Conservation of Migratory Birds

CWS conducts research on a wide variety of wildlife topics, particularly migratory birds. Its research provides the science base for conservation actions. To maintain optimum populations of migratory waterfowl, various field surveys are conducted in cooperation with the U.S. Fish and Wildlife Service and other organizations.

When coastal habitats are ravaged by oil spills, the effects on seabirds can be devastating. Increased development and offshore activities in the Arctic, where many species breed, threaten the seabird populations. Information on their numbers and distribution in nesting areas and at sea is gathered, and maps are produced showing critical areas.

The most ambitious migratory birds conservation program to date is the North American Waterfowl Management Plan (NAWMP). It is a $1.5 billion joint Canada / U.S. program designed to protect and enhance wetland habitat throughout North America. Waterfowl are the most economically important group of migratory birds, but they face a serious decline throughout their range. The objective of NAWMP is to restore the populations of ducks, swans, and geese to the levels of the 1970s.

Species at Risk

The Canadian Wildlife Service (CWS) plays a prominent role in the protection of species at risk. CWS developed and promoted the adoption of the Species at Risk Act (SARA). This act, which came into effect in 2003, protects species from extinction and their critical habitat from disappearance, and it ensures their recovery. The CWS is also a founding

member of the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), which assesses the status of species at risk in Canada.

Conservation of Wildlife Habitat

Habitat used by wildlife is also essential for agriculture, forestry, and other competing interests. To accommodate all concerns, CWS works with other agencies and groups to minimize the impact on critical wildlife habitat. CWS also provides advice on projects such as planning the location of highways and pipelines to avoid sensitive habitats.

Towards an Environment Canada Srategy for Coastal and Marine Protected Areas

The Canadian Wildlife Service (CWS) of Environment Canada is charged with developing and implementing a marine habitat conservation program with a focus on habitat for migratory birds. CWS has set up a Marine Habitat Working Group to define the department's role in marine habitat conservation, and in particular the establishment of marine protected areas (MPAs).

This document was prepared to provide context for the development of an Environment Canada strategy for marine habitat conservation and MPAs. Part 1 introduces MPAs as a conservation tool and then focuses on various aspects of the current Environment Canada program and activities regarding MPAs. It describes the three legal designations-national wildlife area, marine wildlife area and migratory bird sanctuary-that CWS can use to protect marine areas. To June 1996, 13 out of the country's 49 national wildlife areas and 56 of the 98 migratory bird sanctuaries have coastal, estuarine or marine components.

The total amount of coastal, estuarine and marine wildlife habitat protected in these 69 sites is about 3.8 million hectares. Several proposed national wildlife areas will include a significant marine component; the proportion is expected to increase. The marine wildlife area designation is a new mechanism added to the Canada Wildlife Act by amendment in 1994 to provide for MPAs in the 12 to 200 nautical mile zone, where a different regulatory regime is required. The origins and nature of this amendment are reviewed.

North American Waterfowl Management Plan

The North American Waterfowl Management Plan is an international action plan to conserve migratory birds throughout the continent. The Plan's goal is to return waterfowl populations to their 1970s levels by conserving wetland and upland habitat. The Plan is a partnership of federal, provincial/state and municipal governments, non-governmental organizations, private companies and many individuals, all working towards achieving better wetland habitat for the benefit of migratory birds, other wetland-associated species and people.

Plan projects are international in scope, but implemented at regional levels. These projects contribute to the protection of habitat and wildlife species across the North American landscape. In fact, the North American Waterfowl Management Plan is considered one of the most successful conservation initiatives in the world.

To conserve waterfowl, biologists must ensure there is adequate habitat. The North American Waterfowl Management Plan identifies the landscape conditions needed to sustain waterfowl. This "landscape approach" means balancing conservation with socioeconomic requirements. Many economic activities can affect waterfowl habitat, including agriculture, forestry, urban development, mining and fishing. Organizations participating in the Plan get involved in the planning process of economic and social policies that affect the landscape. These Plan partners promote landscape conditions that sustain waterfowl and benefit other wetland species, including endangered species.

Shorebird Reserve Network

The Western Hemisphere Shorebird Reserve Network (WHSRN) was created in 1985 to address shorebird conservation needs on an enormous scale. It is a voluntary, non-regulatory coalition that identifies and promotes conservation of crucial sites for shorebirds, no matter whether they are used in the breeding, migratory, or "winter" season. The Executive Office provides core staff and services to WHSRN's Site Partners, governing councils, and the Scientific Advisory Committee. Shorebirds are among the most migratory of all species on Earth and they are in trouble. More than one-fourth of all of North America's shorebird species and subspecies are in serious decline. WHSRN's mission is to conserve shorebird species and their habitats across the Americas through a network of key sites.

One site with two locations is in sections of the Upper Bay of Fundy between New Brunswick-Nova Scotia in the Minas Basin, Nova Scotia: 45 50'-45 10'N and Shepody Bay, New Brunswick: 64 40'-64 00'W. Canada. Area of Site: 620 square km. (239 square miles)

Wings Over Water - Canada's Water Bird Conservation Plan

Wings Over Water (WOW), Canada's Water Bird Conservation Plan, outlines the steps needed to conserve the broad array of species of seabirds, inland colonial water birds, marsh birds and other water-related species that are addressed in this plan. Of the 93 species covered by the plan, 30% show negative population trends while another 10% are not well enough known to determine their trend. Water bird biologists have made a preliminary list of those species where monitoring, research and conservation should be a priority.

They have also identified the most important factors affecting water bird populations in Canada. These include, for example, habitat change, oil spills, and fisheries by-catch and competition.

Many water bird species are shared with other nations, so Canada has chosen to work in a broad continental framework in order to increase the potential for conservation success. To this end, Wings Over Water forms the Canadian component of Water Bird Conservation for the Americas: North American Water Bird Conservation Plan. Accordingly, the Vision of WOW is to ensure populations of water birds are sustained or restored throughout their historical range, in Canada and globally.

To attain this Vision, WOW outlines four Conservation Goals that need to be followed. They address population and habitat conservation, information exchange and coordinated action. More specifically the Conservation Goals are to:

- Sustain the natural distribution, diversity and abundance of water birds within Canada, and restore populations of priority species and those in decline;
- Secure and enhance sufficient high quality habitat to support robust populations of water birds throughout their ranges in Canada;
- Ensure that information for the conservation of water birds is widely available to decision makers, the public, and all those whose actions affect populations of these birds; and
- Ensure that coordinated conservation efforts for water birds are guided by common principles, and are in place throughout the range of those species that occur in Canada.

Canadian Shorebird Conservation Plan

Canada's national biodiversity strategy calls on government and other stakeholders to attack the causes of biodiversity loss at their source and prevent further endangerment of species. Canada has a unique responsibility with respect to shorebirds. For many species, more than half of their breeding range occurs in Canada. Opportunities exist to cooperate with ongoing conservation initiatives such as the Western Hemisphere Shorebird Reserve Network (WHSRN), U.S. Shorebird Conservation Plan, Partners in Flight, Wings Over Water, North American Bird Conservation Initiative, North American Waterfowl Management Plan, and others.

The plan's vision is for healthy populations of shorebirds to be distributed across their range and diversity of habitats in Canada and throughout their global range. The plan thus recognizes the need to collaborate internationally as well as regionally and locally.

The Canadian Shorebird Conservation Plan has five goals designed to fulfill the needs for research, monitoring, and evaluation as well as conservation, communication, and international linkages. Those goals are to:

- Sustain the distribution, diversity, and abundance of shorebird populations within Canada and restore populations of declining, threatened, and endangered species;
- Secure and enhance sufficient high-quality habitat to support healthy populations of shorebirds throughout their ranges in Canada;
- Ensure that information on shorebird conservation needs and practices is widely available to decision makers, land managers, and the public;
- Ensure that coordinated shorebird conservation efforts are in place, on the ground, throughout the range of Canadian shorebird species;
- Ensure that shorebird conservation efforts are guided by common principles throughout the Western Hemisphere.

Partners in Flight–Canada Canadian Land Bird Conservation Program

Land birds include some of the most familiar and best-loved birds in Canada. But populations of this group, representing about 220 species of birds, have shown long-term declines over the last 30 years. Loss and degradation of wildlife habitat are believed to be the primary causes of these declines. In response to concern for these birds, the Canadian Wildlife Service, with its mandate for migratory bird conservation, is working with partners to build a national land bird conservation program.

Consultations with interested parties resulted in the development of the Canadian Land Bird Conservation Program in 1994. Those discussions supported the Canadian Wildlife Service of Environment Canada (CWS) in taking the lead to develop a framework for implementing land bird conservation at the national level. The goal of Partners in Flight – Canada (PIF) is to ensure the long-term viability of populations of native Canadian land birds across their range of habitats. Implementation of this goal will occur at national, regional and local levels to help keep our common birds common. This approach will help prevent the addition of birds to the list of species at risk.

Canadian Wildlife Service Guidelines

Canadian Wildlife Service guidelines aims to promote best practices for environmental assessments that are required under the Canadian Environmental Assessment Act (CEAA) and also for those environmental assessments conducted by other jurisdictions in which Environment Canada is involved. Current guidelines include:

- Environmental assessment guideline for forest habitat of migratory birds
- Migratory birds environmental assessment guideline
- Wetlands environmental assessment guideline
- Environmental Assessment Best Practice Guide for Wildlife at Risk in Canada

Environmental Assessment Guideline for Forest Habitat of Migratory Birds

The importance and vulnerability of migratory birds was recognized nationally and internationally as early as 1916 with the signing of the Migratory Birds Convention between the United States and Canada. In recent years, particular concern has arisen about migratory birds that depend on forests. This concern has resulted in the establishment of the Canadian Land Bird Conservation Program (also known as Partners in Flight — Canada), the goal of which is to ensure the long-term viability of populations of native Canadian land Birds across the whole range of their habitats.

In Canada, most forest habitat has been allocated for logging. Forest Management Plans (FMPs) establish ground rules for forestry practices that affect large expanses of forested land. These practices and large-scale nonforestry projects in forested landscapes affect habitats of forest-dependent migratory birds. Also, logging or other types of projects on private lands in or near forests also affect migratory bird habitat. These pressures on forest bird habitat continue to grow. Environmental assessment of projects and participation in the development and review of environmental assessments for FMPs offer opportunities to assess the potential environmental effects of proposed projects and forestry practices on the habitat of migratory birds. These assessments should result in decision-making that minimizes disruption to migratory bird populations and their forest habitat.

Migratory Birds Environmental Assessment Guideline

Pressures on migratory bird populations and their habitat continue. Careful planning of projects can reduce these pressures. In particular, environmental assessment offers an opportunity to assess the potential environmental effects of proposed projects on migratory birds so that informed decisions can be taken that result in the least disruption to these birds and their habitats.

The Convention on Biological Diversity specifically addresses the application of environmental assessment to biodiversity. It identifies environmental assessment as a process that will help to ensure that proposed projects are undertaken with a “view to avoiding or minimizing” significant adverse effects on biological diversity. The Canadian Biodiversity Strategy echoes the need for the use of environmental assessments to determine potential environmental effects on biodiversity, including ecosystems.

Wetlands Environmental Assessment Guideline

There is national and international concern for the conservation of wetlands given their important ecological roles and in recognition of past and present stress on wetlands from human activities. As a result of this concern, Canada has joined with other nations in a number of international endeavors such as the Ramsar Convention and the North American

Waterfowl Management Plan, whose objectives are the conservation and enhancement of wetlands. The federal policy's objective is to promote the conservation of Canada's wetlands to sustain their ecological and socio-economic functions, now and in the future. Although wetland conservation in Canada is a shared federal, provincial, and territorial responsibility, the federal government has a particular interest. The preservation of wetland integrity is critical to federal responsibilities for maintaining the quality of the environment, migratory bird populations, inland and ocean fisheries, and international and transboundary resources such as water and wildlife. The environmental assessment guideline is one tool that can be used to fulfill the federal government's role. Addressing functions and values, in addition to ecosystem components, will facilitate the application of No Net Loss principles and result in the least impact on wetland ecosystems.

Also, as required in CEAA, an environmental assessment must address impacts in an integrated manner. Therefore, in the case of an environmental assessment involving wetlands, the links between the wetland functions, their derived values, and the components of the ecosystem must be considered holistically. An impact on one function or ecosystem component can, and usually will, affect others. Similarly, when mitigation measures are applied, an understanding of their effects on nontarget components or functions must be evaluated. As stated in the guiding principles to the federal policy, wetlands and wetland functions are inextricably linked to their surroundings, particularly aquatic ecosystems, and therefore wetland conservation must be pursued in the context of an integrated systems approach to environmental conservation and sustainable development

Environmental Assessment Best Practice Guide for Wildlife at Risk in Canada

Initiating the Project and Assessment

Consider relevant plans and strategies for conservation and sustainable development at the landscape, ecosystem, community and species levels. In this way, project siting, design and timing can be tailored to the habitat and residence requirements of all wildlife, including wildlife at risk. When considering site or design alternatives, direct projects and physical activities away from biodiversity or extinction hotspots, rare ecosystems and other areas identified as conservation priorities.

Scoping the Assessment

Investigate whether wildlife at risk—or their survival or recovery habitat or residences—are located within the project study area by referring to existing information sources, including wildlife experts, specialists and local and Aboriginal communities. Conduct field surveys if it is likely that wildlife species at risk are present in the study area or if wildlife data for the site are lacking or outdated. Document as part of the assessment all efforts to identify wildlife at risk. Involve the appropriate government departments and

specialists if wildlife at risk are an issue in the assessment or in the case of any uncertainty about whether they are an issue. Work through environmental assessment coordinators to make appropriate contacts.

Assessing Environmental Effects

Identify wildlife species at risk as valued ecosystem components, and include them among the species selected to focus the assessment. Describe project effects on wildlife at risk with rigour and detail, reflecting the current understanding of the ecology of species. Use status reports, recovery strategies, action plans and species management plans as main information sources where available, and consult with wildlife experts, specialists and local and Aboriginal communities. Consider all direct, indirect and cumulative effects in the analysis.

Mitigating Adverse Environmental Effects

Plan the project to avoid or minimize effects on all species designated as being at risk anywhere in Canada , as well as the habitat and residences that are essential to their survival or recovery. Work out the best approach to mitigation on a case-by-case basis. Pay particular attention to recognized threats that negatively affect species populations and habitat requirements. The mitigation plan should be aimed at ensuring the survival of wildlife at risk and contributing to their recovery.

Determining theSignificance of Residual Adverse Environmental Effects

Residual effects that will prevent the achievement of self-sustaining population objectives or recovery goals should be deemed significant.Apply the precautionary approach/ principle when making decisions concerning significance of effects on wildlife species at risk.

Verifying Accuracy of Predictions and Ensuring Success of Mitigation

Verify the accuracy of predictions and ensure the success of mitigation measures for wildlife at risk through follow-up programs; plan contingencies and implement midcourse corrections if necessary to protect species.

6.6 International Agreements

6.6.1 North American Free Trade Agreement (NAFTA)

NAFTA is a treaty between the United States, Mexico, and Canada, which deals with a vast range of matters relating to the liberalization of trade. It is clear from a review of literature, that NAFTA has generated concern in the environmental community. It is also fair to say that Chapter 11 of NAFTA, which authorizes various claims by foreign investors against the government of the country in which the investment is made, has been the greatest source of concern. Generally, the focus appears to be on Article 1110, which provides for investment protection for measures that are "tantamount to expropriation". Essentially, the concern has been that NAFTA's promotion of trade will come at the cost of a degraded environment. Even with NAFTA's preamble and the addition of the North American Agreement on Environmental Cooperation ("NAAEC"), many observers fear that private corporations' use of NAFTA's Chapter 11 will force tribunals to prioritize promotion of trade over environmental considerations.

Under Chapter 11, NAFTA extends significant protection to US, Mexican and Canadian investors who own or control investments in the territory of another party. Section A of Chapter 11 establishes a number of substantive obligations with respect to investments. It sets out the conditions against which a NAFTA party's actions may be measured. This includes Article 1102 which is the national treatment whereby NAFTA parties must treat NAFTA investors and investments as favourably as they treat their own domestic investors and investments in like circumstances; Article 1103, which is the most favoured nation treatment clause provides that NAFTA parties must treat investors' investments as favourably as they treat non-NAFTA investor's investments in like circumstances; Article 1105, the minimum standard of treatment, requires that NAFTA parties must ensure that a minimum standard of treatment prescribed by international law, such as due process of law and natural justice is provided to NAFTA investors; Article 1106, the performance requirements, requires that NAFTA parties must not impose or enforce certain specific performance requirements for the establishment, operation, management, conduct and operation of investments; Article 1110, the expropriation and compensation clause, requires that NAFTA parties must not expropriate investments, either directly or indirectly, or through a measure tantamount to an expropriation unless such expropriation is for a public purpose, is non-discriminatory, meets the prescribed international minimum standards or treatment, and is accompanied by compensation at a fair market value.

Section B of Chapter 11 concerns jurisdiction and procedure defining the method by which an investor claiming a violation of the obligations established in Section A may seek redress. Section B sets out who can invoke a claim and governs the subject matter that is covered. Thus, it may be that a foreign investor entitled in principle to protection

under NAFTA may enter into contractual relations with a public authority and may suffer a breach by that authority and still not be in a position to state a claim under NAFTA since claims cannot be submitted to investor-state arbitration unless the claim is founded upon a violation of an obligation established in Section A.

Section B provides that NAFTA investors are provided the right to unilaterally initiate a claim against a host NAFTA party where any of the commitments in Section A are not met. This ability under Chapter 11 for an investor to directly initiate a claim against a party was the perhaps most innovative part of NAFTA. Prior to this, a multi-lateral trade agreement did not allow for a party to directly hold a state accountable for the state's conduct through a binding dispute settlement mechanism. Of course, those that oppose NAFTA generally see this as a stick which can be wielded against NAFTA parties in circumstances where the country's legislation, programs or policies have an adverse impact on the investment in that country. On the other hand, those that support Chapter 11 see the dispute settlement provisions representing an important right which ensures that parties will abide by their commitments under Chapter 11 of NAFTA and it is only where their conduct violates Chapter 11 that they can be held directly accountable.

It should be noted that in interpreting Chapter 11, tribunals are guided by more than the language in NAFTA. A tribunal must decide issues in a dispute in accordance with the NAFTA agreement and the applicable rules of international law. It is suggested that according to Article 1131, Chapter 11 must be interpreted in accordance with three sources of law: (i) any previous interpretations by the Free Trade Commission; (ii) the terms of NAFTA itself; and (iii) general principles of public international law. Likewise, it is important to note that a tribunal must be guided by NAFTA as a whole rather than being restricted to only the terms of Chapter 11 or, more restrictively to only Article 1110 itself.

Generally, Chapter 11 is seen as being used both retroactively, as a vehicle for obtaining substantial monetary rewards, and prospectively, as a threat to governments considering imposing regulations. Opponents argue that this provision is especially broad and can be, therefore, applied to a wide range of government actions. While there is no doubt that there have been concerns that Article 1110 may have a deterrent effect on governments contemplating activities that could be considered to be expropriation or tantamount to expropriation, there is language in NAFTA which limits the reach of Article 1110. Furthermore, Article 1114 (Environmental Measures) does not prevent a government from adopting, maintaining or enforcing any measure otherwise consistent with the Chapter [Chapter 11] that it considers appropriate to ensure that investment activity and its territory is undertaken in a manner sensitive to environmental concerns. Additionally, parties under Article 12 are to recognize that it is inappropriate to encourage investment by relaxing domestic health, safety or environmental measures. Although any actions taken must be consistent with Chapter 11 as a whole, Article 1114 suggests that the NAFTA

governments maintain significant flexibility in their ability to impose environmental protections and by prohibiting parties from pursuing investment goals at the expense of the environment. Furthermore, it is suggested that Article 1114 implies that environmental considerations should receive priority over encouragement of investments.

Additionally, the scope of Article 1110 is limited by the preamble to NAFTA. The preamble states that parties "undertake each of the proceeding in a manner consistent with environmental protection and conservation". Although there is not consensus in the courts on the interpretation of the language of preambles, it is generally agreed that the preamble language represents the overall philosophy that must be applied by the parties to all provisions of the agreement. Therefore, the broader goal of environmental protection conservation is binding on all parties in their adherence to the specific provisions of NAFTA, including Chapter 11. Although the preamble will not require a member state to prioritize environmental protection over avoidance of expropriation, the preamble could limit Article 1110's ability to deter environmental protection.

In addition to NAFTA itself, there were various side agreements entered into during the negotiations of the NAFTA agreement. The parties to the North American Agreement on Labour Cooperation and the North American Agreement on Environmental Cooperation (NAAEC) now exist. Many of the provisions of NAAEC, which forms a substantive set of obligations for the NAFTA parties in addition to the responsibilities under NAFTA itself, suggests that member states have a duty to ensure environmental protection despite the investor-friendly provision under Article 1110. Furthermore, under the Vienna Convention on Treaties, the NAAEC provides relevant contexts for purposes of interpreting Chapter 11. While such agreements are not direct authority on the meaning of Article 1110, it does help inform a tribunal by providing insight into the overall goals of NAFTA

6.6.2 Kyoto

From December 1st through 11th, 1997, more than 160 nations met in Kyoto, Japan, to negotiate binding limitations on green-house gases for the developed nations, pursuant to the objectives of the Framework Convention on Climate Change of 1992. The outcome of the meeting was the Kyoto Protocol (Ref. 227), in which developed nations agreed to limit their greenhouse gas emissions, relative to the levels emitted in 1990.

The problem the Kyoto Protocol is trying to address is climate change, and more specifically, the speed at which the earth is warming up. Whether the climate is changing is a matter of debate. The United Nations thinks so as do most, but not all, scientists who study climate. The United Nations Intergovernmental Panel on Climate Change (IPCC) summarizes the work of 2,000 of the world's top climate experts. The conclusion is that the world is getting warmer. The IPCC says that the average global surface temperature has risen by about 0.6 degrees Celsius since 1900 with much of that rise coming in the 1990's, which was perhaps the warmest decade in 1,000 years.

The IPCC also found that snow cover since the late 1960's has decreased by about 10 percent and lakes and rivers in the Northern Hemisphere are frozen over about two weeks less each year than they were in the late 1960's. Mountain glaciers in non-polar regions have also been in retreat in the 20th century, and the average global sea level has risen between 0.1 and 0.2 m since 1900.

The IPCC predicts more floods, intense storms, heat waves and droughts. Its study forecasts a rise of 1.4 to 5.8 degrees Celsius in the global mean surface temperature over the next 100 years, with developing countries most vulnerable. Other studies predict even more severe effects. A report commissioned for the World Wildlife Fund predicts dangerous warming of the earth's surface in as little as 20 years, with the Arctic warming so much that the polar ice could melt in the summer by the year 2100, pushing polar bears close to extinction.

The Arctic Climate Impact Assessment predicts that caribou, musk ox and reindeer would find their habitats severely reduced. Northern aboriginal peoples around the world would find their way of life changed forever.

Most scientists think that industrialization is the cause of the warming trend. Certainly, since the early 19th century, the developed countries have been producing ever-increasing volumes of heat-trapping greenhouse gases like carbon dioxide. In addition, developed countries have cleared forests which absorb carbon dioxide.

The six greenhouse gases that Kyoto targets are: carbon dioxide, methane, nitrous oxide, sulphur hexafluoride, hydrofluorocarbons and perfluorcarbons.

Greenhouse gases allow solar radiation to pass through the earth's atmosphere but after the earth has absorbed part of that radiation it reflects the rest back. The greenhouse gases absorb part of this reflected radiation and in doing so; warm up the atmosphere - the greenhouse effect.

While there is agreement that the earth is warming there is not total agreement on the causes. A significant number of scientists are of the opinion that the earth warms and cools in long cycles that have nothing to do with greenhouse gases. Most climatologists, however, agree that global warming is causing significant climate change.

The Kyoto Protocol is considered a first step in reducing greenhouse gases and is not expected to solve the world's climate change problems by the time its first commitment period ends in 2012. Kyoto sets out an agenda for reducing greenhouse gas emissions by 5.2% from 1990 levels. Each country must develop its own strategy to meet its Kyoto commitments and those countries that ratify Kyoto are legally bound to see that their emissions do not exceed the 2008/2012 targets.

The Kyoto Protocol went into effect February 16th, 2005 with 141 countries signing on, including every major industrialized country – except the United States and Australia. The United States is responsible for about a quarter of the emissions that have been blamed for global warming. In addition, two of the world's biggest – and growing – polluters also have not signed on. They are not required to since they are considered to be developing countries and are outside the Protocol's framework.

Canada ratified the Kyoto Protocol in 2002 and is implementing its plan to reduce greenhouse gases as laid out in Action Plan 2000 and the Climate Change Plan for Canada 2002.

On April 13th, 2005, the Government of Canada launched the first phase of Project Green by releasing an updated plan for a healthy environment and a competitive economy: Moving Forward on Climate change: A Plan for Honouring our Kyoto Commitment. This plan provides for Government of Canada investments in the order of $10 billion between now and 2012 to fully realize the anticipated reductions of about 270 megatonnes. Several initiatives were announced in Budget 2005 such as the Climate Fund and the Partnership Fund but at the time of writing, details of these initiatives are not available.

The Government has also announced its intent to put in place regulations under the *Canadian Environmental Protection Act* for Large Final Emitters (the oil and gas, thermal electricity, mining and manufacturing sectors) which will allow for compliance monitoring and emissions trading.

On February 16th, 2005, the Prime Minister announced that Canada will host the Eleventh Conference of the Parties to the United Nations Framework Convention on Climate Change. Consideration of the successor agreement to the Kyoto Protocol is scheduled to begin at this conference.

While the rules are not yet clear, Bilcon of Nova Scotia Corporation will be proactive in its approach to the emission of greenhouse gases in ensuring that equipment employed on the project will incorporate the most up-to-date technology for fuel efficiency and emission controls.

6.6.3 World Biosphere Reserve

Introduction

A biosphere is a unique category of protected area dedicated to solving problems associated with human impacts on natural ecosystems. A model biosphere reserve consists of a protected (core) area, a managed-use area (buffer zone), and a zone of cooperation (transition area).

Biosphere Reserve Status is awarded by the United Nations Educational Scientific and Cultural Organizations (UNESCO) to those protected areas that combine scientific research and monitoring, conservation, education and training. Each site is nominated by its country Man and Biosphere (MAB) Program. The Biosphere reserve designation does not provide any additional international protection to the site nominated. There are approximately 352 biosphere reserves in 87 countries.

A protected area consists of examples of minimally disturbed ecosystems and has secure domestic legal protection. Only activities that do not adversely affect the natural habitat are allowed. The managed use area is adjacent to the protected area and here activities such as fishing, hunting, camping and other activities are encouraged.

The zone of cooperation is a regional size area which contains settlements, croplands, managed forests, recreation areas and other economic uses characteristic of the region. The UNESCO Biosphere Reserve designation does not recognize the zone of cooperation. It is only a suggested concept to promote the establishment of cooperative programs and partnerships between the protected area managers and the surrounding community.

Biosphere Reserves cover a great variety of natural areas of the biosphere, ranging from high mountains to greatly human-impacted plains, from coastal regions and islands to inland forests, from hot deserts to the tundra of the Polar Regions.

Each Biosphere Reserve is intended to fulfill three basic functions:

- A Conservation Function - to contribute to the conservation of landscapes, ecosystems, species and genetic variation;
- A Development Function – to foster economic and human development which is socio-culturally and ecologically sustainable;
- A Logistical Function – to provide support for research;

To qualify for designation as a Biosphere Reserve, an area should normally:

- Be representative of a major biogeographic region, including a gradation of human intervention in these systems;
- Contain landscapes, ecosystems or animal and plant species, or varieties which need to be conserved;
- Provide an opportunity to explore and demonstrate approaches to "sustainable development" within the larger region where they are located;
- Be of an appropriate size to serve the three functions of Biosphere Reserves noted above;
- Have an appropriate zoning system with accompanying legislation.

Individual Biosphere Reserves remain under the sovereign jurisdiction of the countries in which they are located.

6.6.4 Southwest Nova Scotia Biosphere Reserve

The region of Southwest Nova Scotia was designated a Biosphere Reserve in September, 2001 by UNESCO under the MAB program.

The designation recognizes the importance of two large contiguous protected areas in Southwestern Nova Scotia, Kejimkujik National Park and the Tobeatic Wilderness Area, and of the potential in the broader region for multi-sector cooperation and sustainable development. The five counties surrounding these parks are included in the designation on a voluntary basis, as determined by community interest and project development.

There are no land-use or management changes associated with the designation of "Biosphere Reserve", but the designation recognizes beneficial land use already occurring in the region. Lands serving as a buffer function for the core areas of the Biosphere Reserve are managed either by provincial (Department of Natural Resources) or private jurisdiction (e.g. Nova Scotia Power and Bowater Mersey Paper Company), according to a voluntary commitment to support the goals of sustainable development and conservation.

The Southwest Nova Biosphere Reserve Association (SWNBRA) was incorporated in March, 2000 and is a non-profit organization of volunteers from different sectors including academe, government, industry, non-governmental organizations and community members.

6.6.5 Bay of Fundy Biosphere

In 2000, a Biosphere Reserve in the Bay of Fundy was proposed and two organizations, the Bay of Fundy Ecosystem Partnership and the Bay of Fundy Products Club commenced work to explore the potential of a Biosphere Reserve in the upper Bay of Fundy. This was to be the first to span two provinces.

Subsequently, a Bay of Fundy Environmental Partnership Steering Committee and a Working Group were formed to pursue the concept. In a report to the Steering Committee by the Working Group in June, 2003, it was noted that the proposed area of the Biosphere had been scaled back. It had originally proposed that all of the area in the upper bay region would be included, but the size of the area and the complexity of issues proved to be too difficult. It was therefore decided to initiate the project on the New Brunswick side of the upper Bay of Fundy for the time being and take a longer-term view to include additional areas as support and experience grew.

In a report to the Steering Committee in 2004, it was reported that the Fundy Biosphere Initiative was continuing in a development phase. A partnership was being steadily developed, a strategy plan was being developed and information was being gathered to aid in the development of the proposal to be submitted to UNESCO.

Bilcon of Nova Scotia Corporation

Given the extent of Environmental Assessment that has been carried out in the preparation of the Environmental Impact Statement for the Whites Point Project and the relatively low impact of the project as demonstrated in the EIS, Bilcon does not feel that the project contravenes the principles of a proposed Bay of Fundy Biosphere Reserve or the existing Southwest Nova Biosphere Reserve.

Indeed, the level of research carried out during the EIS preparation adds significantly to the level of knowledge of project impacts and amply demonstrates that projects of this type can be successfully carried out without damaging the environment or causing long-term ecological damage.

6.6.6 Gulf of Maine

Gulf of Maine Council

The governors and premiers of the states and provinces bordering the Gulf of Maine created the Council in 1989 as a regional entity to help “protect the Gulf’s ecological integrity and the many uses that depend upon its continued good health”. Since its formation, the Council has hosted more than forty conferences, workshops and symposia on research, education and policy topics.

Mission Statement

To maintain and enhance environmental quality in the Gulf of Maine and to allow for sustainable resource use by existing and future generations.

Guiding Principles

These principles help guide the Council and participating agencies in their decisions involving the Gulf of Maine ecosystem. Each principle is congruent with other international protocols, as well as state, provincial and national legislation in Canada and the United States.

Ecologically Sustainable Development

The Council seeks to meet the region's current social, cultural and environmental needs without compromising the needs of future generations. Working in partnership with others, it strives to sustain ecological processes and enhance the region's quality of life.

Ecosystem-Based Planning and Management

The Council supports collaborative management that integrates economic and ecological values and objectives, emphasizing natural rather than political boundaries.

Environmental Protection Through Precaution

The Council supports conservation of the coastal and marine environment, and urges its members to proceed with caution when scientific information is incomplete to avoid environmental degradation.

Public Information and Participation

The council is committed to a participatory process that informs and engages the public in setting priorities, forming policies and pursuing efforts to conserve the Gulf's environment.

The Action Plan for 2001 – 2006 (Ref.228) describes the following Goals and Objectives:

Goal I: Protect and Restore Coastal and Marine Habitats

Coastal and marine habitats throughout the Gulf of Maine are healthy and support the Gulf's diversity of plant and animal species.

Objectives

a. Increase awareness and improve management of regionally significant habitats.
b. Increase habitat protection.
c. Increase habitat restoration.
d. Increase awareness and improve management of aquatic nuisance species.
e. Enhance citizen stewardship.

Goal II: Protect Human Health and Ecosystem Integrity

Contaminants in the Gulf of Maine are at sufficiently low levels to ensure human health and ecosystem integrity.

Objectives

a. Increase awareness and improve management of priority contaminants.
b. Identify reduction strategies for priority contaminants.
c. Enhance citizen stewardship.

Goal III: Encourage Sustainable Maritime Activities

The council's vision for 2025 is that marine research and nature-based tourism provide unique and significant opportunities for the region. During the next five years, the Council will create strategies to achieve these new objectives.

Objectives

a. Create and implement a marine research and monitoring agency that responds to pressing management issues and supports regional economic development.
b. Develop and implement a nature-based tourism strategy that sustains the environment and the well-being of the local people.

A Gulf of Maine Summit was held in St. Andrews, New Brunswick in October 2004. The Summit Report, (Ref. 228) notes that the Premiers from Nova Scotia and New Brunswick and the Governors from Maine, Massachusetts and New Hampshire released their *Committing to Change* proclamation calling on the Council to:

- Provide timely and responsive information to decision-makers (including a comprehensive state of the environment reporting and indicators series).
- Accelerate trans-boundary habitat conservation, protection and restoration; and
- Support sustainable maritime activities.

In addition, a series of "Next Steps" was recommended.

Bilcon of Nova Scotia Corporation

As with the intent of biosphere reserves, Bilcon is committed to carrying out the Whites Point project under the precautionary principle and with the highest regard for environmental sustainability. Bilcon will work with the Gulf of Maine Council in achieving its goals or objectives.

6.7 Study Strategy and Methodology

Approach

The overall approach to preparation of the Environmental Assessment/Impact Statement is science based and uses scientific methods of investigation. The scientific research procedure included literature research and most importantly, involved original on-site research. On-site research followed acceptable scientific methods of investigation and in some cases modeling of various environmental components. Research was also conducted through public consultation meetings, traditional community knowledge interviews, community surveys, and community open house meetings. Public involvement has been conducted by Bilcon and others during the past four years of the environmental assessment process.

Strategy

The basic strategy used to guide the Environmental Assessment/Impact Statement preparation was to assemble a professional interdisciplinary team of independent scientists. This team of scientists investigated, according to their discipline, the physical, biological and human resources of the project area. The responsibility of the team was to:

- Conduct research, including literature review and original on-site research
- Analyze data to identify potential environmental values and sensitivities
- Develop mitigation measures to lessen any potential problems identified during the analysis stage
- Develop monitoring programs to verify the effectiveness of the mitigation
- Predict potential positive or negative effects of the project on the environment in time, space and significance
- Identify any residual effects that could not be addressed by mitigation and propose adaptive management procedures
- Determine if any positive or negative effects could contribute significantly to incremental cumulative effects in association with past, present, or future projects within the immediate region.

Methodology

Details of the environmental assessment framework used for the Whites Point Quarry and Marine Terminal is presented in Chapter 8. The methodology follows an ecosystem approach wherever possible, and uses established evaluation criteria (quantitative and qualitative) during the data analysis process. In certain instances, modeling is used to predict potential effects on environmental components.

It should be noted here that the approach to presenting the assessment of the effects of the proposed project on Valued Environmental Components differs from that outlined in the Final Guidelines. Due to the complexity and sheer volume of data contained in the Environmental Impact Statement document, all aspects (research, analysis, mitigation, monitoring, effects prediction, and residual effects) are grouped under each Valued Environmental Component.

This approach is being taken to clearly present the sequence of the methodology used to determine predicted effects, and to facilitate review by the various disciplines involved. Hopefully this presentation will avoid having to sort through various volumes to determine, for instance, what monitoring program is proposed for a specific VEC being reviewed. Additionally, Tables will be provided as required in the Final Guidelines summarizing all mitigation measures, monitoring programs, residual effects and cumulative effects for each VEC.