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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.

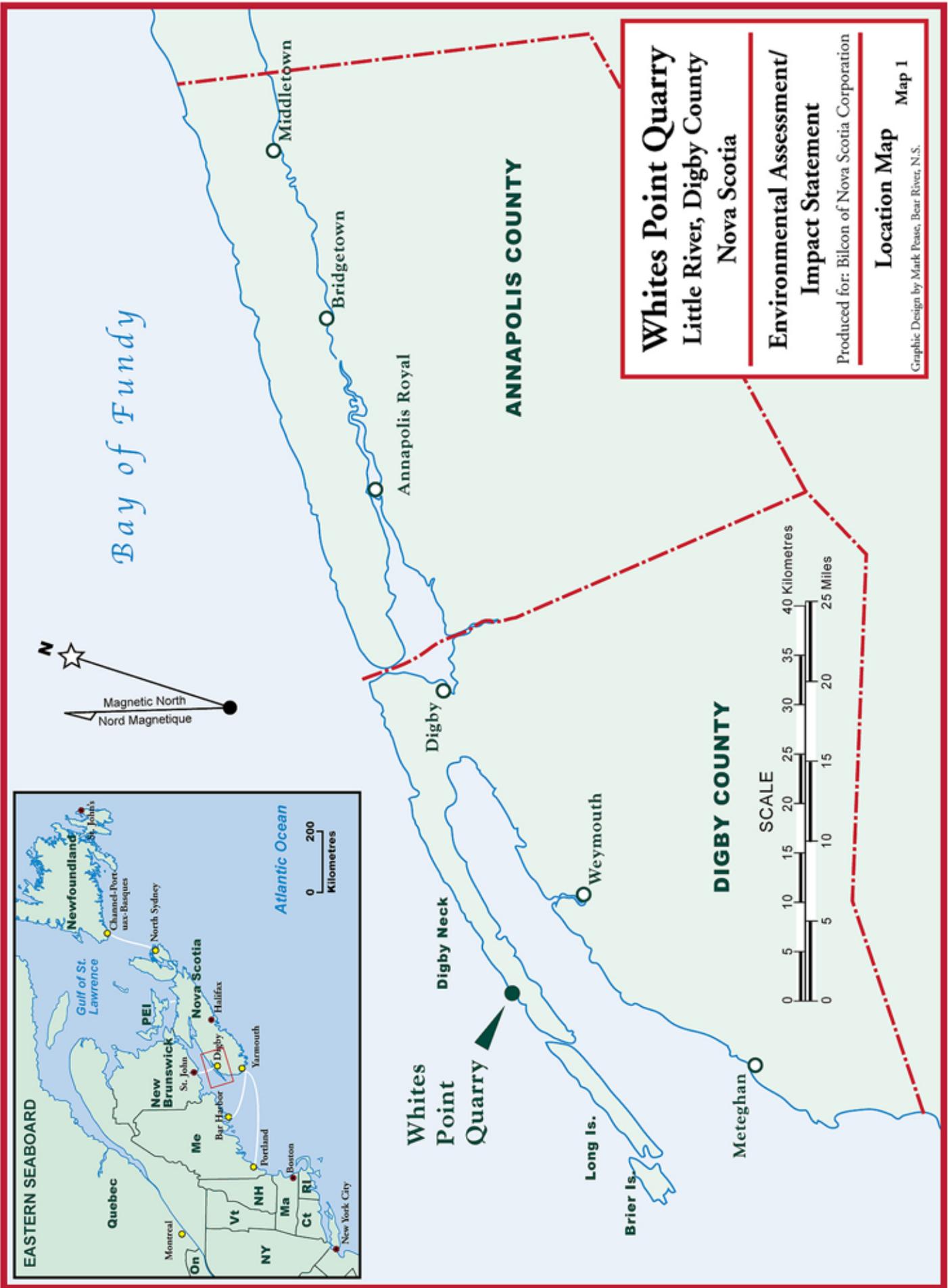
Clayton employs over 850 staff at its various operations in New Jersey and has an enviable record with respect to employee relations, benefits, and occupational health and safety.

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.



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-disciplinary 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 Resources (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 44° 27' 47" N, 66° 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.

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.

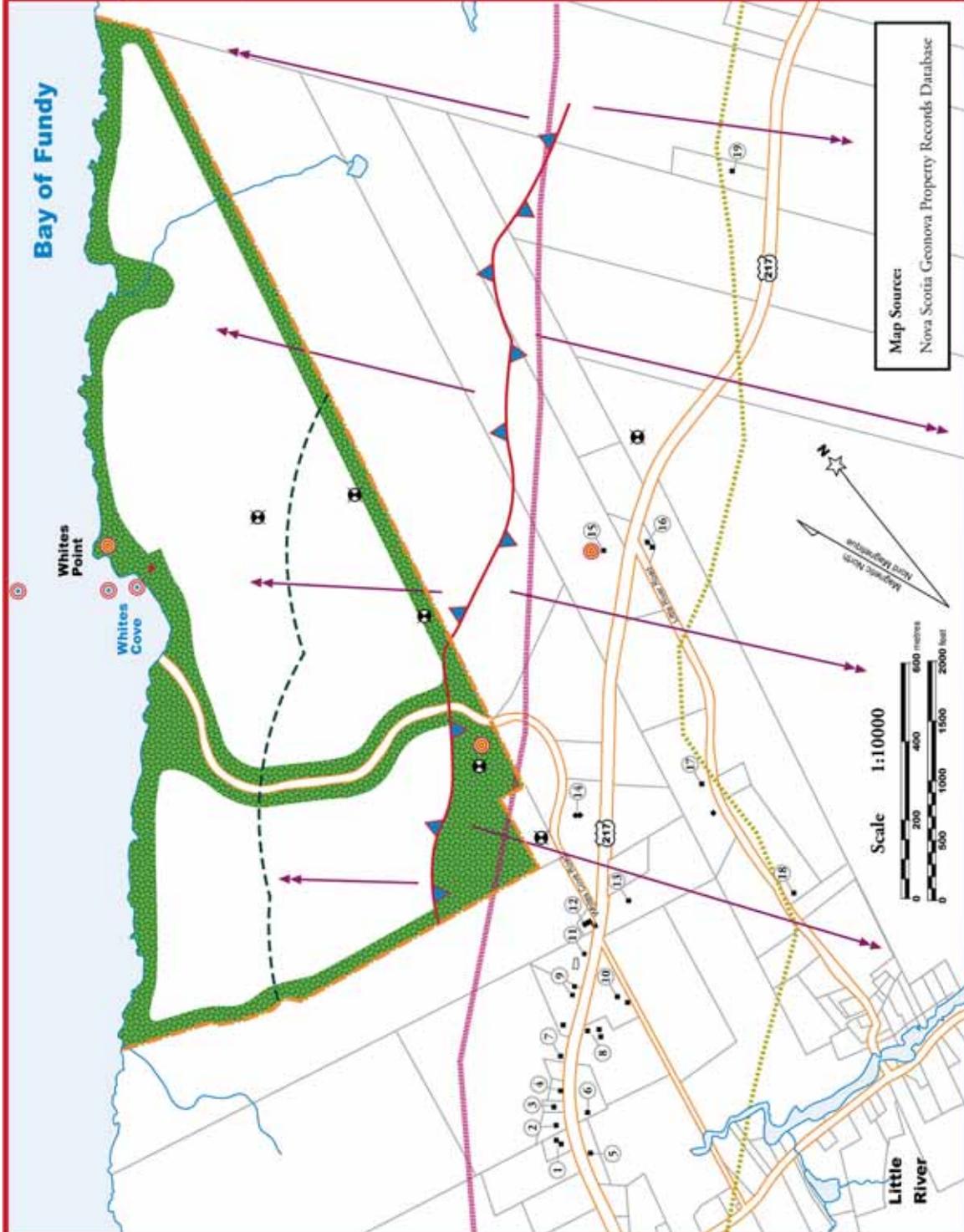
Source of Information:
 Jacques Whitford Environment Ltd. - Hogg,
 Dwayne, M.Sc., P. Eng. and MacFarlane, David,
 M. Sc., P. Geos. * Preliminary Hydrological
 Assessments, Proposed Quarry, Whites Cove, Digby
 Neck, Nova Scotia" Dec. 2002.

Produced for: Bilecon of Nova Scotia Corporation

Property Map

Map 2

Graphic Design by Mark Press, Bow 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: Blicom of Nova Scotia Corporation

**Quarry Infrastructure
Plan**

Figure 1

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



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



Scale 1:1200 (1 inch = 100 feet)

Produced for: Bilcon of Nova Scotia Corporation

**Quarry Compound
 Plan**

Figure 4
 Graphics Design by Mark Frank, Blue River, N.S.

Whites Point Quarry Little River, Digby County Nova Scotia

Environmental Assessment/ Impact Statement

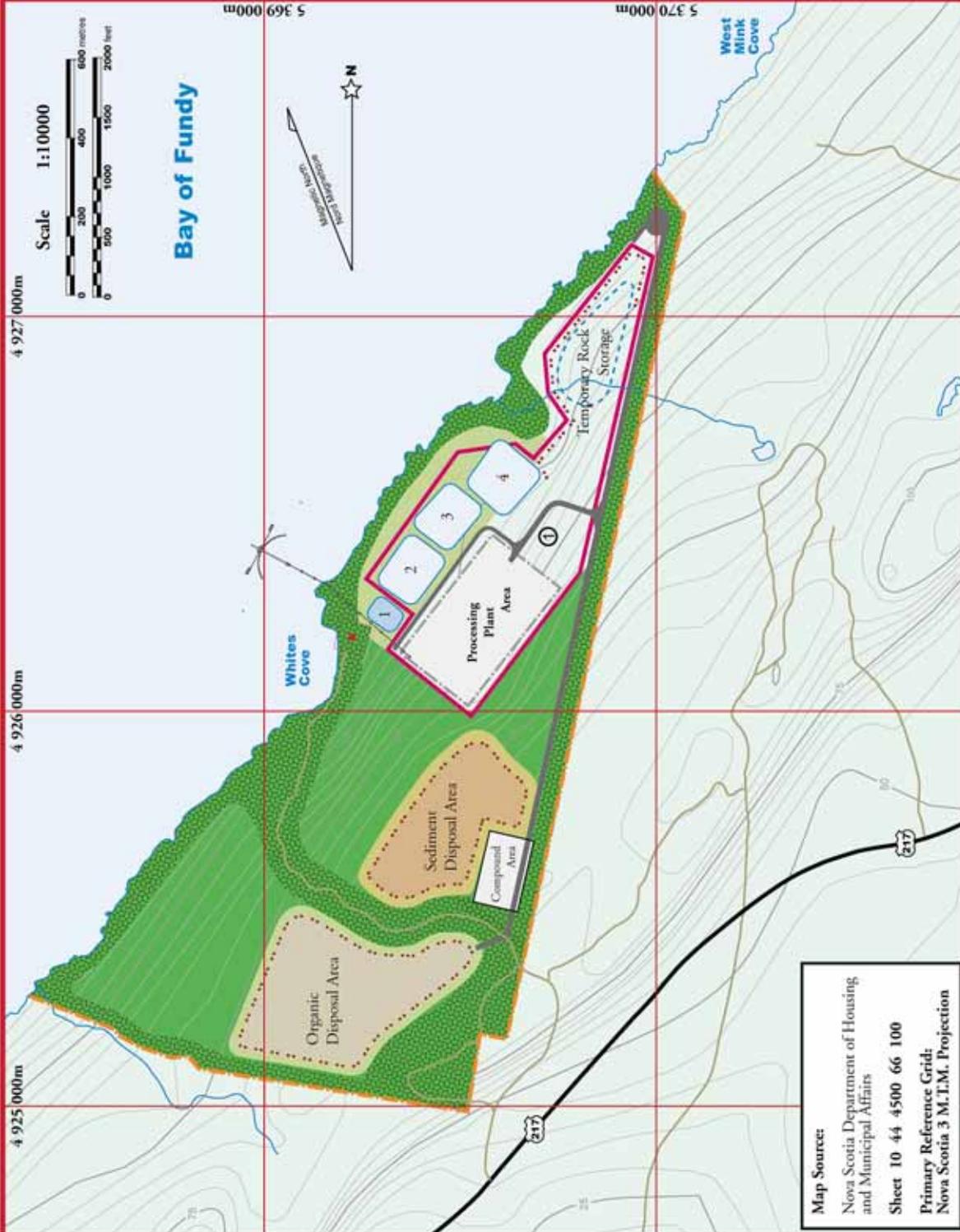
- Legend**
- Highway 217
 - Gravel Road
 - Property Line
 - Environmental Preservation Zone
 - Existing Habitat
 - Quarry Area ①
 - Processing Plant Area
 - Existing Sediment Pond
 - New Sediment Ponds (Year 2)
 - Berm/Dyke
 - Quarry Road
 - New Sediment Pond (Year 4)
 - Reclamation (Year 2)
 - Reclamation (Year 4)

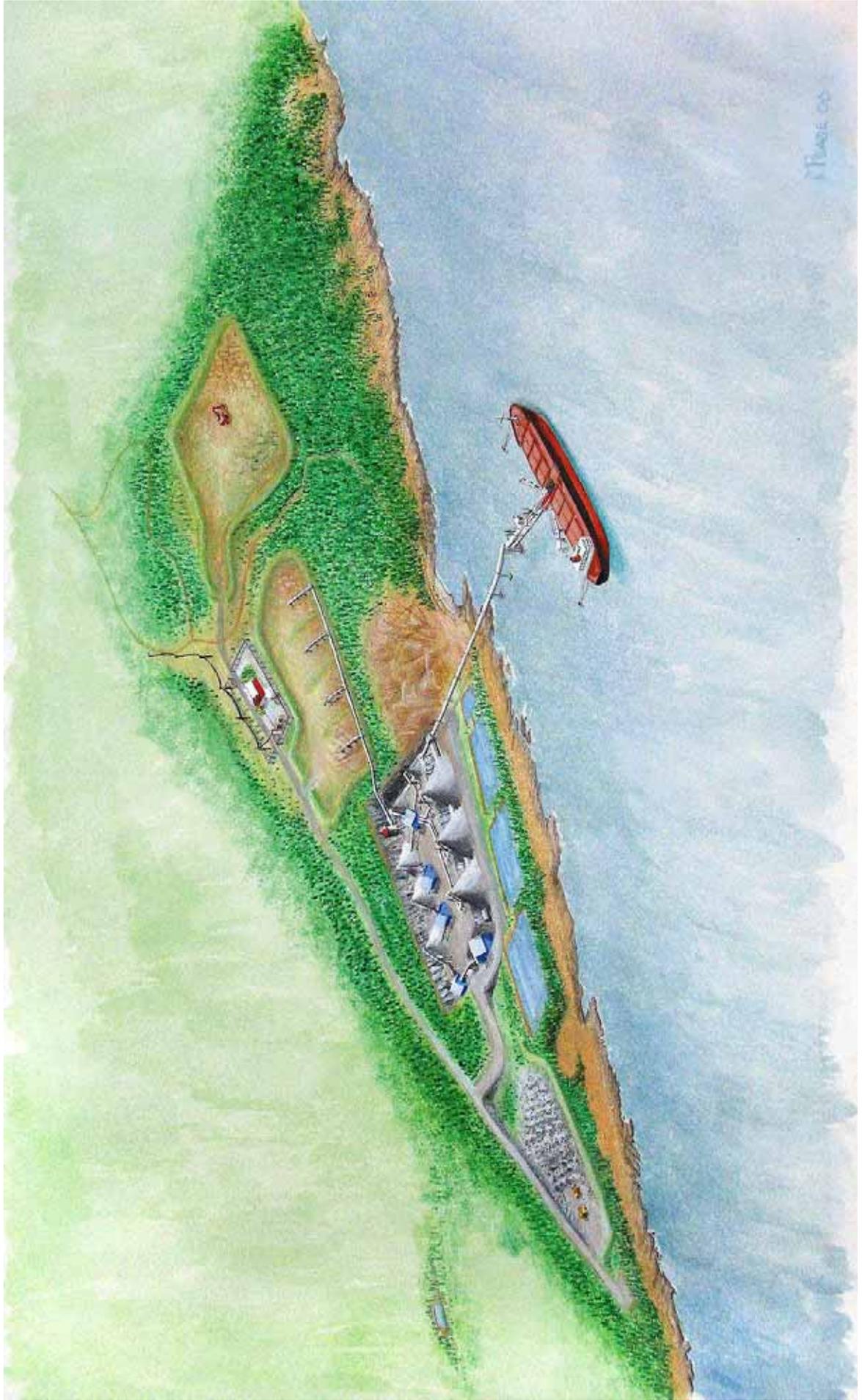
Produced for: Bilcon of Nova Scotia Corporation

Concept Quarry Plan Years 1 - 5

Plan OP 1

Graphic Design by Mark Press, 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

Whites Point Quarry
Little River, Digby County
Nova Scotia

**Environmental Assessment/
Impact Statement**

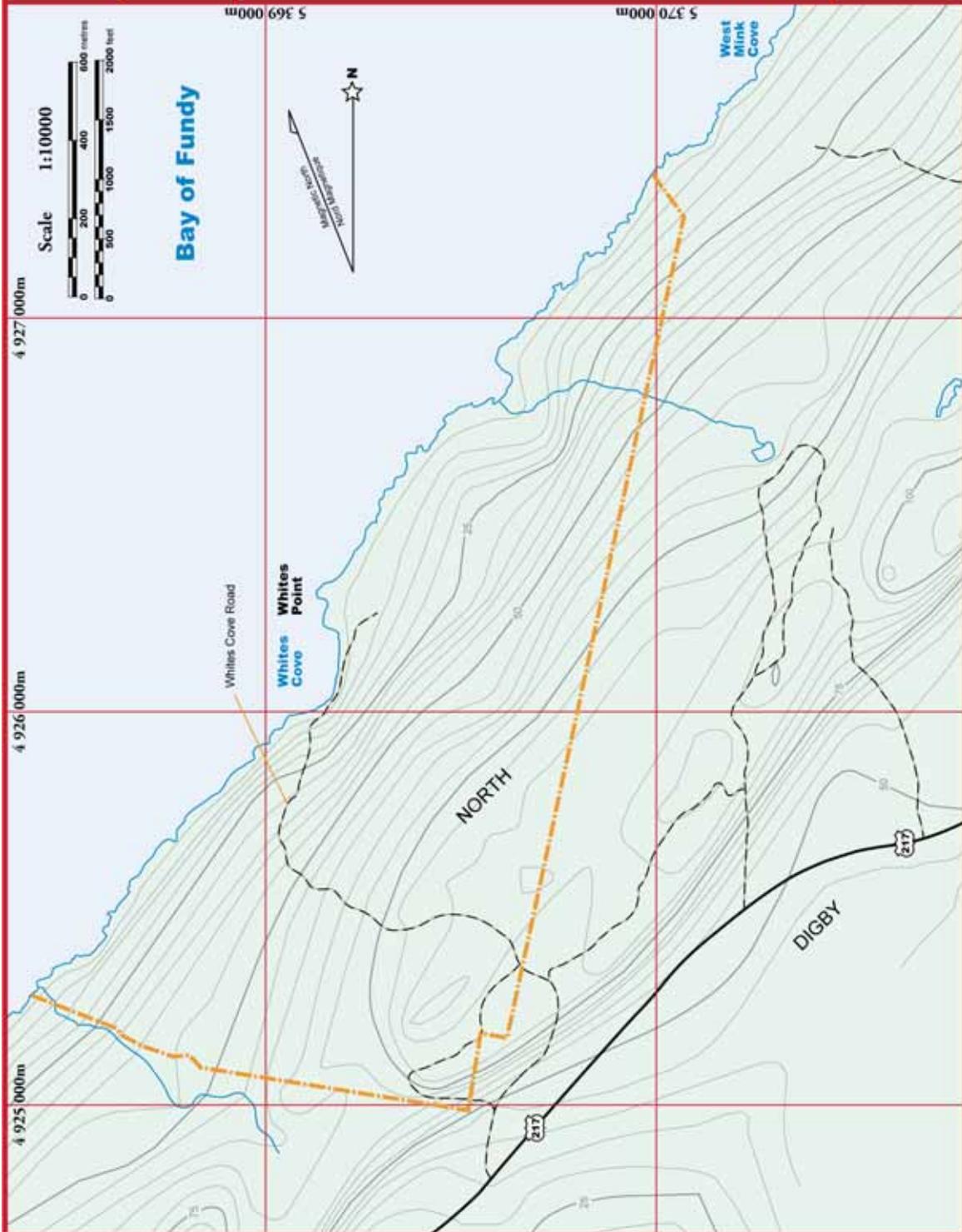
- Legend**
- Highway 217
 - Gravel Road
 - Property Line

Produced for: Bilcom of Nova Scotia Corporation

Topographic

Map 1B

Graphic Design by Mark Pines, 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.

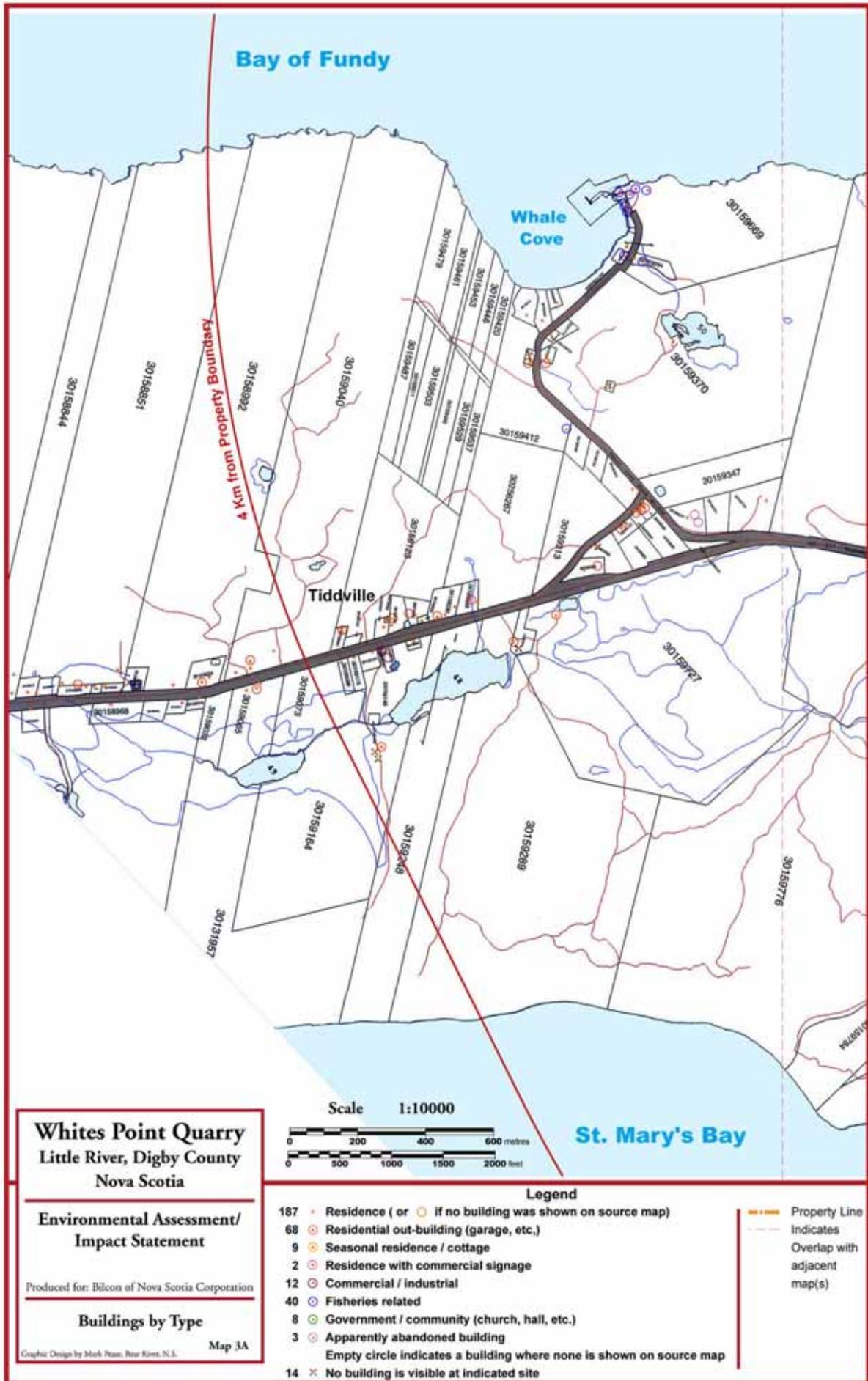
Socio-cultural Interrelationships

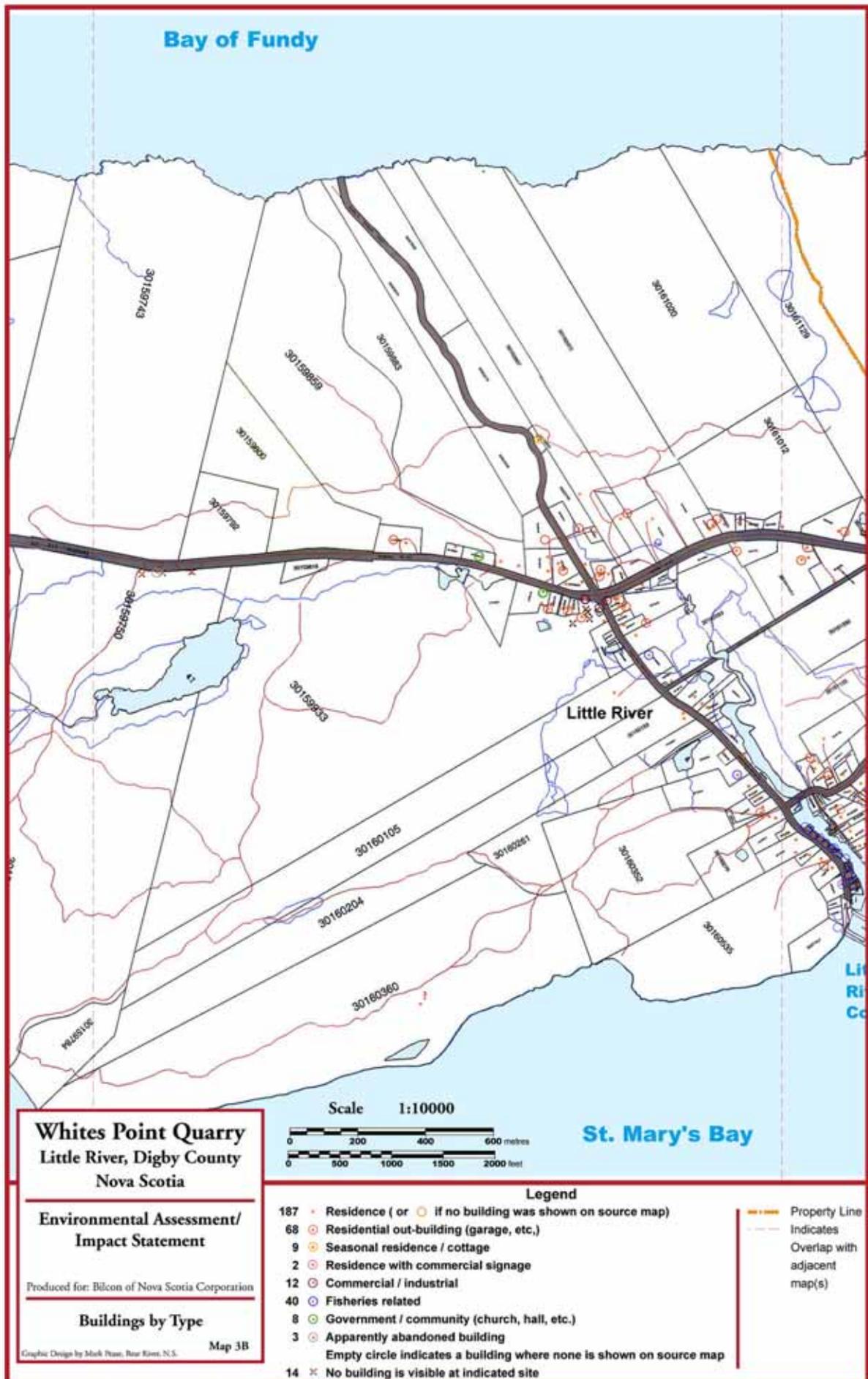
The regional land use setting of the project is primarily rural residential with limited commercial and industrial development. The only land transportation route on Digby Neck is Highway #217. The mix of rural development, by building type, within 4 km of the quarry project is shown on **Maps 3A, 3B, 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.

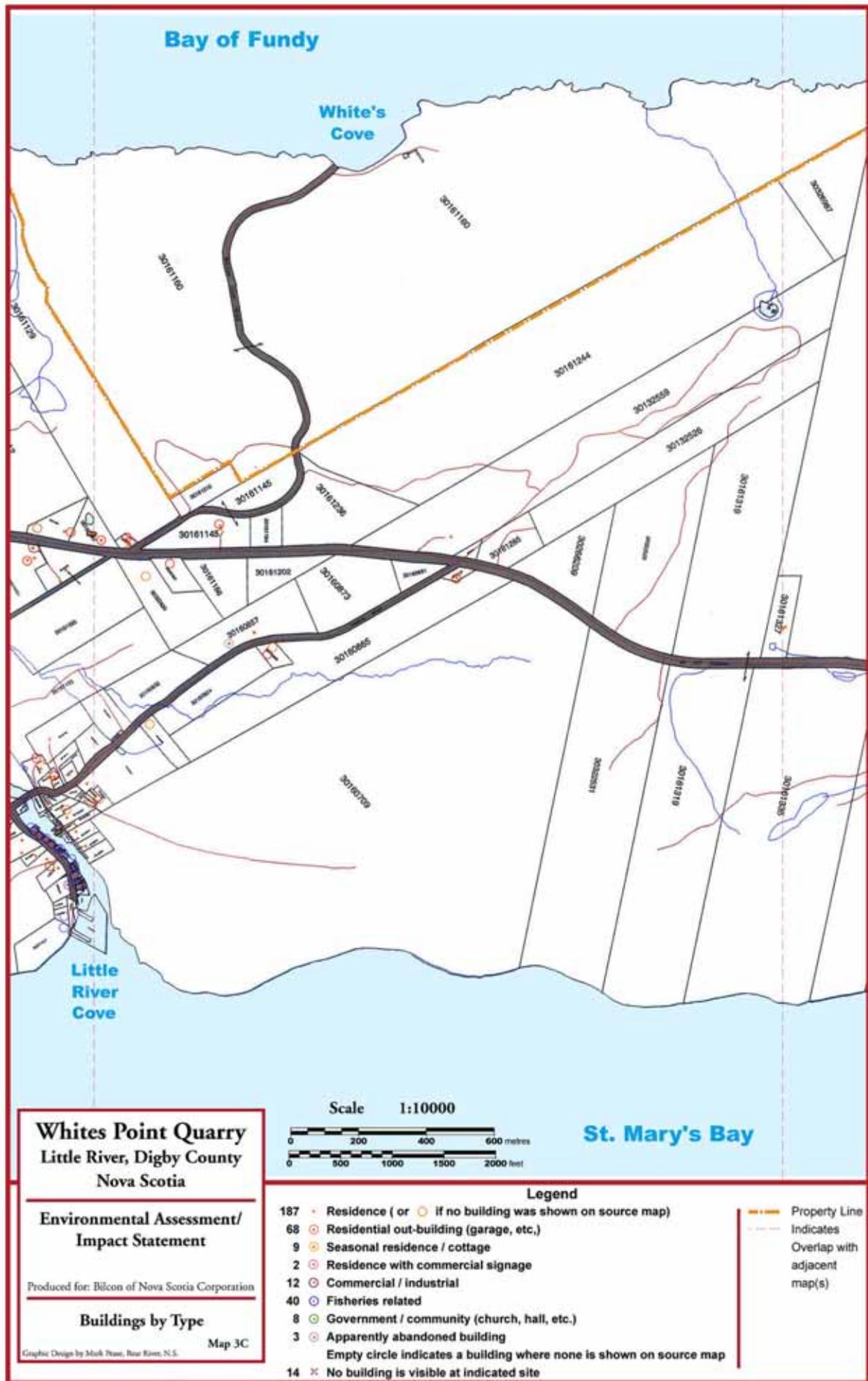
Historically, primary resource industries such as agriculture and forestry dominated the land and the fishery dominated the water. Although technology has changed the fishing industry over the past fifty years, the fishery remains the primary industry on Digby Neck. Small fishing villages within the 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.

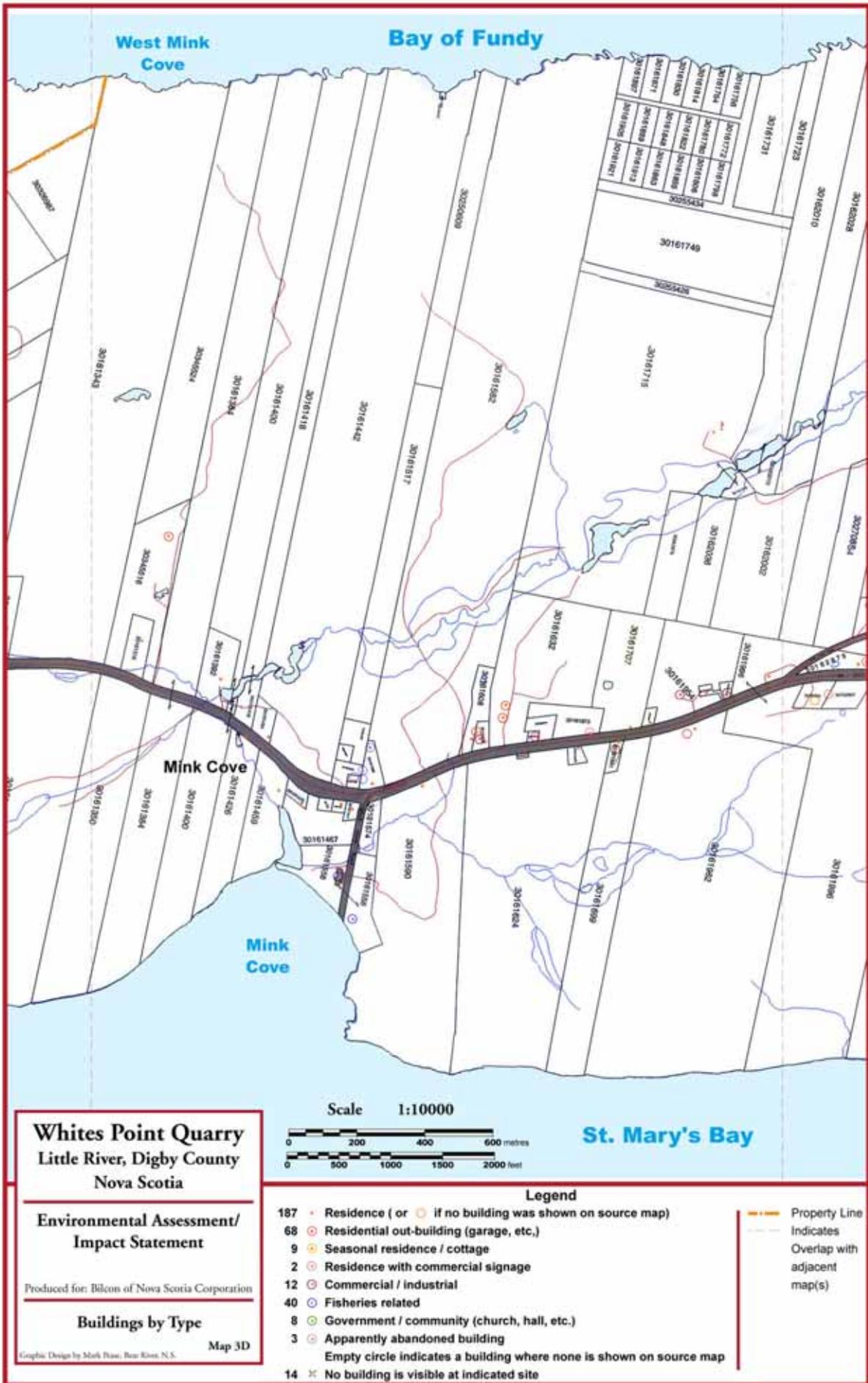
Presently, the quarry property has no development and is partially forested after recent clear-cutting. The practice of clear-cutting is typical of the surrounding region. Traditional community knowledge indicates land use on the property has included farming, a haul-up/boat skidway at Whites Cove, fish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

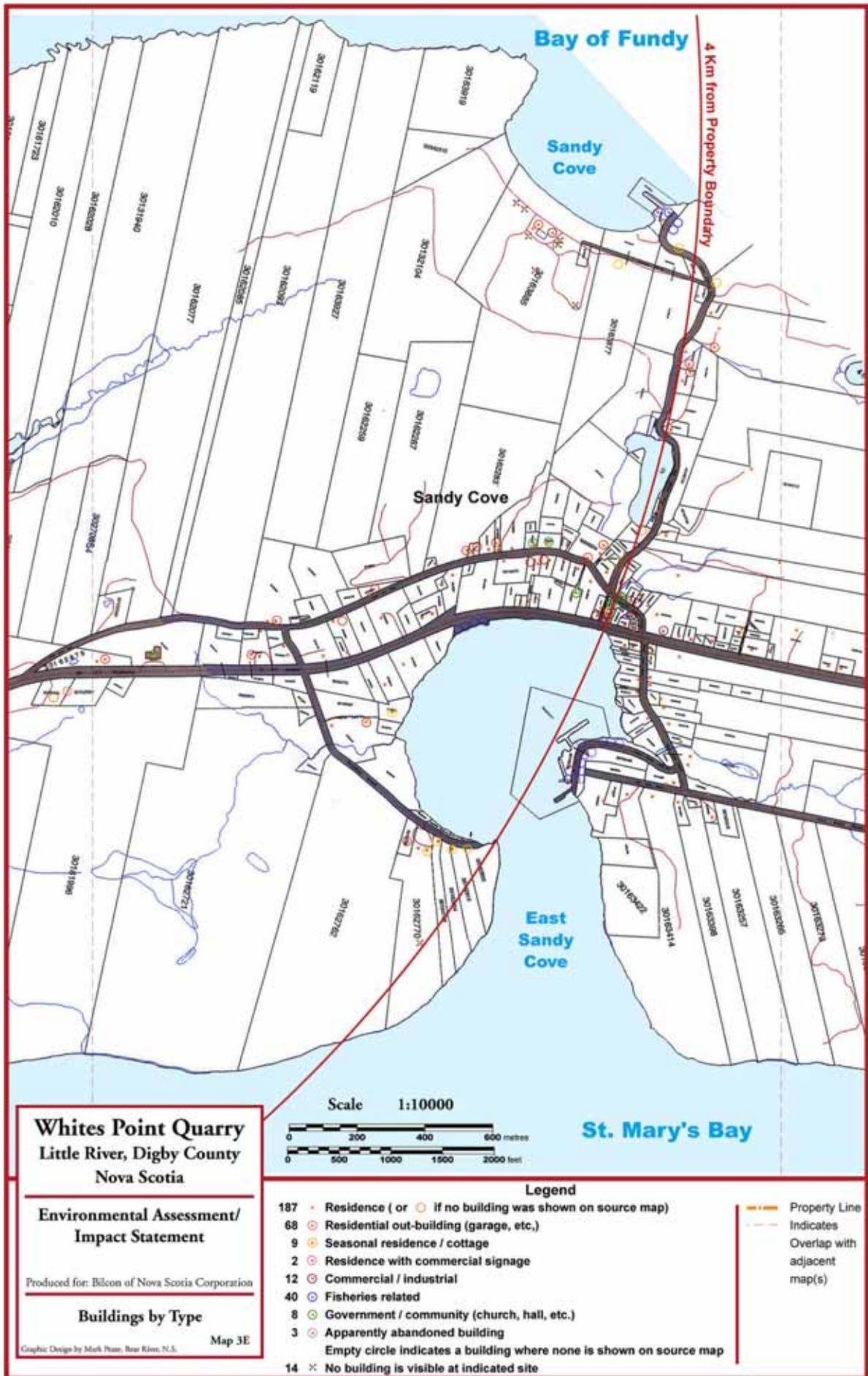
The nearshore portion of the Bay of Fundy is used primarily by lobster, herring, and sea cucumber fishers. During the six month lobster fishing season, lobster boats can frequent the nearshore waters on a daily basis. Other fishing boats, whale and seabird cruise boats, bulk container and tanker vessels 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**.











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

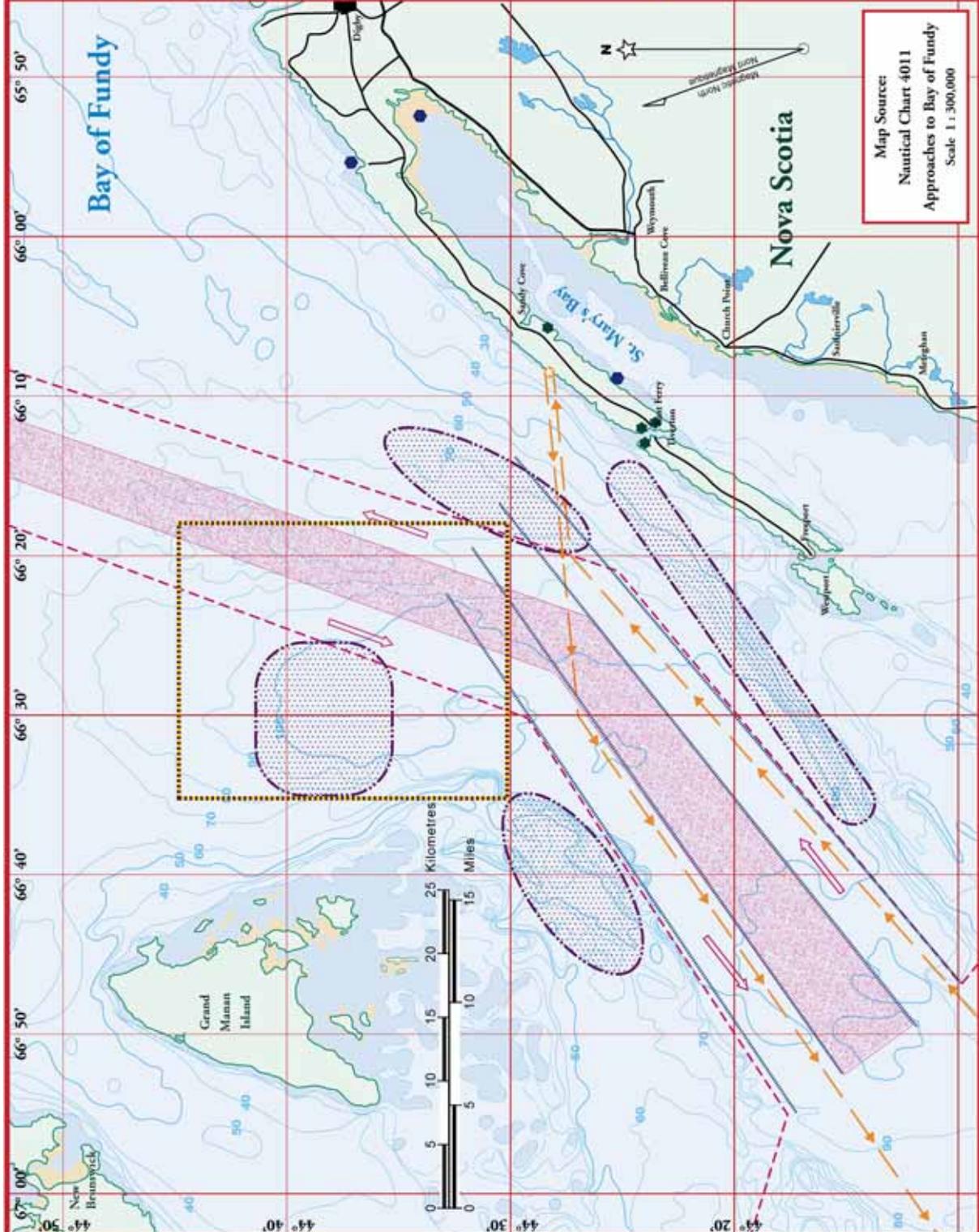
Source of Information:
Nova Scotia Department of Aquaculture and Fisheries, Aquaculture Site Mapping, 2002
Bay to Bay Adventures Ltd., Popular Whale Watching Areas, July - August 2002
Canadian Steamship Lines International Inc., 2002

Produced for: Bilcon of Nova Scotia Corporation

Proposed Shipping Route

Map 4

Graphic Design by Altek Press, Bear River, 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 (See Appendix 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 (NWP). The NWP 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 Goods Act 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 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 Regulations	Review Panel	EA	Release from EA Environment Act EC & Regulations
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

<u>Class</u>	<u>Amount / Emission Level</u>
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 Strategy 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 the Significance 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 perfluorocarbons.

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, Kejimikujik 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.