

Continental Stone Ltd. – Belleoram Crushed Rock Export Quarry Environmental Plan	Rev:	Doc. #	Page:
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**BELLEORAM CRUSHED
ROCK EXPORT QUARRY**

ENVIRONMENTAL PROTECTION PLAN (REVISED)

**Continental Stone Limited
P.O. Box 8274, Station A
St. John's, NL A1B 3N4**

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1.0 INTRODUCTION

Continental Stone Limited is developing a crushed granite quarry in Belleoram, Newfoundland. Continental Stone intends to supply aggregate material to international markets for the duration of the project life – an estimated 50 years.

Environmental protection planning is an important component of overall project planning and implementation. Environmental Protection Plans (EPPs) are commonly required as part of a project approval by government; EPPs provide a practical way in which a proponent can demonstrate an understanding of environmental regulations, practices, and procedures required to reduce or eliminate the potential environmental effects of the project.

1.1 Purpose of the Environmental Protection Plan

This Environmental Protection Plan (EPP) is a field-ready document describing applicable environmental protection measures associated with activities at the Belleoram Crushed Rock Export Quarry. It is intended to be a reference document for project personnel for the planning and execution of project-specific activities, as well as a guidance document for contingency planning. The specific purposes of the EPP are to:

- Provide a reference document to ensure that commitments to reduce or avoid environmental effects will be met;
- Document environmental concerns and appropriate protection measures;
- Provide concise and clear instructions to project personnel regarding procedures for protecting the environment;
- Provide a reference document for personnel when planning and/or conducting specific activities and working in specific areas;
- Provide a training aid during implementation efforts;
- Communicate changes in the program through the revision process; and
- Provide a reference to applicable legislative requirements and guidelines.

This EPP sets out the procedures, responsibilities, and control actions to be taken by Continental Stone personnel in achieving the safe and environmentally sound completion of the work described. The EPP is to be available to all relevant staff and subcontractors to ensure that each is aware of their responsibilities and of the procedures to be used in the management of this work. This will result in open communication at all levels and serve as a means to achieve continuous improvement.

The EPP is a “living” document and, as work proceeds, this plan may be updated. Hence the document is dated and distribution is controlled such that all document holders will receive and incorporate amendments as issued.

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1.2 Organization of the EPP

This EPP will contain the following sections:

Section 1.0 Introduction. This section will outline the purpose and organization of the EPP and describe various roles and responsibilities within the plan.

Section 2.0 Environmental Policy. This section outlines environmental policies and statements implemented by Continental Stone Ltd.

Section 3.0 Document Management. This section outlines procedures for the distribution, revision, and management of the EPP.

Section 4.0 Description of the Undertaking. This section provides a summary of the works associated with development of a crushed rock export quarry in Belleoram, Newfoundland.

Section 5.0 Permits and Approvals. This section outlines acts, regulations, and policies pertaining to this project, as well as permits or authorizations required to maintain compliance.

Section 6.0 Environmental Protection Procedures for Routing Activities/Operations. This section provides an overview of the environmental concerns and general environmental protection procedures associated with a variety of activities anticipated to occur during this project.

Section 7.0 Contingency Plans. This section plans for potential accidental events or unplanned events.

Section 8.0 Contact List. This section provides relevant contact information.

Section 9.0 References. This section provides a list of relevant information.

APPENDIX A Permits and Approvals. This section provides all permits/approvals, including conditions of approval and required monitoring/reporting.

1.1 Roles and Responsibilities

Continental Stone will provide the following:

- Final approval of the EPP and any subsequent revisions, in cooperation with Regulators;
- A Project Environmental Manager to oversee and ensure the implementation of the EPP.

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Primary responsibility for the implementation of this EPP rests with Continental Stone Ltd.'s Project Environmental Manager. The Project Environmental Manager will also:

- be Continental Stone's on-site representative;
- review the EPP as required;
- ensure revisions are appropriately distributed;
- provide orientation sessions for project personnel and staff as needed;

2.0 ENVIRONMENTAL POLICY

Continental Stone recognizes that all activities in support of the quarrying and export of aggregate material must be accomplished in a manner that minimizes adverse impacts on the environment.

Continental Stone believes that environmental stewardship is essential to our business success and to the communities in which we live and work.

2.1 Statement

It is the policy of Continental Stone to conduct its affairs in accordance with state-of-the-art environmental practices. To accomplish this, Continental Stone will:

- Consider compliance with laws and regulations, permits, and related agreements to be a minimum and build from this foundation.
- Build and maintain an environmental management system and related standards, programs, and procedures that fully integrate prevention of pollution into business planning.
- Inform all employees of their responsibility to comply with this policy and to be sensitive to the effects of Continental Stone's operations on the environment.
- Encourage employees to suggest improvements.
- Conduct annual audits to verify compliance with the environmental management system and to identify areas for continual improvement and innovation.
- Precede new activities or proposed changes in operating procedures with an environmental assessment to determine the environmental impact. Design such activities to reduce or avoid negative impacts.
- Inform contractors of their responsibility to conform to applicable environmental procedures.
- Contribute to the development and administration of technically and economically sound environmental standards, regulations, and compliance procedures through interaction with professional and trade groups, legislative bodies, regulatory agencies, and citizens' organizations.

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- Establish procedures for reporting, responding to, and correcting any conditions or incidents with the potential for adverse environmental impact.
- Maintain open communication with the community and any concerned stakeholders about Continental Stone’s environmental policy, plans, and environmental performance.
- Ensure state-of-the-art and innovative reclamation practices are incorporated into the planning and operations for sites and facilities where appropriate.

2.2 Application

This policy applies to Continental Stone’s Belleoram Crushed Rock Export Quarry.

3.0 DOCUMENT MANAGEMENT

The EPP is a “controlled distribution” document. Project Environmental Manager is responsible for EPP distribution and administration. Requests for copies and suggestions for changes to the document are to be submitted to that office.

3.1 Distribution

The EPP distribution includes all those involved in the work scope of the document, management personnel, and regulators. All document recipients are to be listed (see Table 1.0), and will receive copies of amendments and updates as they are produced. In order to ensure that all EPP documents in circulation are current, the EPP document is not to be photocopied or distributed without the prior permission of Project Environmental Manager.

3.2 EPP Maintenance

The Project Environmental Manager is responsible for document control, including:

- review revision requests;
- conduct a review of the EPP on an as needed basis;
- determine if EPP Holders and their staff are familiar with the EPP and its procedures;
- obtain necessary approvals of revisions; and
- distribute approved revisions to plan holders.

EPP holders are to:

- keep copy of EPP current and ensure all revisions are entered on revision control record;
- familiarize themselves and their personnel with the EPP and any revisions; and
- initiate changes to improve and update the plan.

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3.3 Revisions

This is a controlled document and revisions may only be made by the Project Environmental Manager. It is anticipated that most of the revisions to the EPP will arise from the operating personnel at site. Other revisions will be as required/requested from the provincial and federal government regulatory agencies and other stakeholders. Plan holders and readers/reviewers may initiate proposed revisions by forwarding recommended changes to the Project Environmental Manager. Recommendations will be reviewed and appropriate revisions incorporated into the EPP. The approved revisions will be issued to all holders of controlled copies of the EPP. Each revision will be accompanied by a Revision Control Sheet that:

- provides revision instructions; and
- lists the sections being superseded.

An updated Table of Contents will be included with each revision. A revision number and revision date will be added to each revised page. EPP holders will be responsible for inserting revision pages into their document. The Revision Control Record is Table 2.0.

Table 1.0 Belleoram Crushed Rock Export Quarry EPP Distribution List

Copy Number	Name	Position	Location
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

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Table 2.0 Belleoram Crushed Rock Export Quarry: EPP Revision Control Record

EPP Section	Revision Date	EPP Holder's Signature

4.0 DESCRIPTION OF THE UNDERTAKING

4.1 Project overview

Continental Stone Limited is developing a crushed granite quarry in Belleoram, Newfoundland to supply raw material to international markets. The project will be carried out in 3 phases:

Phase 1: Development - Excavation and removal of overburden material will be done to enable the construction of a road to the site for employees, visitors, and equipment suppliers. This phase will also include the excavation of an area suitable for setup of the crusher and associated equipment and a suitable marine terminal for the project (see Figure 1.0). All equipment will be setup during this phase.

Phase 2: Operation – Operation will consist of drilling and blasting of the rock source, with the fractured rock being crushed into various sizes. The crushed rock will then be conveyed to a marine terminal for loading onto a bulk aggregate carrier and shipped to international markets. It is estimated that 2,000,000 tonnes of aggregate will be shipped in the first year of operation, increasing to 6,000,000 tonnes for the remainder of the project.

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Phase 3: Decommissioning – This will involve demobilizing all unsuitable structures at the site and the creation of an area friendly for the community and the environment. A rehabilitation and closure plan pursuant to the requirements of the Department of Natural Resources as outlined in the *Minerals Act* is being prepared.

4.2 Purpose of the Project

The purpose of the project is to gain a market share of the aggregate industry, with a view of enhancing the long-term viability of Continental Stone and the economy of the Connaigre Peninsula through the creation of sustainable employment. The project is expected to bring 80-100 full time direct jobs with the potential for numerous indirect jobs for a project life of 50 years.

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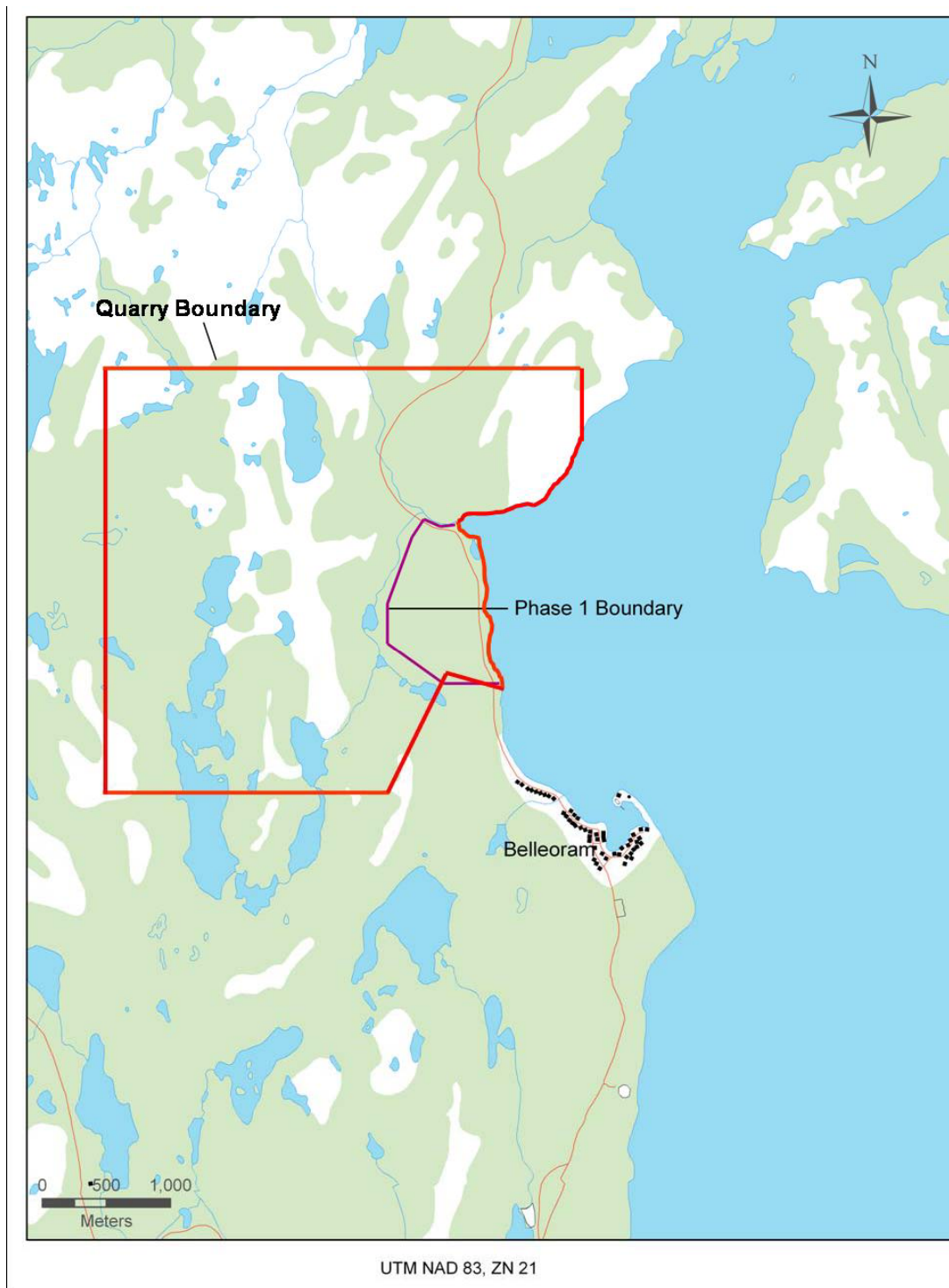


Figure 1.0 Location of the proposed granite quarry in Belleoram, NL. The boundary of Phase 1 and the entire quarry's boundaries are indicated.

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5.0 PERMITS AND APPROVALS

The conduct of the work is subject to various regulatory controls. Listed below are the applicable legislation and regulations related to the scope of work.

5.1 Provincial Permits and Approvals

Table 3.0 Permits issued for activities at the Belleoram Crushed Export Rock Quarry

Department/Agency	Applicable Legislation	Permit	Project Element
Mines and Energy Division, Department of Natural Resources	<i>Quarry Materials Act</i> and Regulations	Exploration Licence	Exploration and drilling

Table 4.0 Permits and approvals that may be required for the Belleoram Crushed Export Rock Quarry

Department/Agency	Applicable Legislation	Authorization	Project Element
Federal Government Requirements			
Canadian Environmental Assessment Agency/Regulatory Authorities	<i>Canadian Environmental Assessment Act,</i> 1995	Release from EA process	Applicable Law List controls
Department of Fisheries and Oceans	<i>Fisheries Act,</i> Section 35(2)	Authorization for the Harmful Alteration, Disruption or Destruction of fish habitat	Construction of wharf
Transport Canada	<i>Navigable Waters Protection Act</i>	Permit for construction within navigable waters	Wharf construction
	<i>Transportation of Dangerous Goods Act, 1992</i>	Permit to store, handle and transport dangerous goods	Storage, handling and transportation of fuel and chemicals

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Provincial Government Requirements			
Mines and Energy Division, Department of Natural Resources	<i>Quarry Materials Act</i> and Regulations	Quarry Permit	Quarry construction and operation
Department of Environment and Conservation	<i>Environmental Protection Act, 2002</i>	Release from the EA process	Quarry project
	<i>Water Resources Act</i>	Permit to alter a body of water	Construction of wharf and alteration to ponds and streams
	<i>Water Resources Act</i>	Permit to alter a body of water (site drainage)	Quarry development
	<i>Water Resources Act</i>	Permit for water withdrawal	Pumphouse
	<i>Water Resources Act</i>	Water use license	Water use
	<i>Wildlife Act</i> and Regulations	Authorization to control nuisance animals	Construction activity
	Used Oil Regulations	Certificate of authorization	Storage of used oil
Department of Natural Resources, Forestry Branch	<i>Forestry Act</i> and Cutting of Timber Regulations	Permit to cut crown timber	Site clearing and Construction activity
	<i>Forestry Act</i> and Forest Fire Regulations	Permit to burn	Site clearing and Construction activity
Department of Education, Industrial Training Section		Blasters Safety Certificate	Blasting
Department of Works, Services and Transportation	<i>Dangerous Goods Transportation Act, 1995</i> and Regulations	Compliance standard; no permit required	Storage, handling and transportation of fuel
Municipal Government Requirements			
Town of Belleoram		Development Permit	Development within Town Boundary
		Approval for waste disposal	Waste disposal

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6.0 ENVIRONMENTAL PROTECTION MEASURES FOR ROUTING ACTIVITIES / OPERATIONS

This section provides a description of environmental protection procedures for work comprising routine quarrying activities and associated site development at the Belleoram Crushed Rock Export Quarry, including the following:

- Works in/around the marine environment
- Blasting
- Storage, handling and transfer of fuel and other hazardous material
- Equipment operations, use and maintenance
- Dust control
- Dewatering work areas and site drainage
- Waste disposal
- Clearing vegetation
- Grubbing and disposal of related debris
- Waste rock and overburden
- Sedimentation and erosion prevention
- Buffer zones
- Shipping
- Surveying
- Stream crossings
- Concrete production
- Groundwater development and use

As required, protection procedures can be modified to address future activities, site conditions, changes in engineering design and/or construction work methods, and overall environmental performance as work proceeds.

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6.1 Works In/Around the Marine Environment

Work required to take place in the marine environment includes construction of a permanent dock facility that will support shipment of aggregate from the quarry. Infilling and dredging may take place during dock construction. The primary environmental concerns associated with marine construction include the following:

- release of sediment fines and petroleum products into the water and substrate; and
- disturbance/destruction of fish and/or fish habitat.

Environmental Protection Procedures

a) Infilling or dredging activities will be conducted in strict compliance with all authorizations and/or permits as required by the Department of Fisheries and Oceans.

b) Blasted rock will be used for infilling. Armour stone protection will be placed progressively to minimize erosion and prevent the loss of infill material.

c) Dredging activities will take place inside a silt curtain/turbidity barrier to prevent sediment from entering the water column away from the work area. The silt barrier will be attached to a flotation boom and extend from the sea surface to 1-2 meters from the sea bottom.

d) Seabed sediment will be removed during dredging activities, placed on a barge deck while inside the silt curtain, and removed for disposal on land.

e) Heavy equipment will only be used from dry, stable areas or barges specifically designed for that purpose.

f) Heavy equipment not operating from a barge must complete work below the high water mark during low tide.

g) Timber used for construction will consist of wood treated with preservatives safe for use in the marine environment or wood will be left untreated.

h) Timber used in wharf construction will be cut on land, away from waterbodies.

i) All equipment will be serviced and fueled on land at least 30 m from the marine environment or in areas designated for spill containment.

j) All vehicles and equipment must be clean and in good repair. Regular inspections will be made for leaks on all equipment; necessary repairs will be completed immediately.

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6.2 Blasting

Detonation of explosives during the quarrying operations will produce vibrations and noise in the surrounding environment. The primary environmental concerns associated with blasting include airborne dust/debris and shock waves, with resulting effects on human health, vegetation, and aquatic life.

Noise and dust from blasting can be a human health hazard for workers. Dust and rock from a blast can smother and damage terrestrial vegetation. Blasting in or near water bodies can affect organisms with swim bladders (fish). The introduction of silt into the water column is also a concern for water quality and related effects on aquatic life.

Environmental Protection Procedures

Continental Stone Ltd. recognizes the potential for effects from blasting, in particular, the potential for sensitivity of farmed fish. As a result, Continental Stone has incorporated operational procedures to reduce or eliminate negative effects, while maximizing safety and efficiency, into their blasting regime. The procedures are as follows:

- a) Although there is no expectation that blasting will occur near water bodies, it is acknowledged that guidance is available in the form of a DFO Fact Sheet (Blasting - Fish and Fish Habitat Protection) and Guidelines for the use of Explosives in or near Canadian Fisheries Waters” (Wright and Hopkey, 1998); these guidelines will be strictly adhered to.
- b) The handling, transportation, storage, and use of explosives will be conducted in compliance with all applicable laws and regulations, including the *Explosives Act* and the *Transportation of Dangerous Goods Act*.
- c) Explosives shall be used in a manner that will reduce or avoid damage or defacement of landscape features outside the work area. Controls will be exercised to calculate explosive loads and control over scattering of blasted material beyond the limit of activity. Time delay blasting cycles or blasting mats shall be used, as necessary, to control the scatter of blasted material.
- d) Blasters’ Safety Certificates and Magazine License from Mines Inspection of the Department of Labour shall be obtained and held in good standing.
- e) Use of explosives shall be restricted to authorized, trained, and qualified personnel.
- f) There shall be separate magazines for explosives and for blasting caps. All magazines shall have the appropriate approvals.
- g) All blasting associated debris, such as explosive boxes and used blasting wire, will be collected for proper disposal as soon as possible following each blast.
- h) Utilization of Dyno Nobel North America “Canadian Blast Site Safety Manual” guidelines to ensure for safe, environmentally conscious, blasting procedures;

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- i) A blasting plan will be made available to the local interest committee.
- j) Blast patterns and procedures will be designed to control shock or instantaneous peak noise levels to ensure that the magnitude of explosions is limited to only what is necessary. Briefly, design considerations include:
- plugging the 12 m bore holes with a 3 m collar of 20 mm, clean, crushed stone to trap gases and dust during blasting;
 - optimizing drill hole patterns;
 - using explosives in a manner that will limit scatter of blasted material to within the limits of the work site;
 - employing the proper working on time-delayed blasting cycles (500 millisecond in-hole delay and a 25 millisecond surface delay); and
 - using reliable material such as Nonel EZ Dets, or similar blast initiation system, which allows accurate firing of the explosives.
- f) The immediate area of the site will be visually surveyed prior to blasting. Operations will be delayed if wild animals (i.e. big game, such as moose) are observed within 100 m of blasting operations. Animals will be allowed to leave of their own accord; under no circumstances will noise or other devices be used to harass or otherwise disturb animals.
- g) During the initial stages of blasting, sound/vibration measuring equipment (i.e. hydrophones) will be deployed to measure the levels of sound/vibration at various points within Fortune Bay. This will be used to validate the prediction that aquaculture facilities are far enough away from the quarry that sound/vibrations experienced by fish will not be intense enough to cause damage or any reaction outside mild, transitory, avoidance behaviour.
- h) Airborne dust shall be reduced by making use of blast mats and utilizing blast patterns that reduce the amount of disturbed material.

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6.3 Storage, Handling and Use of Fuel and Other Hazardous Materials

Hazardous substances that may be used on site include the following:

- Gasoline, diesel fuel, grease, motor oil, hydraulic fluids;
- Propane;
- Explosives;
- Acetylene;
- Paints;
- Concrete additives;
- Antifreeze;
- Cleaners and solvents.

The primary concern with respect to hazardous substances is an uncontrolled release to the environment, i.e. a spill. Subsequent adverse effects may include contamination of terrestrial and aquatic environments, as well as groundwater quality and human health concerns.

Environmental Protection Measures

Only persons qualified in the handling of fuel and other hazardous materials as stated in government laws and regulations will handle fuel and other hazardous materials.

Transport of fuel and other hazardous materials

a) The transport of fuel and other hazardous materials will be undertaken in compliance with the *Transportation of Dangerous Goods Act*. All goods entering the site will be inspected to ensure that the appropriate placards or labels and manifest are in place and the security of the product is assured. All persons handling dangerous goods must show proof of certification of training in the transportation of dangerous goods as required under the Act. Security staff and the Project Environmental Manager will be trained in the requirements of the Act.

Storage of fuel and other hazardous materials

a) There will be no on-site bulk storage of fuel or oil. Waste oils, lubricants and other used oils shall be reused, recycled or disposed of at an approved licenced waste management facility in accordance with the provincial Used Oil Control Regulations (2002).

b) Explosives will not be manufactured or stored on site in bulk, but will be ordered on a regular basis from reputable suppliers.

Fuel transfer

a) Bulk carriers will not be refueled at the site marine terminal.

Equipment refueling

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- a) Equipment refueling is to comply with the Storage and Handling of Gasoline and Associated Products Regulations.
- b) Fueling and lubrication of equipment shall occur in such a manner as to minimize the possibility of contamination to soil or water. When refueling equipment, operators shall:
 - o use leak-free containers and reinforced rip and puncture-proof hoses and nozzles;
 - o be in attendance for the duration of the operation; and
 - o seal all storage container outlets except the outlet currently in use.
- c) Regular inspections shall be made of hydraulic and fuel systems on machinery. Leaks shall be repaired immediately.
- d) Fuelling attendants shall be trained in the requirements under the spill contingency plan.
- e) Any soil contaminated by small leaks of oil or grease from equipment will be disposed of according to the *Environmental Protection Act*.
- f) Fueling or servicing of mobile equipment on land shall not be allowed within 30 m of watercourses, waterbodies or ecologically sensitive areas.

Hazardous materials

- a) Hazardous materials shall be used only by personnel who are trained and qualified in the handling of these materials and only in accordance with manufacturers' instructions and government regulations.
- b) The Workplace Hazardous Materials Information System (WHMIS) Regulations under the *Occupational Health and Safety Act* will apply to all handling of hazardous materials. Material Safety Data Sheets (MSDS) will be readily available on site for all hazardous materials.
- c) All hazardous materials shall be removed and disposed of in an acceptable manner in accordance with government regulations and requirements.

Spills of fuels and hazardous materials

- a) Precautions will be taken to prevent and reduce the spill of fuel and other hazardous materials. In the event of a spill on land or in the freshwater environment, the Environmental Emergencies 24 Hour Report Line will be contacted (1-800-563-9089).
- b) Every effort will be made to immediately control the source of the leak or spill and clean up the contaminated area.
- c) There shall be appropriate spill clean-up equipment will be on site, as required, including one land and one aquatic 55 gallon drum spill response kit.

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Disposal of hazardous wastes

- a) All hazardous waste will be handled according to the provincial *Environmental Protection Act*. Waste classified as “hazardous” or “special” that can not be disposed of in regular landfill sites will be sent for disposal at a licensed hazardous waste management company.
- b) All necessary precautions will be taken to prevent and reduce the spillage, misplacement or loss of fuels and other hazardous materials.
- c) Hazardous waste materials will only be handled by persons who are qualified and trained in handling these materials as stipulated in government laws and regulations.
- d) Waste accumulated on site prior to disposal will be confined, so that it does not pose an environmental or health hazard.
- e) Waste material will not be disposed of on-site or in a body of water.
- f) Burning of waste is not permitted.
- g) Where hazardous waste materials are to be stored outdoors, a designated area will be established, graded, and fitted with an impermeable membrane, covered with local soil and surrounded by an earth berm.
- h) Waste oils, lubricants, and other used oil will be retained in a tank or closed container, and disposed of in accordance with the *Used Oil Control Regulations*.
- i) Any soil contaminated by small leaks of oil or grease from equipment will be disposed of according to the *Environmental Protection Act*.

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6.4 Equipment Operations, Use, and Maintenance

A variety of vehicles and heavy equipment will be used throughout the quarry site. Environmental concerns associated with operating, using and maintaining such equipment includes air emissions, accidental spills, noises, and chronic leaks that may contaminate on-site water bodies.

Environmental Protection Procedures

- a) All approvals, authorizations, and permits for project activities will be followed.
- b) All noise control devices will be maintained in good operating condition.
- c) All equipment will meet the requirements of the provincial *Air Pollution Control Regulations* under the *Environmental Protection Act*. All equipment will have exhaust systems regularly inspected and mufflers will be operating properly.
- d) Regular maintenance inspections for leaks will be made on all equipment. If problems are identified, the equipment will be taken out of service and corrective action taken to prevent release of hydrocarbons into the environment.
- e) Drip pans shall be placed under pumps and generators. Absorbent material will be kept at all sites where pumps and generators are in use.
- f) All hydrocarbon leaks shall be reported to the Supervisor and Project Environmental Manager. Upon detection of a leak, the equipment is to be shut down and corrective action taken to repair the leak and clean up any contamination. Approval of the Project Environmental Manager is required before re-commencing operations.
- g) Hoses and connections on equipment will be inspected routinely for leaks and drips.
- h) Equipment maintenance and fueling activities will be performed at designated sites and in compliance with applicable regulations. All heavy equipment will be maintained and operated as outlined in the Occupational Health and Safety legislation.
- i) Only minor repairs and maintenance (eg. lubrication) of ‘non-mobile’ equipment such as drilling equipment will be performed on-site. All major repairs are to be performed at a location outside the quarry site.
- j) All fuel and hazardous materials will be handled according to procedures outlined in Section 6.3.

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6.5 Dust Control

The environmental concerns associated with dust include human health effects (eg. dust inhalation) and potential effects on aquatic ecosystems, waterfowl, and vegetation (eg. contaminant uptake).

Environmental Protection Procedures

The following measures shall be taken to mitigate potential effects of dust:

- a) Dust from road travel and dumping of waste rock shall be controlled where possible by using frequent applications of water.
- b) Waste oil shall not be used for dust control.
- c) Any application of calcium chloride shall be in accordance with guidelines available from the Department of Works, Services and Transportation.
- d) Dust control agents (other than water) shall be stored in areas away from water bodies.

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6.6 Dewatering Work Areas and Site Drainage

The primary concern with site dewatering and drainage is the potential for siltation, fish mortality and habitat destruction.

Environmental Protection Procedures

- a) Site water that has met applicable regulations will be discharged to vegetated areas as opposed to directly into a waterbody; vegetation will act as a natural filter, reducing any potential effects.
- b) Monitoring site run-off at the quarry will be conducted as per provincial requirements to ensure effluent quality standards.
- c) If silt is found to be entering nearby waterbodies, filtration, or other suitable measures such as silt fences, will be used as required to reduce the turbidity of water pumped from work areas.

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6.7 Waste Disposal

Waste (e.g., domestic wastes, paper, cardboard and wood), if not properly controlled and disposed of, will be unsightly and could cause human safety and health concerns. It could also attract wildlife leading to the potential for human-wildlife conflicts.

Environmental Protection Procedures

a) Sewage will be handled by an approved portable facility during operation. The holding tanks will be emptied by a pump truck on a regular basis and disposed of in an appropriate manner. All waters disposed of on the proposed site will comply with the Environmental Control Water and Sewer Regulations, 2003.

b) All solid waste will be handled according to the provincial *Environmental Protection Act*.

c) All solid waste materials shall be considered, prior to disposal, for reuse, resale, or recycling.

d) Solid waste produced by site personnel and operations will be regularly collected and disposed of at the Belleoram municipal disposal facility, with the Town's approval.

e) Waste accumulated on site prior to disposal will be confined, so that it does not pose an environmental or health hazard.

f) Work areas will be kept clear of waste and litter to reduce the potential for attracting wildlife and reducing potential interactions with wildlife.

g) Any organic waste that may attract animals (i.e., food) will be stored in covered, wildlife-proof containers.

h) Burning of waste is not permitted.

i) All hazardous wastes generated will be handled according to the procedures for handling fuel and hazardous materials (Section 6.3).

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6.8 Clearing of Vegetation

Vegetation clearing (eg. trees and shrubs) will be required for site preparation activities for work areas and lay down areas. Potential environmental concerns include the loss of habitat, the sedimentation of watercourses, uncontrolled burning of slash, stockpiling vegetation in or near watercourses, and disturbance or destruction of historic resources.

Environmental Protection Procedures

- a) Clearing or removal of trees will be restricted to only those areas required.
- b) Clearing activities will comply with the requirements of all applicable permits, including the Permit to Burn.
- c) Clearing will consist of cutting as close to the ground as possible, with stump heights not exceeding 15cm, and disposing of all standing trees, as well as removing all shrubs, debris and other perishable materials from the area.
- d) Chain saws or other hand-held equipment will be used in clearing vegetation except where alternative methods or equipment are approved by Continental Stone. The use of mechanical clearing methods, such as bulldozers, will not occur except where it can be demonstrated that there is no merchantable timber, and where the resulting terrain disturbance and erosion will not result in the loss of topsoil or the sedimentation of nearby waterbodies. All chainsaw operators will be equipped with an adequate fire extinguisher during the fire season, as well as shovels and axes.
- e) A buffer zone consisting of 30m of undisturbed vegetation will be maintained between construction areas and all water bodies, watercourses, and ecologically sensitive areas.
- f) Merchantable or usable timber will be removed by a local contractor.
- g) Disposal of cleared unmerchantable timber, slashings and cuttings by burning shall be in compliance with the *Forest Fire Regulations*, Environmental Code of Practice for Open Burning, and the Permit to Burn. At no time will fires be left unattended.
- h) Slash and any other construction material or debris will not be permitted to enter any watercourse, and will be piled above spring flood levels for later disposal.
- i) Cleared vegetation will be used to restore habitat where practical.
- j) Where possible, timber will be felled inward toward the work area to avoid damaging any standing trees.
- k) Continental Stone employees will not destroy or disturb any features indicative of a cultural or archaeological site. Such features will be avoided until a report has been made to the Provincial Archaeology Office and clearance to proceed has been received.

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6.9 Grubbing and Disposal of Related Debris

The principal concerns associated with grubbing and disposal of related debris are the potential adverse effects on terrestrial ecosystems and water quality, including:

- destruction of terrestrial habitat; and
- potential for siltation, erosion and run-off.

Environmental Protection Procedures

a) Grubbing of the organic vegetation mat and/or the upper soil horizons will be restricted to the minimum area required.

b) The organic vegetation mat and upper soil horizon material that has been grubbed will be spread in a manner so as to cover inactive exposed areas.

c) Any surplus of such material will be stored or stockpiled for site rehabilitation and revegetation purposes. The location of the stockpiles will be recorded and accessible for future rehabilitation purposes. Grubbed material will be buried with two feet of soil cover to prevent erosion and loss of nutrients.

d) Measures will be implemented to reduce and control runoff of sediment-laden water during grubbing, and the re-spreading and stockpiling of grubbed materials. Where grubbed materials are re-spread or stockpiled, as many stumps and roots as possible will be left on the ground surface to maintain soil cohesion, dissipate the energy of runoff and promote natural revegetation. Erosion control measures will be implemented in areas prone to soil loss (Section 6.12).

e) Where erosion into a water body is a concern, the length of time that inactive grubbed areas will be left exposed to the natural elements will be limited to 30 days to prevent unnecessary erosion.

f) Grubbing activities will adhere to the buffer zone requirements outlined in Section 6.12

g) During grubbing, care will be taken to ensure that grubbed material will not be pushed into areas that are to be left undisturbed.

h) Discovery of historic resources will be handled according to the procedures outlined in contingency plans, Section 7.3.

i) Continental Stone is aware of the value of wetlands and will avoid intrusion into high quality wetlands.

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6.10 Waste Rock and Overburden

The principal concern associated with the placement of waste rock and overburden is siltation of the aquatic environment, pertaining to water quality and substrate, loss of habitat and displacement of wildlife. As well, disturbance and/or excavation of sulfide bearing rock can release contaminants (acidic drainage and dissolved metals – ARD) into the aquatic environment. It is important to note that rock samples previously collected and assayed did not contain sulfides and did not have acid generating potential. Nevertheless, water drainage will be spot checked for pH changes and compared to ambient conditions.

Environmental Protection Procedures

- a) Waste rock and overburden storage areas will be in an area north of on-site settling ponds.
- b) Drainage water will be monitored for changes in pH.
- c) Waste rock will be sampled annually and acid-base accounting (ABA) tests will be completed.
- d) Initial sampling has indicated waste rock is not acid generating. Should future sampling indicate acid generating potential, a designated storage pad with associated drainage will be constructed.
- e) If required, collection ditches and settling ponds will be used to manage surface runoff and any groundwater flows.
- f) Waste rock and overburden piles will be sloped to prevent pooling of surface water.
- g) Waste rock and overburden storage areas will be secured as appropriate.
- h) The stored overburden and waste rock will be used for future rehabilitation of the quarry site.

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6.11 Sedimentation and Erosion Prevention

Phase 1 of the quarry project is located adjacent to the ocean shore and also contains the lower end of a small stream/pond system which flows into the Belleoram Barasway. The quarry site naturally has a shallow overburden layer (<5 m) and stripping of this material has the potential to increase runoff into the surrounding terrestrial, freshwater, and marine environments. Furthermore, the nature of quarrying activities carries the potential for runoff to carry silt, hydrocarbons, and ammonia from explosives.

Eroded material may cause siltation in water bodies and, subsequently, decrease suitable habitat for aquatic and terrestrial animals.

Environmental Protection Procedures

The possibility of detrimental effects from runoff and erosion is a concern with any quarry operation and is addressed by adequate planning and operation.

- a) All work in the vicinity of the Belleoram Quarry will be conducted in accordance with conditions set out in applicable permits, approvals and/or authorizations.
- b) A 50 m buffer zone of undisturbed natural vegetation between construction areas and all waterbodies will be maintained.
- c) Siltation control structures (i.e. silt curtains, cofferdams, sediment fences, etc.) will be constructed prior to beginning any activities involving disturbance of the site and work along the shoreline.
- d) Soil disturbance will be reduced by limiting the area exposed at any one time, stabilizing exposed soil with anti-erosion devices (i.e. rip rap, filter fabrics, gravel or wood chips), and revegetation of disturbed areas.
- e) Water will be directed from the site to vegetated areas (natural or man made) within the project boundaries, which will filter any potential suspended solids.
- f) Wash water will be collected and piped through an enclosed steel pipeline to industry approved settling ponds to allow suspended solids to precipitate out;
- g) Wash water will be recycled from the settling ponds back into the operations for reuse in aggregate washing, and dust suppression;
- h) Primary means for controlling erosion will be to avoid activity that contributes to erosion; the disturbance of new areas will be minimized.
- i) Drainage ditches along the access road will be stabilized if required (e.g., lining with vegetation or rock, terracing, interceptor swales, installation of rock check dams) to reduce soil erosion. Any such measures will be properly maintained following installation.

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j) All areas of exposed erodible soil will be stabilized by back-blading, grading and/or compacting to meet engineered slope requirements.

k) If an environmental inspection reveals that silt is entering nearby waterbodies, further mitigative measures will be implemented, such as temporary drainage ditches, siltation control (settling) ponds, ditch blocks/check dams or sediment dam traps, to intercept runoff. The necessary or appropriate measures will be determined in the field.

l) All work and marshalling and storage areas will be monitored for erosion and appropriate repair action taken as necessary.

m) Existing or new siltation control structures used in this work will be monitored for excessive accumulation of sediment; accumulated sediment will be removed from control structures to ensure the effectiveness of the systems. Effluent from control structures will be released to vegetated areas to ensure appropriate filtration prior to entering any waterbody.

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6.12 Buffer Zones

Buffer zones are vegetated boundaries maintained along water bodies. Without adequate buffer zone vegetation, streams, ponds and lakes can become laden with silt from run-off. Vegetation also provides cover for fish.

Environmental Protection Procedures

a) A 50 m buffer zone of undisturbed natural vegetation shall be maintained between construction areas and all waterbodies, watercourses, and ecologically sensitive areas.

b) In areas where the slope is greater than 30%, buffer zone widths will be determined as outlined in Gosse *et al.* (1998).

The minimum width of the buffer zone will be calculated by the following formula:

Buffer Width (m) = 20 m + 1.5 slope (%), unless the 100 m buffer is greater.

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6.13 Shipping

Crushed granite aggregate will be shipped from the Belleoram quarry to market using marine bulk carriers with an anticipated 60,000 dwt. It is anticipated that carriers will be required to enter Fortune Bay and dock at the proposed marine terminal on an estimated weekly basis. Due to their large size and the need for these vessels to turn one-hundred-eighty degrees once they reach the dock for loading, speeds within Fortune Bay are anticipated to be less than two knots. The primary concern related to such activity is the potential for negative effects associated with interactions between carriers and aquaculture facilities in the area, including effects from sounds/vibrational disturbance, wake, water quality, and the possible amplification of the risks involved with superchill events. In addition, there is potential for collision with marine mammals.

Environmental Protection Procedures

General

- a) Charter conditions will specify that all bulk carriers will be double-hulled and will adhere to all environmental compliance, permits and certificates, and meet all regulatory standards pursuant to the *Canadian Shipping Act*. It should be noted that no “tanker” traffic will occur as part of the project and there will be no bulk oil/fuel transport, no oil/fuel refueling of ships, and no bilge water discharge at the project site.
- b) Without compromising the responsibility of the ships Master with respect to safety of the vessel and crew, the following precautions will be specified:
 - i) All bulk carriers will be required to travel within a predetermined pathway that will allow for both adequate passage into the bay as well as maximizing the distance the ship will be from aquaculture farms at any time (Figure 2.0).
 - ii) All bulk carrier speeds will be such that they do not create excessive wake or vibrations at the farm sites.
 - iii) All bulk carriers will turn off engines (except for any generators required for power) when ships are docked at the marine terminal for loading to minimize exposure to mechanical noise.
 - iv) All bulk carriers will carry oil spill clean up equipment (eg. absorbants, inflatable dykes) with trained crew members in spill prevention and clean up techniques.
 - v) The anticipated operation speed of 2 knots is well below the 13knots recommended by DFO to avoid collision with marine mammals.

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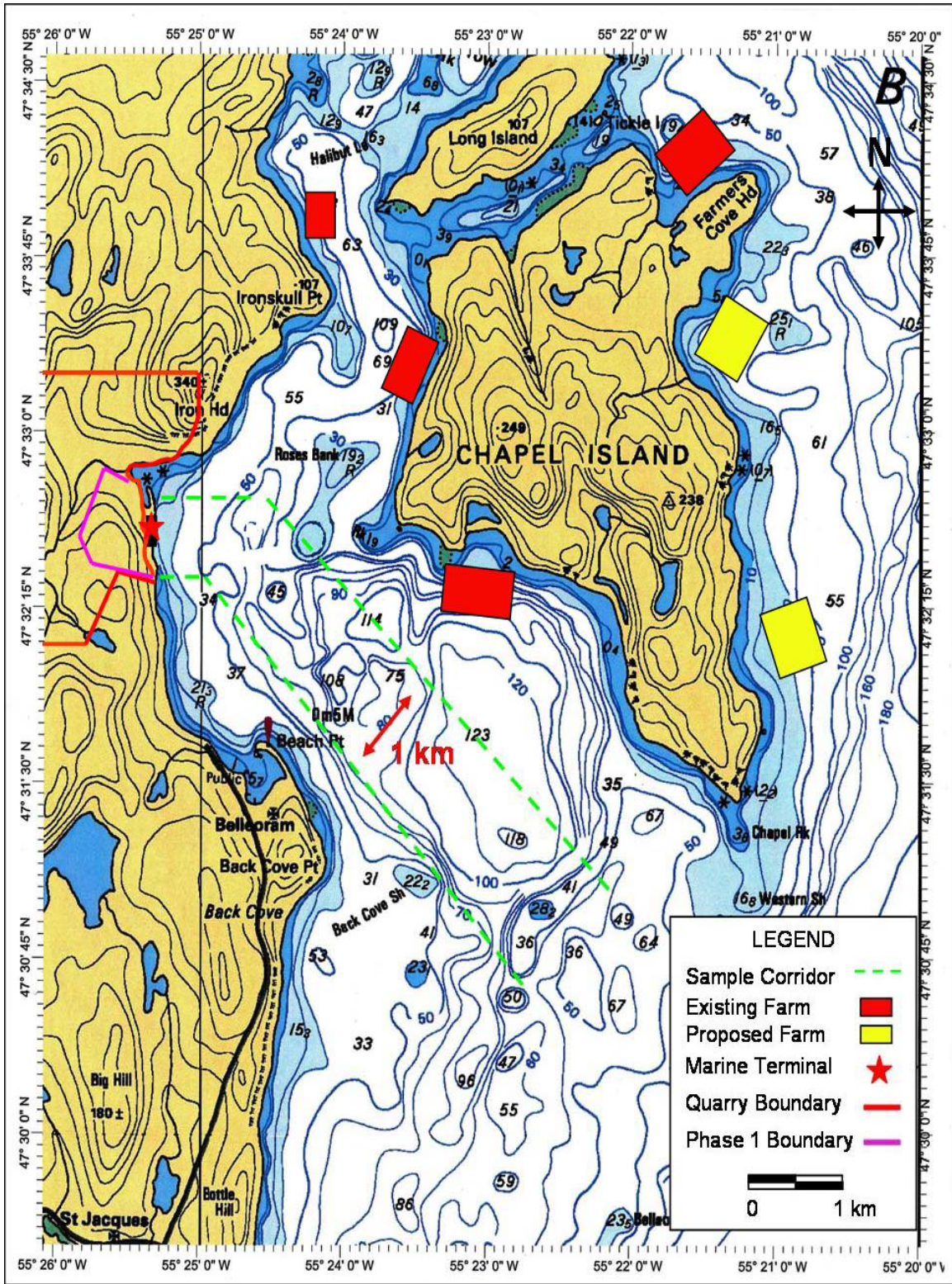


Figure 2.0 Bulk carrier passage lane for the Belleoram Crushed Rock Export Quarry

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Superchill

Effects of a superchill (an event lasting hours or a couple of days occurs where ambient water temperature reaches -0.7 0C or lower) can be amplified due to shipping. Under normal aquaculture operations, fish will naturally avoid superchill by remaining on the bottom of the cages where it is slightly warmer and the water less turbulent than the immediate surface. As a result, both shipping (and blasting) activities can interact with aquaculture operations by causing an avoidance response which may bring fish to the surface into superchill.

Regular communication will be maintained between aquaculture operators and project personnel; this will allow project personnel to re-schedule shipping and blasting activities so as to avoid superchill events.

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6.14 Surveying

Surveying activity may include the following activities:

- Vegetation removal;
- Traversing;
- Establishing targets, permanent benchmarks, and transponder stations.

Surveying activities may disturb vegetation, wildlife, and historic resources.

Environmental Protection Procedures

Vegetation Removal

Width of survey lines will be limited to that which is absolutely necessary for line of sight and unobstructed passage.

Whenever possible, cutting lines to the edge of open areas will be avoided.

Wherever possible, trees and shrubs will be cut flush with the ground; stumps will not exceed 15 cm.

Cutting of survey lines will be kept to 1.5m or less.

All trees not exactly on transit lines shall be left standing and trees partly on line should be notched (notch not to exceed 1/3 tree's diameter) instead of removed, to allow sighting.

Discretion should be used when large trees are encountered. For example, trees greater than 30 cm at diameter breast height (dbh) or larger should, whenever possible, not be cut. On grid lines, trees of 30 cm diameter or larger shall be left intact and shall be traversed to continue the line.

No attempt to harass or disturb wildlife will be made by any person.

Vehicles will yield the right-of-way to wildlife.

There will be no cutting in areas designated as sensitive without notification and approval of the Project Environmental Manager.

Historic resource discoveries will not be disturbed during survey work and will be reported as per applicable regulations.

Traversing

a) All terrain vehicles will not be allowed off the right-of-way except as approved by the Project Environmental Manager.

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- b) Wildlife will not be disturbed or harassed by any personnel.
- c) Motorized vehicles will not be permitted to enter sensitive areas without notification and approval of the Project Environmental Manager.
- d) The extent of activities in sensitive areas will be minimized.

Establishing Targets, Permanent Benchmarks and Transponder Locations

- a) A driven T-bar, well embedded to readily identify each benchmark location will be used.
- b) Wildlife will not be disturbed or harassed by any personnel.
- c) Access to sensitive areas is to be approved by the Project Environmental Manager.
- d) Standard iron bars and sledge hammers are to be used to establish benchmarks.
- e) Heavy equipment will not be used to access sensitive areas.

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6.15 Stream Crossings

Stream crossings and culvert installations have the potential to cause direct disturbances to or mortality of fish, disturbance of waterfowl, and disturbance or loss of fish habitat.

Environmental Protect Procedures

- a) Specific erosion stabilizations methods and effective sedimentation control practices will be implemented on a site-specific basis and based on guidelines and principles as outlined by the Department of Fisheries and Oceans.
- b) Stream crossings shall be constructed in compliance with applicable permits, regulations and authorizations.
- c) Stream crossing activities shall be conducted under the supervision of the Project Environmental Manager.
- d) Work shall be completed in a manner that ensures sediment, fuel and oil do not enter watercourses or waterbodies.
- e) Buffer zones shall be maintained, as per Section 6.14.
- f) At this time, no culverts are planned. If culverts are required, locations will be identified to DFO and adhere to all applicable regulations and permits and be in accordance with the Environmental Guidelines for Culverts from the Department of Environment and Conservation. (Water Resources Division, 1992).

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6.16 Concrete Production

Concrete production will be required for the development of infrastructure. The primary concern associated with concrete production is the potential for the release of washwater and/or spoiled concrete to the environment. Spoiled concrete and associated washwater have the potential to contain harmful additives and agents, as well as pH levels in exceeding acceptable limits.

Environmental Protection Procedures

- a) Washwater from the cleaning of mixers, mixer trucks, and concrete delivery systems shall be directed to a closed system rinsing/settling basin.
- b) In the event that water from the closed settling system is to be released, it shall be tested prior to release for parameters related to concrete additives used in concrete production including total hydrocarbons, sodium hydroxide, pH, and total suspended solids. The water to be released shall adhere to applicable guidelines/limits; if it does not meet these criteria, it will be treated until discharge criteria are met.
- c) The settling basin will be cleaned as required to maintain retention capacity.

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6.17 Groundwater Development and Use

Potable water requirements during construction will be provided from drilled wells. Environmental concerns associated with potable water include the potential for saltwater intrusion, proximity to sources of contamination, and excessive drawdown on the water table.

Environmental Protection Procedures

- a) Wells shall be developed in consultation with the Department of Environment and Conservation, Water Resources Division to avoid areas of groundwater constraint, eg. potential sources of contamination, seawater, and other wells.

- b) Water extraction rates shall be established under approval of the Department of Environment and Conservation, Water Resources Division, to address concerns with respect to drawdown or other potential effects on the water table.

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7.0 CONTINGENCY PLANS

Contingency plans have been developed to address accidents and unplanned incidents. These contingency plans will be modified as required throughout the life of the project.

The following contingency plans have been developed for this project:

- Fuel and Hazardous Materials Spills
- Failure of Siltation Control Measures
- Forest Fires
- Wildlife Encounters
- Discovery of Historic Resources
- Discovery of a Species At Risk

Continental Stone Ltd. supports preventative measures as the first line of defence against the possibility of accidents.

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7.1 Fuel and Hazardous Material Spills

Fuel and hazardous materials (including silt contaminated water or other substances that could affect water quality) can be damaging to vegetation, soil, surface water, ground water, wildlife, aquatic organisms, historic resources and human health and safety.

Environmental Protection Procedures

In the event of a fuel or hazardous material spill, the following procedures will apply:

- a) The individual who discovers the leak or spill will make a reasonable attempt to immediately stop the leak or contain the flow.
- b) Spill location, type of fuel or hazardous material, volume, and terrain conditions at the spill site will be determined and reported immediately to the Project Environmental Manager.
- c) Any spill or leak of fuel or other hazardous material in the marine environment or on land reported to the Project Environmental Manager will be then reported directly to Continental Stone Ltd. Any spill in water, and all spills greater than 70 L on land, will be reported to the Canadian Coast Guard spill report number; 709 772 2083.

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7.2 Failure of Siltation Control Structures

The loss of sediment laden water as a result of spills or the failure of sediment control structures has the potential to adversely affect water quality due to an increase in the total suspended solids of the receiving waters. This can lead to detrimental effects on many forms of aquatic life, including direct effects on fish and their habitat, the smothering of benthic habitat including aquatic vegetation, and more indirect effects on the terrestrial species that depend on these waterbodies for food.

Environmental Protection Procedures

In the event of a spill that could increase a waterbody's total suspended solid levels or the failure of a sediment control measure, the following procedures will apply:

- a) The individual who discovers the spill or malfunction will make a reasonable attempt to immediately stop further spills or contain the flow.
- b) The location, nature of the spill/loss, volume, and terrain conditions at the spill site will be determined and reported immediately to the Project Environmental Manager.
- c) Any spill or sediment loss that enters, or has the potential to enter, the aquatic environment will be reported to the Water Resources Management Division at (709) 729-2563.

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7.3 Forest Fires

a) Site must be properly equipped to fight fires. Fire fighting equipment in camps must meet Provincial regulations and all workers must be made aware of the location of extinguishers and fire fighting equipment. At the beginning of the fire season the Department of Natural Resources at Milltown will be contacted (709 882 2200) to obtain a standby list for the fire season. Further, Continental Stone Ltd will arrange to have Roy Flynn, the Conservation Officer for the area, visit the quarry site to familiarize workers with the contact process and general fire safety and awareness.

b) Other than in an emergency situation, there must be no use of open fires at work sites.

c) Fire should be reported immediately to the Site Manager, the nearest Forest Management Unit office, as well as the Department of Natural Resources in Milltown (709 882 2200). The following information will be provided:

- Name of the reporter and phone number
- Time of detection of the fire
- Size of the fire
- Location of the fire

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7.4 Wildlife Encounters

Wildlife encounters pose a risk for stress or injury to both the wildlife and site personnel. Control measures and environmental protection procedures have been put in place to reduce the risk to both wildlife and humans.

Environmental Protection Procedures

Prevention

Continental Stone Ltd. is responsible for ensuring the following procedures are implemented:

- a) Project personnel are prohibited from hunting, trapping, or fishing on site.
- b) Site and working areas will be kept clean of food scraps and garbage.
- c) Waste will be collected for disposal in appropriate containers. Waste will be transferred to the local landfill routinely as needed.

Response Actions

All project personnel will abide by the following rules in the case of wildlife encounters:

- d) No attempt will be made by any person at the project site to chase, catch, divert, follow, or otherwise harass wildlife by vehicle or on foot.
- e) Equipment and vehicles will yield the right-of-way to wildlife.
- f) No personal pets, domestic or wild, will be allowed on the site.
- g) When nuisance animals are identified in the project area, Continental Stone Ltd. will be responsible for all subsequent actions. Continental Stone will consult with the Department of Environment and Conservation; all actions will comply with Wildlife Division regulations and permits.
- h) Under provincial wildlife regulations, the displacement and release of any animal is the sole jurisdiction of the Department of Environment and Conservation, and is to be undertaken only under appropriate supervision.
- i) If the nest of any raptor or other bird is encountered, activity in the vicinity of the nest is to be curtailed until the Wildlife Division is contacted and appropriate mitigation is applied.

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7.5 Discovery of Historic Resources

Historic resource material that is disturbed, destroyed, or improperly removed from a site represents a cultural loss of information and history that could otherwise be handled and interpreted in an efficient and appropriate manner.

Environmental Protection Procedures

- a) Stop all work in the immediate area of the discovery until authorized personnel (Project Environmental Manager), having consulted with the Provincial Archaeologist, permit resumption of the work.
- b) Report the find immediately to the Project Environmental Manager.
- c) Mark the site's visible boundaries. Personnel will not move or remove any artifacts or associated material unless the integrity of the material is threatened.
- d) Continental Stone will report the find with the following information to the Provincial Archaeology Office, Culture and Heritage Division, Department of Tourism, Culture, and Recreation, St. John's, and comply with the instruction provided:
 - i) nature of the find;
 - ii) precise descriptive and map location and the time of the find;
 - iii) nature of the activity resulting in the find;
 - iv) identity of the person(s) making the find;
 - v) present location of the material, if moved, and any protective measures initiated for the material and the site; and,
 - vi) extenuating circumstances.

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7.6 Discovery of a Species at Risk

The construction and operation of the Project may affect Species at Risk and their habitat. Since these species are extremely sensitive to habitat degradation the following measures will be put into place to ensure that the Project does not pose a threat to their population's survival.

Environmental Protection Procedures

- a) The Proponent and all contractors working on-site will adhere to all stipulations set out in the Species at Risk Act (SARA), and will be informed that it is illegal to kill, harass, capture or harm any species listed under it.
- b) If a Species at Risk is discovered, all work in proximity to the location will cease and it will be reported to the Project Environmental Manager who will then contact to Environment Canada.
- c) As per Section 73 of the SARA, a competent Minister may enter into an agreement or issue a permit authorizing the activities in proximity to the Species at Risk to commence; however, operations in the area will not continue until such a permit is obtained. To that end, Continental Stone Ltd will successfully demonstrate that: 1) all reasonable alternatives to the activity have been considered; 2) all feasible measures will be taken to minimize the effect of the activity on the species; and 3) the activity will not jeopardize its survival or recovery.
- d) As part of any authorization pertaining to a Species at Risk, an Action Plan will be developed in consultation with Environment Canada to ensure the long term viability of the species/habitat in question.

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7.7 Contact List

Continental Stone Ltd.

Robert Rose
709 782 3404
Larry Puddister
709 782 3404

Environment Canada *Environmental Protection*

Glen Troke
709 772 4087

Environment Canada *Canadian Wildlife Service*

Holly Hogan
709 772 2194

Fisheries and Oceans Canada

John O'Rourke
709 772 7345
Marvin Barnes
709 772 4912

Department of Government Services

St. John's
729-3699

Royal Canadian Mounted Police

1-800-709-RCMP (7267)

Department of Natural Resources

Conservation Officer

Roy Flynn
709-882-2200

Department of Environment and Conservation

John Eason
709 729 5706
Christine Doucet
709 637 2372

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8.0 MONITORING PLANS AND FOLLOW-UP

Continental Stone Ltd has committed to the implementation of mitigative measures designed to address water quality concerns throughout all stages of the Project. Pursuant to Section 16(2) of the CEA Act, a Follow-Up program was designed during the comprehensive study process in order to: 1) verify the accuracy of the environmental assessment for the Project; 2) to determine the effectiveness of the measures taken to mitigate the adverse environmental effects of the project; and 3) to support and verify predictions made concerning the likelihood of “no significant adverse environmental effects”. The Follow-Up program will include environmental monitoring programs which will assess whether the mitigative measures are having the desired effect and will help ensure that any releases from the site comply with all regulatory and permitting requirements.

The intent of these monitoring programs is not to monitor all components of the environment, but to focus on those areas where areas of concern have been identified. To this end, monitoring programs will be developed for the following Project-related activities, including:

- Work within or near the marine environment;
- Installation and operation of sediment control structures;
- Water withdrawal from freshwater habitat;
- Sediment pond discharges, and;
- Blasting-related runoff.

Individual Environmental Effects Monitoring Plans (EEM) will be finalized upon completion of the Project’s Environmental Impact Statement. Details of the EEMs, including the nature, extent, and frequency of testing, will be determined through consultations with the appropriate authorities to meet the requirements of any acts, regulations, licences or permits. Once the EEMs have been set, they will be implemented and overseen by the Project Environmental Manager who will be charged with assessing the effectiveness of any mitigation measures and determining if any changes are necessary to ensure environmental compliance. Further, any authorizations required pursuant to Section 35(2) of the Fisheries Act will be detailed by DFO upon completion of their HADD assessment and subsequent compensation strategy. This authorization will also outline the necessary post-construction monitoring measures to be completed by the Proponent to ensure that any compensatory works are functioning as designed.

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9.0 REFERENCES

Department of Fisheries and Oceans. 1994. Factsheets Vol. 1-26, including: Factsheet No. 2 Blasting – Fish and Fish Habitat Protection

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Wright, D.G., and G.E. Hopky. 1998. Guidelines for the use of explosives in or near Canadian Fisheries Waters. Can. Tech. Rep. Fish. Aquat. Sci. 2107: iv+34p.