**Stantec Consulting Ltd.**
607 Torbay Road
St. John's, NL A1A 4Y6
Tel: (709) 576-1458
Fax: (709) 576-2126

# Environment Assessment Registration Document – Buchans Highway Quarry, Badger, NL

Ref No. 200.20.2168

Prepared for

Penney Paving Limited

File No. 121511158

Date: May 2013

# Table of Contents

## LIST OF FIGURES

# 1.0 NAME OF UNDERTAKING

Badger Highway Quarry – Badger Area, NL (Newfoundland and Labrador Department of Natural Resources File # 200.20.2168)

# 2.0 PROPONENT

## 2.1 Name of Corporate Body

Penney Paving Limited

## 2.2 Address

P.O. Box 806
14 Duggan Street
Grand Falls-Windsor, NL
A2A 2M4

## 2.3 Chief Executive Officer

Mr. Fred J Penney, MBA, P.Eng, GSC.
Vice President
P.O. Box 806
14 Duggan Street
Grand Falls-Windsor, NL
A2A 2M4

## 2.4 Principal Contact Person

Mr. Fred J Penney, MBA, P.Eng, GSC.
Vice President
P.O. Box 806
14 Duggan Street
Grand Falls-Windsor, NL
A2A 2M4

# 3.0 THE UNDERTAKING

## 3.1 Nature of the Undertaking

The proposed project (Newfoundland and Labrador Department of Natural Resources, File # 200.20.2168) involves the development of a 1.8 hectare sand and gravel pit site located adjacent to the existing Penney Paving Limited pit on Buchans Highway (R370). The proposed undertaking will involve material extraction (sand and gravel) for use as asphalt and concrete aggregate for projects in central Newfoundland.

## 3.2 Purpose/Rationale/Need for the Undertaking

The purpose of this project is to extract a product (sand and gravel) for future use as asphalt aggregate, concrete aggregate and granular material used in construction.

# 4.0 DESCRIPTION OF THE UNDERTAKING

## 4.1 Geographic Location

The proposed project is located approximately 7 km from the town of Badger, NL, on Buchans Highway (R370). The quarry is located NAD27 UTM Zone 21 565860E 5420620N (Figure 1.).

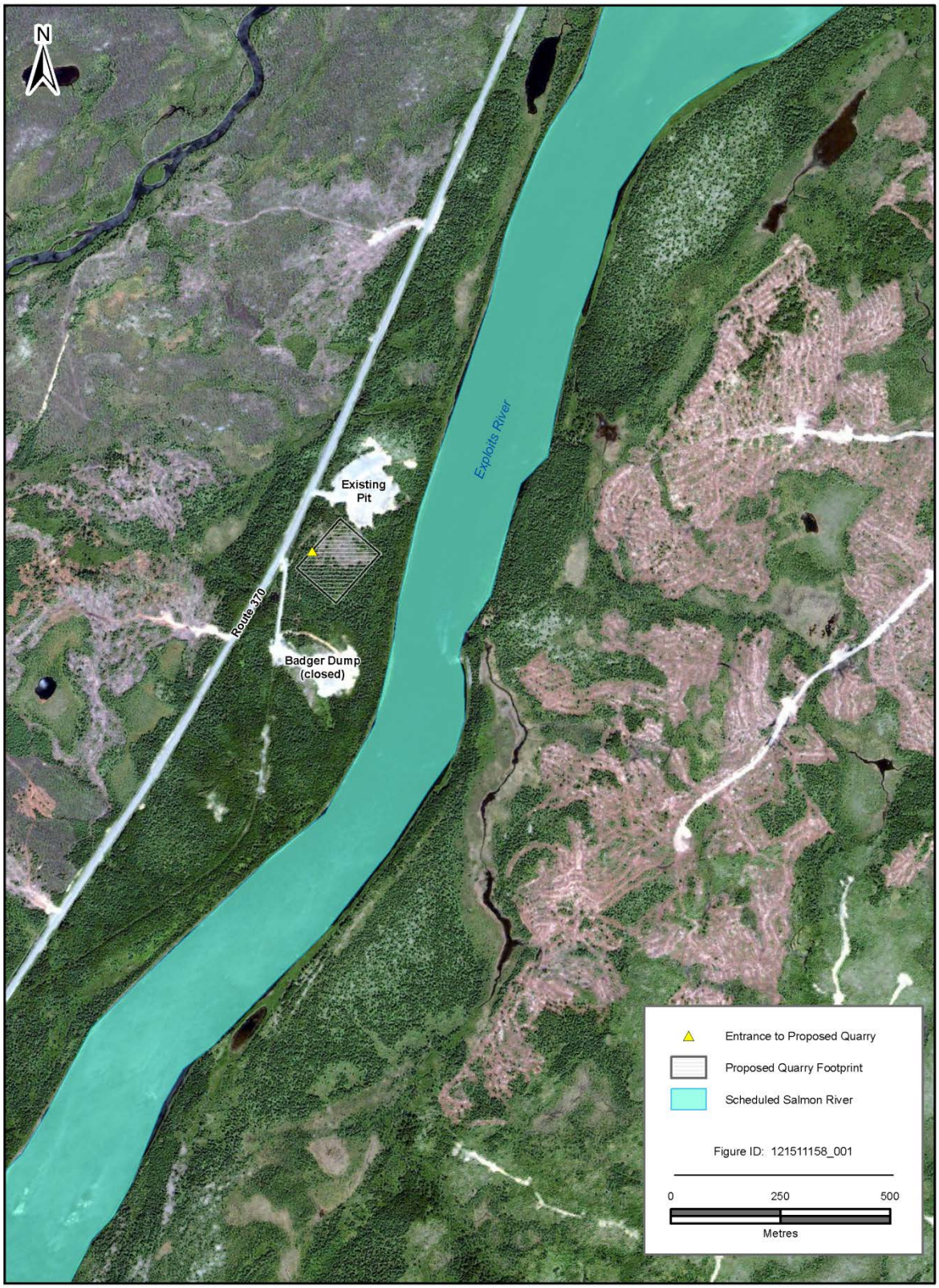



**Figure 1 Location of Proposed Project**

## 4.2 Physical Features

### 4.2.1 Project Site Description

The sand and gravel pit will be the primary physical feature at the project site. There will not be any work camps, facility buildings, or roads on site. Access to the site will be by means of the adjacent existing sand and gravel pit currently operated by Penney Paving Limited.

### 4.2.2 Existing Biophysical Environment

The proposed site is located within the Central Newfoundland Ecoregion, Northcentral Subregion. On the Island of Newfoundland, this region is characterized by the highest summer temperatures and the lowest winter temperatures. The mean annual temperature is approximately 4.5°C, with a mean summer temperature of 12.5°C and a mean winter temperature of -3.5°C. The mean annual precipitation ranges from 1,000 to 1,300 mm.

Balsam fir and black spruce dominate on steep, moist, upland slopes. Black spruce, white birch, and aspen grow on disturbed sites. Kalmia heath and lichens are found on drier sites. Some areas lack good forest growth due to exposure to winds and poor soil conditions. Forest fires have played a more important role in this ecoregion's natural history than in other regions. Thus, much of the Balsam Fir-Feathermoss forest types have been converted to black spruce and some of the richer site types are dominated by white birch and aspen. In areas that have been burned repeatedly, dwarf shrub (Kalmia) barrens have replaced forest stands. Raised bogs are the characteristic wetland type in this ecoregion.

Black bear, caribou, moose, lynx, snowshoe hare and red fox are typical types of wildlife found in the area.

The rivers and ponds in the area are host to a number of fish species, including stickleback, brook trout, American eel and Atlantic salmon. Rainbow smelt, rainbow trout and Arctic char are also known to inhabit waterbodies in the ecoregion. The proposed site is located approximately 64 m from Exploits River, a Class II scheduled salmon river.

## 4.3 Construction

The construction phase of site development will consist of:

- clearing and grubbing; and
- pit development, including sediment control.

### 4.3.1 Site Access

Site access will be by means of the adjacent quarry pit currently operated by Penney Paving Limited. No new access is required.

### 4.3.2 Salvageable Timber (Clearing) and Grubbing

Merchantable timber removed during pit development will be salvaged. All grubbed materials will be stockpiled for future use.

### 4.3.3 Pit Development

The proposed pit is a planned expansion of the adjacent sand and gravel pit operated by Penney Paving and covers a total area of approximately 1.8 hectares of land. Construction of the pit will start at the southwestern boundary of the existing pit and move southwest toward the centre of the pit. Activities include removal of vegetation cover and installation of sediment control. All topsoil and surficial organics will be set aside for pit rehabilitation.

## 4.4 Potential Sources of Pollution during Construction

The construction phase will involve vegetation clearing and earth-moving activities. The potential sources of pollution during construction include noise, air emissions, waste, site drainage and accidental release of hydrocarbons from heavy equipment.

### 4.4.1 Air Quality/Noise

There is the potential that construction activities will result in an increase in noise, emissions and dust. Disruptions related to air quality or noise is expected to be minimal and not likely significant with the following mitigation measures implemented:

- Construction will be carried out during daylight hours to limit disturbances to local wildlife and to avoid disturbances to local users, the nearest of which are located 7 km from the existing (and proposed) quarry.
- Machinery will be well muffled and comply with all applicable provincial and municipal noise bylaws.
- All equipment will have appropriate emission controls.
- All machinery will follow designated project routes and be properly maintained.
- Dust control measures, such as water applications, will be implemented if required.

### 4.4.2 Waste

Construction of the quarry has the potential to generate domestic waste. The effects of waste on the surrounding environment are not likely significant with the following mitigation measures implemented:

- All domestic waste materials will be recycled or be disposed of according to the Newfoundland and Labrador *Waste Management Regulations*.

### 4.4.3 Site Run-off

Construction activities could result in the mobilization of onsite soils, especially during heavy precipitation events. The implementation of the following mitigative measures will reduce the effects to levels that are not likely significant.

- Work will be scheduled to avoid periods of anticipated/known heavy precipitation.
- Erosion control structures (e.g., ditching, temporary matting, geotextile filter fabric, silt fencing, settling ponds) will be used, as required, to prevent erosion and release of sediment and/or sediment-laden water.
- Exposed soil areas will be minimized by limiting the area exposed at any one time and by limiting the amount of time that any area is exposed.

### 4.4.4 Accidents and Malfunctions

Accidents and/or malfunctions of heavy equipment could result in a spill of fuel, engine oil, or hydraulic fluid. The implementation of the following mitigative measures will reduce the effects to levels that are not likely significant.

- Machinery and equipment servicing will be done off site on level terrain and 150 m from any waterbodies.
- Spill response training will be provided to employees operating heavy equipment.
- Emergency response spill kits will be onsite at all times to respond to any accidental spills of deleterious substances in a quick and effective manner
- No petroleum (or other hazardous) products will be stored on site.

## 4.5 Operation

Typical excavation methods will be employed to collect the overburden materials (sand and gravel) at the proposed site. The operation of the quarry will include the excavation and loading of the sand and gravel materials, crushing/screening and transportation of these materials for use off site for various projects in and around central Newfoundland. Oversized rock material and waste will be stockpiled for future use.

Appropriate ditching and settling basins, as required, will be maintained on site to ensure silt and general site run-off is controlled and does not adversely affect the surrounding environment. In addition, perimeter ditching, as required, will be located to prevent migration of surface water drainage from non-operating and off-site areas into operating areas. The ground and facilities will be maintained according to provincial and municipal environmental health and safety standards and regulations.

Equipment on site will include:

- dump trucks (material dump trucks);
- front end loader (material handling); and
- mobile crusher-screener.

The pit operation will typically run from May to October, in accordance with demand for quarry products. The quarry could potentially operate for 10 years.

## 4.6 Potential Sources of Pollution during Operation

The potential sources of pollution during operation of the quarry are similar to those during construction and include noise, air emissions, waste, site drainage and accidental release of hydrocarbons from heavy equipment.

### 4.6.1 Air Quality/Noise

There is the potential that operation activities will result in an increase in noise, emissions and dust. Disruptions related to air quality or noise is expected to be minimal and not likely significant with the following mitigation measures implemented.

- Operational activities will be carried out during daylight hours to limit disturbances to local wildlife and to avoid disturbances to local users.
- Machinery will be well muffled and comply with all applicable provincial and municipal noise bylaws.
- All equipment will have appropriate emission controls.
- All machinery will follow designated project routes and be properly maintained.
- Dust control measures, such as water applications, will be provided if required.

### 4.6.2 Waste

Operation of the quarry may result in the generation of domestic waste. The effects of waste on the surrounding environment are not likely significant with the following mitigation measures implemented.

- All waste materials will be recycled or be disposed of according to Newfoundland and Labrador *Waste Management Regulations*.
- Sewage facilities will not be located at the site. Sewage facilities are located at the adjacent, currently active pit and is handled by an approved portable facility and removed by a pump truck on a regular basis for appropriate disposal.

### 4.6.3 Site Run-off

Operational activities could result in the mobilization of onsite soils, especially during heavy precipitation events. The implementation of the following mitigative measures will reduce the effects to levels that are not likely significant.

- Work will be scheduled to avoid periods of anticipated/known heavy precipitation.
- Erosion control structures (e.g., drainage ditches, silt fencing, temporary matting, geotextile filter fabric, settling ponds) will be used, as appropriate to prevent erosion and release of sediment and/or sediment-laden water.
- Exposed soil areas will be minimized by limiting the area exposed at any one time and by limiting the amount of time that any area is exposed.

### 4.6.4 Accidents and Malfunctions

Accidents and/or malfunctions of heavy equipment could result in a spill of fuel, engine oil, or hydraulic fluid. The implementation of the following mitigative measures will reduce the effects to levels that are not likely significant.

- Equipment servicing and maintenance will be carried out off site on level terrain and 150 m from any waterbodies.
- Spill response training will be provided to employees operating heavy equipment.
- Emergency response spill kits will be onsite at all times to respond to any accidental spills of deleterious substances in a quick and effective manner.
- Petroleum products will be handled as per Storage and Handling of Gasoline and Associated Products Regulations, 2003 under the Environmental Protection Act.

## 4.7 Potential Resource Conflicts during Operation

The proposed quarry site is located nearby the Exploits River, a scheduled salmon river.

With the proper environmental protection measures in place, the proposed quarry will not have an impact on the scheduled salmon river. Environmental protection measures include:

- site drainage will be controlled by ditching;
- erosion will be prevented/mitigated by only clearing off land in a progressive manner as the quarry advances;
- sedimentation will be controlled by using silt fences along waterbodies and around grubbing stockpiles;
- a vegetated buffer zone of at least 50 m will be maintained around waterbodies;
- no fuel will be stored on site;
- there will be no sewage disposal systems located onsite;
- waste materials will be taken away on a daily basis;

- spill kits will be maintained and located at the site; and
- spill response training will be provided to employees operating heavy equipment.

### 4.8 Decommissioning/Rehabilitation

Site decommissioning and rehabilitation shall be in accordance with standard pit operations, including:

- upon completion of all pit activities, all pit slopes will be graded to a stable slope of 30° or less;
- waste overburden will be used for sloping; and
- stockpiled topsoil and other organic material will be spread over the entire excavated area and seeded to revegetate the area.

### 4.9 Occupations

Site construction and operations for the proposed pit will include the following occupations, classified as per National Occupational Classification (NOC) 2011, and equipment.

#### 4.9.1 Construction Phase

1 Site Engineer (NOC 2143)

1 Heavy Equipment Operator (NOC 7521)

#### 4.9.2 Operations Phase

1 Site Engineer (NOC 2143) for three weeks

5 Heavy Equipment Operators (NOC 7521) for three weeks and 3 Heavy Equipment Operators (NOC 7521) for six weeks

1 Administration (NOC 1411) for approximately one week

### 4.10 Project-Related Documents

There are no project- related documents associated with this registration.

## 5.0 APPROVAL OF THE UNDERTAKING

The following permits and approvals will be required for this project to proceed:

- Environmental Protection Act – Assessment Regulations: Permit to Proceed
- Quarry Materials Act and Quarry Minerals Regulations: Quarry Permit/Lease
- Forestry Act: Commercial Cutting and Operating Permit

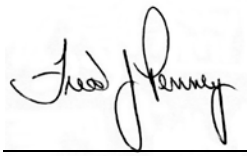
# 6.0 SCHEDULE

| | |
|---|---|
| Registration Document Submission | May 2013 |
| Government Review and Decision | July 2013 (estimate) |
| Pit Operations | July 2013 (upon approval) |

# 7.0 FUNDING

The funding for this project will be solely provided by Penney Paving Limited.

# 8.0 SUBMISSION



May 3, 2013

Mr. Fred J Penney
Vice President
Penney Paving Limited

Date