Colchester Containers Limited

CLASS 1 ENVIRONMENTAL ASSESSMENT REPORT
HIGHWAY 289, MIDDLE STEWIACKE, NOVA SCOTIA--

P-0011963-0-01-201
# Minimum Requirements Checklist

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<td>Name, address, signature, and identification of the proponent including the name of</td>
<td>1.2</td>
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<tr>
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<td></td>
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<td>5</td>
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Englobe Corp.

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Revision and Publication Register

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<tr>
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<th>Modification and/or Publication Details</th>
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<td>7-May-2019</td>
<td>Final EA issued</td>
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1 Introduction

1.1 Overview

Colchester Containers Limited (the Proponent) is proposing to construct an Asbestos Waste Disposal Cell at the existing Colchester Containers Limited Construction and Demolition (C&D) Waste Disposal site, located in Middle Stewiacke, Nova Scotia. To proceed with this Project, a Class 1 Environmental Assessment (EA) is required, pursuant to the Environment Act as identified in Schedule A of the Environmental Assessment Regulations, Section E (Waste Management) (1), “A facility for storing, processing, treating or disposing of waste dangerous goods that were not produced at the facility, other than facilities operated by, or on behalf of, a municipality or Provincial agency for waste dangerous goods collected only from residential premises.” Asbestos is considered a waste dangerous good as described in the Asbestos Waste Management Regulations.

1.2 Proponent Information

The proponent is Colchester Containers Ltd. The Nova Scotia (NS) Registry of Joint Stocks information is provided in Appendix A. Contact information is provided below:

<table>
<thead>
<tr>
<th>Proponent:</th>
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</tr>
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<tbody>
<tr>
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<td>Norman Ross</td>
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<td>Proponent Contact:</td>
<td>Derek Ross</td>
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<td>Phone:</td>
<td>(902) 468-6466 ext. 234</td>
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<tr>
<td>Fax:</td>
<td>(902) 468-4919</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:aven.cole@englobeCorp.com">aven.cole@englobeCorp.com</a></td>
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Signed this 7th day of May, 2019

Norman Ross
CEO
Colchester Containers Ltd.
2 The Undertaking

2.1 Name of the Undertaking

Colchester Containers Ltd. (Proponent) proposes to construct and operate an Asbestos Waste Disposal Cell at their existing Construction and Demolition Debris disposal facility (Colchester Containers Ltd.). This Project is referred to as the Asbestos Waste Disposal Cell.

2.2 Location and Adjacent Land Use

The project site (PID No. 20436325) is identified as Parcel CC and is located on the north side of Highway 289, in Middle Stewiacke, Colchester County, NS, as shown on Figure 2-1.

The site is approximately 30.4 hectares (75 acres) and is largely forested and accessed by a logging road entering the site from the south off Highway 289. The property contains the existing C&D Facility which consists of one active C&D disposal cell on the north side of the property, several inactive C&D disposal cells, and a weigh scale on the gated access road in the centre of the property.

Based on the local topographic contours (from Google Earth digital terrain mapping and NS Digital Topographic Map 1:10,000 series), the site slopes in a radial pattern to the north, west, east and south. The Stewiacke River is located south of the subject property on the opposite side of Highway 289, Rutherford Creek is located farther to the east of the site and Bear Brook is located farther to the west of the site.

Based on review of the subject property on the Service Nova Scotia and Municipal Relations website, the site and surrounding properties are classified as resource forest.

Figure 2-1. Site Location Map, Parcel CC Highway 289, Middle Stewiacke, NS
3 Regulatory Framework

3.1 Federal

No federal approvals or permits are expected to be required for the proposed Project. There are no watercourses on the proposed working area of the site, and there will be no water discharges from the site. Therefore, no permits are required from Fisheries and Oceans Canada (DFO). Environmental Canada (EC), by way of Canadian Wildlife Services (CWS), has been consulted with respect to potential species at risk in the area. There are no federally regulated species at risk at the site or expected to use the site.

No work associated with the Project will involve Federal lands or federal funding.

The Activity does not trigger any Canadian Environmental Assessment Act (CEAA) requirements; under the CEAA Regulations Designating Physical Activities, the Project is not described by:

► Item 29: The construction, operation, decommissioning and abandonment of a new facility used exclusively for the treatment, incineration, disposal or recycling of hazardous waste; and
► Item 30: The expansion of an existing facility used exclusively for the treatment, incineration, disposal or recycling of hazardous waste that would result in an increase in hazardous waste input capacity of 50% or more.

3.2 Provincial

To proceed with this Project, a Class 1 Environmental Assessment (EA) is required, pursuant to the Environment Act as identified in Schedule A of the Environmental Assessment Regulations, Section E (Waste Management) (1), “A facility for storing, processing, treating or disposing of waste dangerous goods that were not produced at the facility, other than facilities operated by, or on behalf of, a municipality or Provincial agency for waste dangerous goods collected only from residential premises.” Asbestos waste is considered a dangerous good as described in the Asbestos Waste Management Regulations.

In addition to the above, the Proponent also requires an NSE Industrial Approval for its current operations. Colchester Containers currently operates its C&D disposal site under NSE 2008-063121-T01. A request to amend NSE 2008-063121-T01 will be made to include the asbestos waste cell once the Project has satisfied the requirements of the NSE Environmental Assessment Act.

The undertaking will operate following the most recent versions of Guidelines for Environmental Noise Measurement and Assessment and Erosion and Sedimentation Control Handbook for Construction Sites.

No other permits or approvals are expected to be required from the Province for the Undertaking. If it is determined that additional permits or approvals are required, the Proponent commits to obtaining all requisite approvals prior to work.
3.3 Municipal

The Project is located within the Municipality of the County of Colchester. The parcel of land currently used for the C&D Site, and proposed for the asbestos waste disposal cell, is zoned as Forestry Resource.

There are no land use restrictions in the Middle Stewiacke area; the only requirement is that a building permit is attained for any permanent structures. No municipal Approvals are required for any commercial or industrial activities; authorization is deferred to the provincial regulatory body.
4 Scope

4.1 Purpose and Need of the Undertaking

The purpose of the proposed undertaking is to construct and operate the Asbestos Waste Disposal Cell to and dispose of such waste, supporting the current C&D waste management site.

Colchester Containers Limited has held an NSE Approval to construct, operate and reclaim a C&D since 1997. The Proponent proposes to continue C&D operations at the site and expanding to include a second containment cell for at Facility which may accept the disposal of asbestos waste.

Currently, there are no facilities in Truro or nearby surrounding communities that provide asbestos waste disposal services. By providing a more accessible disposal facility, and reducing costs associated with trucking asbestos wastes, illegal disposal of asbestos waste should be reduced. The locations currently authorized to receive asbestos waste are summarized in Table 4-1.

Table 4-1. Locations of Approved Asbestos Waste Disposal Sites

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Distance* (km)</th>
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<tbody>
<tr>
<td>Torbrook C &amp; D Disposal and Recovery</td>
<td>1031 Uhlman Branch Road, Torbrook, Annapolis County</td>
<td>220</td>
</tr>
<tr>
<td>Arlington Heights C&amp;D Landfill</td>
<td>1481 Arlington Road West, Hampton, Annapolis County</td>
<td>240</td>
</tr>
<tr>
<td>Yarmouth County Solid Waste</td>
<td>932 Hardscratch Rd, South Ohio, Yarmouth County</td>
<td>390</td>
</tr>
<tr>
<td>Cumberland Joint Services Management Authority</td>
<td>2052 Little Forks Rd., Little Forks, Cumberland County</td>
<td>125</td>
</tr>
<tr>
<td>CBRM C&amp;D Landfill</td>
<td>Grand Lake Road, Sydney, Cape Breton County</td>
<td>325</td>
</tr>
<tr>
<td>Marinus Verhagen Enterprises Limited</td>
<td>McLellans Brook, Pictou County</td>
<td>75</td>
</tr>
<tr>
<td>Beech Hill Waste Management Facility</td>
<td>1356 Beech Hill, Beech Hill, Antigonish County</td>
<td>135</td>
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Note: * - Distance from the Facility

The C&D facility, and current project, is an important component of the local construction industry in the area and surrounding counties. The C&D cell provides a local disposal option, allowing inert wastes to be diverted from high cost municipal landfills. The new asbestos waste cell will support responsible disposal of asbestos waste to an existing local contractor client base.

4.2 Description of the Undertaking

The project with include construction of an Asbestos Waste Disposal Cell at the facility. The Asbestos Waste Disposal Cell site will only handle asbestos waste that is delivered to this site in accordance with the NSE’s Asbestos Waste Management Regulations.
Asbestos waste to be deposited within the Project site will result from building demolition activities by Colchester Containers and other Nova Scotia asbestos abatement contractors. It is anticipated that approximately 898 tonnes of asbestos waste will be deposited at the facility per year. The actual amount disposed at the site will vary based on the demolition activities within the province.

The project layout of 1.8 hectares is planned to provide for several years of disposal of asbestos waste. The project area will be divided into three 6,000m² cells, to minimize active operations areas and disturbance at the site, and will be developed in phases to satisfy the projected disposal demand. Only one cell will be operational at any time. The rate of asbestos waste accepted at the site will be monitored to determine when/if a subsequent waste cell would be required.

The waste cell(s) will have a liner constructed of clay that has a minimum permeability of $1 \times 10^{-5}$ cm/sec and a minimum thickness of 1 metre. The waste cell(s) will be more than 1 meter above the water table. The cell, once completed, will have a final clay cap placed over the cell with the cover being stabilized through seeding and vegetation as soon as possible to keep the operations areas to a minimum. The engineering design plans are provided in Appendix B.

There is already roadway access to the proposed project area; onsite truck routes will be adjusted to optimize truck flow on the site to prevent vehicular accidents. The project site will incorporate a buffer zone around the cell(s) and surface water will be managed through an Erosion and Sediment Control (ESC) Plan to prevent clean site water from collecting in the cell(s). Surface water that enters the operations area (through precipitation events) will be handled in accordance with the site-specific ESC Plan.

Once operational, the asbestos waste will be placed in the cell(s) and covered with stockpiled pre-approved cover. The asbestos waste will remain in the condition it is delivered (sealed bags). No structures are required to support the project activities; a weigh scale is already used at the site as part of the C&D operations. Placement and cover activities will be through a combination of on-site equipment and off-site trucks. Off-site truck traffic and loading on the public roads is not expected to significantly increase, an additional one or two trucks per week is anticipated.

All asbestos waste entering the site will be accompanied with a shipping document as is required in the Transportation of Dangerous Goods Act (Canada). Shipments without the appropriate paperwork will be rejected. A yearly report summarizing the quantity and type of asbestos waste disposed of at the site (as well as any other NSE required information) will be incorporated into the current Annual Report required under the C&D Approval.

### 4.3 Scope of the Undertaking

#### 4.3.1 Construction and Implementation

The scope of the proposed new waste cell(s) is similar to current (and past) activities at the site. The general Project components will include the following:

- Implementation of a project specific ESC Plan;
- Clearing and grubbing of the project area;
- Mass cut and fill operations in the cell(s) location;
- Compaction and geotechnical verification of liner material;
- Stockpiling of approved cover material;
4.3.2 Operations and Maintenance

The operations of the facility will include vehicle traffic for staff working at the facility, from vehicles delivering the asbestos waste and site maintenance vehicles (e.g. heavy machinery including excavators, bulldozers and dump trucks). Regular activities include placement of the waste within the cell(s), the covering of asbestos waste material deposited at the site, management of the stockpiled cover material, and maintenance of the storm water management and ESC devices.

4.3.3 Decommissioning and Reclamation

Decommissioning of the proposed Project site is not likely to occur for at least 20 years or more; however, rehabilitation of the completed cell(s) will be progressive in nature to minimize the spatial extent of the active operations area. Once a date for decommissioning has been established, NSE will be notified and decommissioning and reclamation will be carried out in accordance with the Rehabilitation Plan. The overall site Rehabilitation Plan will be revised to support the amendment request for NSE 2008-063121-T01 (the C&D Approval).

4.4 Project Alternatives

Alternatives are defined as different ways of attaining the same outcome.

The site is land-locked with an established right-of-way extending from Highway 289; there are no other viable access alternatives.

The undertaking methodology will involve placement of asbestos waste in an engineered cell(s) above the groundwater table. There is no viable alternative to the undertaking other than to not construct a clay containment cell(s) for disposal of asbestos waste.

The alternative to the undertaking is the “do nothing” alternative. This would entail the Proponent continuing with its current operations, receiving C&D waste, but directing asbestos waste to other NSE approved locations for disposal.

4.5 Other Projects in the Area

The construction and demolition disposal facility adjacent to the proposed asbestos cell location is owned and operated by the Proponent. The C&D disposal site is located within the Study Area of this Environmental Assessment.

The Alton gas project was registered in Alton, NS; this site is more than 15km to the west.

4.6 Land Ownership and Project Funding

The 30.4-hectare (75-acre) property is owned by the proponent, Colchester Containers. The project will be privately funded by Colchester Containers and will not include any outside funding from either provincial or federal agencies.
4.7 Scope of the Environmental Assessment

The scope of the EA was determined based on consultation with NSE and the Proponent, as well as the review of the following:

- NSE *Environmental Assessment Regulations*;
- 2017 *A Proponent’s Guide to Environmental Assessment*; and

The EA is a planning tool used in which the environmental effects of a proposed undertaking are predicted and evaluated and are given consideration prior to the undertaking. The environmental assessment includes identifying and describing those components of the proposed setting within the area of the study boundaries that will or could be affected by the project. The process for an environmental assessment is a step-wise and transparent process, and includes determining the following:

- Valued Environmental Components (VECs);
- Project activities that may interact with the VECs;
- Temporal and spatial assessment boundaries;
- Potential effects that could occur from project activity interactions with the VECs;
- Mitigation measures or best management practices that can be used or implemented to reduce impacts;
- Characterizing the residual environmental effects and their significance; and
- Monitoring measures.

The Project includes both spatial and temporal boundaries in assessing the effects on the surrounding environments. The spatial boundaries include the area that the project has the potential to impact. The spatial boundaries are the area where potential project impacts occur, whether direct or indirect, and are dependent on the VEC and the potential effect of the project on a particular VEC. Temporal boundaries include the time period, or duration, over which the effect may occur and consist of site development and site operations until decommissioning.
5 Public Involvement

Public consultation for Class I Undertakings (Waste Management) is not a mandatory component, except for announcing the release of the EA report to the public and noting that the public may submit written comments to the provincial Administrator within 48 days following the date of publication of the notice. Notice shall be published in the Royal Gazette, in one newspaper having general circulation in the community of the Project and in one newspaper with province wide circulation. Notices can also be published in municipal buildings, post office or public buildings, in absence of a local newspaper.

Colchester Containers recognizes that public consultation for the project will proactively obtain valuable input from an engaged community resource. Therefore, in addition to the notice provided in the Halifax Herald and Truro Daily, the following activities were conducted by Colchester Containers with respect to involving the public:

► Owner of the land for which there was right-of-way access to the site.
► Notification to the neighbours immediately abutting the access road.
► Letter of Introduction to the Kwilmu’kw Maw-klusuaqn Negotiation Office (KMKNO).
► Letter of Introduction to the Millbrook First Nation.
► Letter of Introduction to the Sipekne’katik First Nation, and
► Discussion with local government agencies including:
  • Municipality of Colchester, Community Planning Office.
  • NS Natural Resources (NSNR), NSE and NS Communities, Culture and Heritage.
  • Conservation Planning, Canadian Wildlife Service, Environment and Climate Change Canada.

Further details are provided in the following sections.

5.1 Neighbouring Land Owners

On August 27, 2018, a letter of introduction and brief description of the project was sent to the land owners on the east and west sides of the access road, as well as the owner of the land, for which there is right-of-way access to the site.

No response or questions from the neighbours have been received. A copy of the correspondence is provided in Appendix C.

5.2 First Nations

A letter of introduction and brief description of the project was sent to Twila Gaudet, Consultation Liaison Officer (KMKNO), to Bob Gloade, Band Chief (Millbrook First Nation) and to Rufus Copage, Band Chief (the Sipekne’katik First Nation) via email on July 12, 2018. Chief Copage’s email address was not correct on the the Sipekne’katik First Nation directory, and the letter of introduction was subsequently sent to Deborah Maloney, Assistant to the Chief.

No response has been received from the KMKNO, Millbrook First Nation nor Sipekne’katik First Nation.

A copy of the correspondence with KMKNO is provided in Appendix C.
5.3 Government Agency

Prior to preparing the EA document, Englobe and the proponent met with NSE staff from the Environmental Assessments branch to discuss the project and regulatory requirements, identify stakeholders, identify possible obstacles that could not be mitigated through the EA process, and to confirm a preliminary EA scope and VECs.

Englobe contacted the Planning Office at the Municipality of Colchester, to verify the land zoning and any applicable by-laws and regulatory approvals required for the site and proposed undertaking.

Englobe also contacted local representatives from NSE compliance branch (Truro Office) and Nova Scotia Natural Resources (regional biologist and species at risk coordinators) to further discuss the project and identify environmental or biophysical VECs or stakeholders. Based on discussion with the regional biologist, Englobe, further discussed species at risk with the federal conservation biologist (Conservation Planning, Canadian Wildlife Service, Environment and Climate Change Canada) for the area.
6 Description of the Undertaking

6.1 Geographic Location

The project site (PID No. 20436325) is identified as Parcel CC and is located on the north side of Highway 289, in the community of Middle Stewiacke, Colchester County, as shown on Figure 2-1. Middle Stewiacke is located east and northeast of the larger community of Brookfield and Stewiacke, respectively. The coordinates of the site are approximately 5010555N, 489950E (UTM 20 NAD83).

The site is in a predominately un-inhabited area with neighbouring land uses mostly for forestry purposes. The site is bounded by undeveloped properties, some forested and some recently tree harvested. Residential dwellings and agricultural lands (mostly pasture) are present along Highway 289, approximately 2km, farther to the south. The nearest residential dwelling is located approximately 1.5km from the property boundary and 2km from the Project site (at 2965 Highway 289). Site access is via a private access road over PID No. 20049441, from Highway 289, with right-of-way agreement for road access provided.

The northern portion of the property is a topographic high point. Surficial topography slopes downward radially in all directions from this portion of the property. Topographic relief of the eastern and southern portions of the site is fairly gentle, the western property line slopes steeply to the west, and the northern area of the property slopes moderately steeply to the north. Rutherford Brook is present farther to the east (approximately 1km) of the site, and Bear Brook is farther to the west (approximately 350m) of the proposed Project area. The proposed Project area is located in the center of the site, and will be surrounded by undisturbed, tree-covered areas of the site. An existing ESC pond is present to the east of the Project area. This pond discharges via a ditch and extends across the site in a westerly direction. The ditch transitions into overland surface water flow after approximately 140 m. A wetland is present farther downgradient of the drainage area, and discharge from the wetland is via an unmapped watercourse that drains westerly towards Bear Brook. Other small isolated wetlands are present in other areas of the property. Other storm water control infrastructure (ditches) service the access road, and areas around the C&D disposal cell.

6.2 Physical Components

The project is for construction of an asbestos waste cell(s).

Other than a weigh scale, there is currently no permanent infrastructure at the site and no future permanent infrastructure is planned. The asbestos waste materials will be weighed upon receipt and immediately placed in an engineered clay cell(s), above the groundwater table. There will be no handling of the asbestos waste, it will be placed in the cell(s) in the same manner as its received (sealed bags). Physical components of the project include the weigh scale, engineered asbestos waste cell(s), storm water management and ESC devices and access road that connects the site to Highway 289. Internal access between the asbestos waste cell(s) and the C&D disposal also exists. The existing conditions and boundaries of the proposed undertaking are depicted on Figure 170927-01 (Appendix B).

At the proposed Project area, the area was tree-cleared, for surveying purposes, in December 2018. There has been no grubbing or other site disturbance.
The property is in a predominately un-inhabited area within the rural community of Middle Stewiacke, Municipality of the County of Colchester (Municipality), Figure 6-1. Based on discussions with the Municipality, Middle Stewiacke has no land use restrictions. The only municipal requirement is that a building permit be acquired for any permeant structures.

Figure 6-1. Boundaries of Middle Stewiacke.

A review of the area surrounding the Project site, reveals the following residential and agricultural/commercial structures; the site is not visible from any of these structures. Of the two agricultural/commercial structures observed, both were barns and out buildings associated with agricultural activities.

Table 6-1. Summary of surrounding properties.

<table>
<thead>
<tr>
<th>Distance (km)</th>
<th>Number of Residential Dwellings</th>
<th>Number of Agricultural Buildings</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1.5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>11</td>
<td>2</td>
</tr>
</tbody>
</table>
The Project area is in the center of the site, surrounded by the following:

- 160m of tree covered land to the west property boundary;
- 350m of tree covered land to the south property boundary;
- The access road, and 80 m of tree covered land to the east property boundary; and
- The access road, and 250 m of tree covered land to the C&D disposal cell.

Other relevant features in the surrounding area are depicted on the Figures in Appendix D (1 through 5).

### 6.3 Site Preparation

Over the years various parts of the site have been logged, or have been used as C&D cells, which subsequently have been capped and rehabilitated (now covered with low shrubs and herbaceous plants). The northern part of the site is an active C&D disposal cell.

The site access road is already in place; no significant roadway upgrades are required since the volume of traffic leaving the site will not significantly increase. Stormwater control devices (ditches and small settling ponds) are already present at the site, to manage the current operations.

A geotechnical investigation has been conducted to determine the optimal location and design depth of the waste cell(s). Preliminary laboratory testing of the on-site material has revealed the material is predominately silt and clay, and hydraulic conductivity was in the order of $1.8 \times 10^{-8}$ cm/sec, indicating that the material is suitable for use in waste cell construction. Further, through open hole observations, the local groundwater level has been determined (at an average dept of 4m below ground surface). A copy of the relevant geotechnical information is provided in Appendix E.

Construction of the asbestos waste disposal cell(s) will be in the center of the site. Tree clearing at the Project site has already occurred for surveying purposes. Prior to any additional disturbance, site-specific ESC measures and a stormwater management will be implemented (Figure 170927-03, Appendix B). Any required topsoil removal and grubbing will be completed with bulldozers and excavators, and this material will be stockpiled and reserved for future rehabilitation activities. The asbestos waste disposal cell(s) will be phased, and only the required grubbing for the current operational cell will be completed. Grubbing for the next phase(s) will occur shortly before the areas are required. All remaining vegetation removal will occur in periods outside the nesting bird period (i.e. April 1st to August 31st). This progressive manner of cell construction will minimize the extent of the disturbed area.

Following grubbing activities, the storm water management measures will be constructed and implemented to keep the work areas dry. These measures will consist of diversion swales and ditches, directing clean water around the Project site. At this time, the drainage ditch associated with the erosion and sediment control pond on the access road will be re-aligned, so that adequate buffers are in place between the waste disposal cell(s) and the drainage corridor. Additional ESC devices will then be incorporated to address any silt and clay laden water that may be generated during construction of the operations area.

Mass earthworks (cut and fill) operations will then be carried out to prepare the first phase of the waste cell (Figure 170927-02, Appendix B). Generally, insitu clay from high areas will be cut and structurally placed in low areas to form the cell walls. Based on the natural topography at the site, and the design floor elevation, the eastern portion of the first cell will be a surface
cell, and the western portion of the first cell will be imbedded. During the mass earthworks, inspection will be conducted to verify that the cell floor and side walls are constructed to the engineered design, and to the design depths. An as-built report will be prepared for each completed cell.

During construction, no storage of equipment will occur at the Project site; all equipment will be stored near the C&D disposal cell or removed from the Project site. There will be no storage of petroleum products at the Project site; all required fuel is either delivered via mobile equipment or equipment re-fuelled at the C&D staging area, as required. Equipment will be re-fuelled in designated areas, at least 30m away from any storm water or ESC devices. Any accidental petroleum releases will be addressed immediately in accordance with applicable regulations and the Contingency Plan.

6.4 Operation and Maintenance

Waste asbestos will be delivered to the site via single axle truck, tandem truck or trailers. The shipping documents will be reviewed for conformance to the NSE Asbestos Waste Management Regulations. If acceptable, the waste material will be weighed, and trucks directed to the waste cell(s). Ideally the material will be placed directly from the trucks; however, if conditions are wet, it may be placed with a front-end loader or excavator.

Currently, approximately 10 to 12 trucks per day leave the site via the private access road and enter the public Highway 289. Once the new waste cell is constructed, the existing traffic load will continue to leave the site via the private access road to Highway 289. The number of trucks leaving the site at the access road is expected to only increase by one or two trucks per week.

Weight restrictions along public roadways will be respected, and anticipated capacities entering the site are 16 tonnes (tandem) and 25 tonnes (trailers), trucks leaving the site will be empty. Access ramps to the waste cell floor will be maintained at safe grades that do not exceed the design capacity of the loader and trucks. Speed limits will be posted on the access road and a stop sign will be posted at the southbound access road intersection with Highway 289. The only maintenance that may occur onsite is occasional minor service to the equipment (loader, excavator, dozer and trucks) if a break down occurs on-site. Routine equipment maintenance and repair will occur at off-site locations.

The ESC Plan will incorporate best management practices and will re-direct clean precipitation and surface water around the operations area to prevent the generation of silt and clay laden water. Within the operations area, surface water from precipitation events will naturally collect due to the design of the cell and impermeable nature of the liner. Any accumulated water in the operations area (i.e. cell(s)) will be directed to a sump and pumped, as required, to the ESC devices.

There will be no solid waste, hazardous waste or liquid effluent generated at the Project area. No chemicals or petroleum products will be used at the site other than for dust control as discussed below.

During operations, no storage of equipment will occur at the Project site; all equipment will be stored near the C&D disposal cell or removed from the site. There will be no storage of petroleum products at the site; all required fuel is either delivered via mobile equipment or equipment re-fuelled at the C&D staging area, as required. Equipment will be re-fuelled in designated areas, at least 30m away from any storm water or ESC devices. Any accidental petroleum releases will be addressed immediately in accordance with applicable regulations and the Contingency Plan.
Air emissions may be generated by equipment emissions and fugitive dust. Equipment emissions will be managed through reduced-idle practices, regular maintenance and clean burning fuels. Dust will be controlled through the application of water (brought by water truck from off-site) and/or approved dust suppression products; neither oil nor calcium chloride will be used. Noise may be generated by equipment operating at the site, however, will be managed within the recommended limits as prescribed by NSE.

The hours of operation for Facility are 8 am to 5 pm, weekdays, except statutory holidays. The construction of the waste cell will begin upon the receipt of the regulatory approvals. At this time the work is expected to begin during summer of 2019.

### 6.5 Decommissioning and Reclamation

During operations (including current operations), progressive rehabilitation will be carried out as cell(s) are filled to their design capacity, and the next cell becomes operational.

The project is expected to continue for more than 20 years, before all cells reach their design capacity. Given the long life expectancy of the undertaking, the final Project site closure reclamation plan has not been designed, although it will be similar to that of the C&D facility. This will be achieved primarily through site grading so that the final condition of the site is stable such that the natural vegetation can re-colonize. Once the site is decommissioned, reclamation will be complete within 2 years.
7 Valued Environmental Components and Effects Management

7.1 Determination of Valued Environmental Components (VECs)

A list of potential VECs was determined using a standard environmental assessment methodology. Potential VECs were assessed to determine if they may be present within the study area. Based on this information a determination was made as to which of the VECs would be included in the assessment of this project.

The identification of the project activities that may interact with the VECs is completed by identifying the various project components that may have a potential effect pathway to the receiving environment or component. The components are categorized to whether they occur during preparation, operation or decommissioning phases of the project. Project activities are compared to the list of VECs and the potential interactions are identified for further consideration in the impact assessment process.

Once the project and VEC interaction have been identified, potential impacts can be identified. Information about the VECs and the knowledge of the project activities are combined to determine and review potential adverse effects of the Project.

Mitigation measures, which can be used to reduce the potential impacts of the Project on the VECs, are identified. Mitigation measures can include both project design, construction practices or project specific measures and are implemented by the proponent to reduce the identified impacts.

The VECs for this project were identified based on the existing biophysical environment, the nature of the undertaking and input from stakeholders and include:

- Surficial and Bedrock Geology;
- Surface Water Resources (wetlands and watercourses);
- Groundwater Resources;
- Flora and Fauna and Species at Risk;
- Atmospheric Conditions/Air Quality and Noise;
- Land Use, Economy and Transportation;
- Cultural and Heritage Resources; and
- Human Health and Safety.

7.1.1 Residual Environmental Effects Determination and Characterization

Residual environmental effects are those effects that remain following the application of mitigation measures. They can be characterized based on their geographic extent, duration, frequency, reversibility and magnitude as outlined in Table 7-1.
Table 7-1. Residual Impacts Rating Criteria.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Rating Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnitude</td>
<td>Negligible</td>
<td>No measurable impacts.</td>
</tr>
<tr>
<td></td>
<td>Small</td>
<td>Impact likely to result in less than 1% change in regional resource.</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td>Impact likely to result in 1% to 10% change in regional resource.</td>
</tr>
<tr>
<td></td>
<td>Large</td>
<td>Impact likely to result in more than 10% change in regional resource.</td>
</tr>
<tr>
<td>Geographic Extent</td>
<td>Local</td>
<td>Effect is limited to the footprint of the project site and immediate surrounding area.</td>
</tr>
<tr>
<td></td>
<td>Regional</td>
<td>Effect is limited to the Regional Study Area of the VEC.</td>
</tr>
<tr>
<td>Frequency</td>
<td>Rarely</td>
<td>Less than once per year.</td>
</tr>
<tr>
<td></td>
<td>Intermittent</td>
<td>Less than once per week.</td>
</tr>
<tr>
<td></td>
<td>Daily</td>
<td>Greater than once a day.</td>
</tr>
<tr>
<td>Duration</td>
<td>Short-Term</td>
<td>Effects only occur during construction, decommissioning, or as an isolated event during the operation and maintenance phase.</td>
</tr>
<tr>
<td></td>
<td>Medium-Term</td>
<td>Effect lasts for the duration of the project, or during operation.</td>
</tr>
<tr>
<td></td>
<td>Long-Term</td>
<td>Effect occurs for an undetermined time beyond project decommissioning.</td>
</tr>
<tr>
<td>Reversibility</td>
<td>Reversible</td>
<td>Effect is reversed after the activity ceases.</td>
</tr>
<tr>
<td></td>
<td>Partially-Reversible</td>
<td>Effect is partially reversed after the activity ceases.</td>
</tr>
<tr>
<td></td>
<td>Non-Reversible</td>
<td>Effect will not be reversed when activity ceases.</td>
</tr>
</tbody>
</table>

7.1.2 Significance of Residual Environmental Effects

Assigning residual impact significance is required to determine if a project has the potential to result in an adverse impact after implementing mitigation measures. A clear determination is made regarding whether the residual environmental effect is significant.

A rating system for describing the significance of adverse environmental effects was chosen, as presented in Table 7-2.

Table 7-2. Rating System for the Significance of Identified Adverse Environmental Effects

<table>
<thead>
<tr>
<th>Rating Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Potential impact could threaten sustainability of the resources and should be considered a management concern. Research, monitoring and/or recovery initiative should be considered.</td>
</tr>
<tr>
<td>Medium</td>
<td>Potential impact could result in a decline in resource to lower-than-baseline, but stable levels in a study area after project closure and into the foreseeable future. Regional management actions such as research, monitoring, and/or recovery initiatives may be required.</td>
</tr>
<tr>
<td>Low</td>
<td>Potential impact may result in slight decline in resource in study area during the life of the project. Research, monitoring and/or recovery initiatives would not normally be required.</td>
</tr>
<tr>
<td>Minimal</td>
<td>Potential impact may result in slight decline in resource in study area during the construction and decommissioning phase, but the resource should return to baseline levels.</td>
</tr>
</tbody>
</table>
7.2 Project–Environment Interactions and Valued Environmental Components (VECs)

Project pathways are determined by the assessor, based on experience and a firm understanding of the proposed project. Understanding the pathways allows identification of possible impacts on environmental receptors (VECs). Interactions are described in the following sections for pathways which occur in the construction and operations phases.

The VEC interaction matrix is presented in Table 7-3.

Table 7-3. Summary of Valued Environmental Components and Interactions

<table>
<thead>
<tr>
<th>Project Activities</th>
<th>VECs</th>
<th>Bio-physical</th>
<th>Socio-economic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Surfacial Geology</td>
<td>Bedrock</td>
</tr>
<tr>
<td>Site Preparation Phase</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clearing and Grubbing</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Cell Construction</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Accidents</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Operations Phase</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle Transport</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Waste Placement</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Site Maintenance</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Accidents</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

7.3 Biophysical Environment

7.3.1 Surficial and Bedrock Geology

7.3.1.1 Existing Conditions

The bedrock at the site consists of both the Windsor Group and the Horton Group, divided by the Brentwood-Graham Hill Fault. The northern portions of the site are underlain by the Horton Bluff and Cheverie Formations (Horton Group), which consist of sandstone, conglomeratic sandstone and minor shale. The southern portion of the site is underlain by the Green Oaks Formation (Windsor Group), which consists of reddish brown siltstone and fine-grained...
sandstone, with intercalated marine limestone and dolostone. The bedrock geology is non-acid producing. Bedrock geology mapping is presented in Figure 5 (Appendix D).

Surficial geology consists of Stoney Till Plains and Drumlins derived from local bedrock sources. Specifically, the site is underlain by Hants Till, which consists of a reddish brown silty-sand matrix. Surficial geology mapping is presented in Figure 4 (Appendix D).

The surficial geology mapping of the area was confirmed during Englobe’s geotechnical investigation of the Project site (Appendix E). Test pits were excavated, and boreholes advanced at various locations on the site to optimize the location for the new waste cell. In March 2018, 11 test pits were excavated, and three of those test pits were re-excavated in July 2018, to allow for open hole measurements of the groundwater table and to provide additional information required for detailed design. The geotechnical investigation verified that the glacial till at the site was predominately sandy clay, that at least 2.4m of undisturbed glacial till was present in the area south of the access road. Subsequent laboratory analyses revealed the material had an undisturbed hydraulic conductivity of 1.8x10⁻⁸ cm/sec.

Based on the results of the geotechnical investigation, the waste cell was situated south of the access road, and design depths selected to ensure at least 1m of undisturbed glacial till was present at the base of the proposed cell. Although bedrock (shale) was encountered in one test pit, the asbestos waste disposal cell(s) has been designed, so that the base of the cell is more than 1m above the bedrock or observed groundwater table.

Based on the regional geology mapping, gypsum is present in bedrock of the MacDonald Road Formation. Further, during geotechnical investigation in other areas of the site and during installation of monitor wells for the C&D facility, localized gypsum bedrock and boulders were encountered. However, based on the locations that gypsum was encountered, the subsurface conditions in the area of the proposed waste cell (including shale bedrock), there is no anticipated impact to the current Project from the presence of gypsum bedrock or boulders. The test pit investigation of the Project site did not indicate gypsum bedrock.

7.3.1.2 Predicted Environmental Effects, Proposed Mitigation and Monitoring

We anticipate that gypsum bedrock will not be encountered during the Undertaking. Although shale bedrock was encountered near the cell location, at least 1 metre of low permeability soil will be present over the bedrock level. Geological mapping identifies the bedrock as non-acid producing.

Geotechnical index testing revealed that the undisturbed permeability of the glacial till is less than the NSE requirement for permeability. During the mass earthworks, inspection will be conducted to verify that the cell floor and side walls are constructed to the engineered design, and to the design depths. An as-built report, including all testing, will be prepared for each completed cell.

During the site preparation and operations activities, stormwater containing sediment or silt has the potential to migrate from the Project Area, especially during rain events. Erosion from exposed soils during clearing activities or stockpiled material may be transferred from the Project Area and enter the drainage corridor.

To minimize any potential impacts to from surficial geology, the following mitigation measures will be implemented during all life stages of the Undertaking:
Implement a site-specific ESC plan in accordance with practices outlined in the latest version of the NSE Erosion and Sedimentation Control Handbook for Construction Sites. The ESC Plan will be adjusted as required, throughout the life of the Undertaking.

Stockpiled cover material will be stored in an area with ESC measures to prevent mobilization of sediment laden surface water.

Undertake regular maintenance of ditches and other ESC measures to minimize sediment build-up.

Employ progressive reclamation practices to minimize and stabilize disturbed areas.

The ESC Plan is presented on Figure 17092-03, Appendix B.

With the mitigation measures any impact is anticipated to be negligible.

### 7.3.2 Surface Water and Wetlands

#### 7.3.2.1 Existing Conditions

Regionally, surface water flows (where they do not infiltrate directly into the ground) follow the general topography of the area, with tertiary watercourses and tributaries flowing into larger second and first order watercourses. The site is located in the Shubenacadie/Stewiacke River watershed (1DG-1), completely within tertiary watershed IDG-IAAA-39 which generally drains toward Bear Brook and ultimately discharges into the Stewiacke River. At the site, areas east of the access road are part of the adjacent tertiary watershed (IDG-IAAA-38) which generally drains towards Rutherford Brook and ultimately discharges into the Stewiacke River, west of Bear Brook. The Stewiacke River flows to the Shubenacadie River, and ultimately to the Bay of Fundy.

No watercourses extend through the property. Rutherford Brook is present farther to the east (approximately 1km) of the proposed Project area, and Bear Brook is farther to the west (approximately 350m) of the proposed Project area. An existing ESC pond is present to the east of the Project area. This pond discharges via a ditch and extends across the site in a westerly direction. The ditch transitions into overland surface water flow after approximately 140 m and becomes a natural drainage corridor; no surface water flow has been observed in this drainage corridor. A wetland is present farther downgradient of the drainage corridor, and discharge from the wetland is via an unmapped watercourse that drains westerly towards Bear Brook.

Surface water at the C&D cell is generally directed away from the working areas through site grading. Ditching currently extends along the access road, with ditching in the northwestern area draining northerly. An ESC pond is present in the northwest corner of the site, and discharges westerly into vegetated areas. In the northeastern portion of the site, surface grading directs surface water to a depression, and ditching from this area re-directs water off-site to the
east, via overland flow into undisturbed vegetated areas. In the southern areas of the site, ditching along the access road generally follows the natural topography, and flows southward. An ESC pond is present adjacent to the access road, east of the Project site, as discussed above.

Surface water mapping is presented in Figure 3 (Appendix D), and in the Project Area, the existing ditches and ESC devices are presented on Figure 170927-03, Appendix B.

The C&D site currently has three surface water sampling locations that are monitored semi-annually as part of the NSE Approval; all three are located in Bear Brook, although the Approval specifies Putnam Brook, which is in the adjacent tertiary watershed to the west. SW1 is located where Bear Brook extends beneath the access road, north of the site. SW2 is located in Bear Brook, west of the site, and SW3 is located where Bear Brook extends beneath Highway 289. The applicable guidelines would be the NSE Tier 1 Environmental Quality Standards (EQS) for surface water. In surface water, the NSE Tier 1 EQS for metals are generally based on the Canadian Council of Ministers of Environment (CCME) Freshwater Aquatic Life (FAL) guidelines, and where pH (for aluminum) or hardness (for cadmium, copper, lead and nickel) is used to calculate the guideline, the lowest calculated value was chosen for the NSE Tier 1 EQS. Therefore, it is appropriate to use the CCME FAL where it differs from the NSE Tier 1 EQS. The water quality of the site is typical for fresh water resources in Nova Scotia. Since the site monitoring plan has been in place, the water quality has had slight sporadic guideline exceedances for iron, mercury and zinc, and background water quality (SW1) is generally the same as downgradient (SW2 and SW3) water quality. To date there have not been any concerns noted by the NSE regarding the surface water quality results from the C&D site.

There are no provincially mapped wetlands on the property. There are only four provincially mapped wetlands within 1 km of the property boundaries; these are mostly associated with Bear Brook and Rutherford Brook. From review of the Nova Scotia Wet Areas Mapping (WAM), several wetlands were predicted to be on the property and field reconnaissance was carried out to verify the ground conditions.

Where present, wetland boundaries were assessed and delineated in accordance with NSE protocols, and soil, hydrology and vegetation were assessed to determine the spatial extent of the wetlands. Five small isolated wetlands were identified on the property, and the approximate locations are presented on Figure 3, Appendix D.

Only one of the wetlands was in close proximity to the Project site and is presented on Figures 170927-01, 170927-02 and 170927-03, Appendix B. As discussed above, an ESC pond via a ditch and extends across the site in a westerly direction. The ditch transitions into overland surface water flow after approximately 140 m and becomes a natural drainage corridor. A wetland is present farther downgradient of the drainage corridor. The wetland is approximately 550m² (0.1 acres) in size and consists of a treed swamp. The upland topography surrounding the wet area is generally characterized by ridges (sometime steep) of coniferous forest upland that mark the boundary between the wetland and the upland. Vegetation in the wetland is not overly diverse, and dominant species consist of black spruce, ferns (cinnamon and sensitive) and sphagnum moss; no rare species were identified in the wetland. The wetland discharge is via an unmapped watercourse that drains westerly towards Bear Brook.
7.3.2.2 Predicted Environmental Effects, Proposed Mitigation and Monitoring

The Undertaking will not alter the regional surface water flow patterns or wetlands.

Surface water runoff is currently controlled via established ditches. Where required, ditches are directed to the ESC ponds and/or vegetated areas. Surface water discharged to vegetated areas quickly infiltrates into the rootmat to prevent transport and mobilization of any suspended silt and clay in the ditch water. During the site preparation and operations activities, stormwater containing suspended silt or clay has the potential to mobilize in surface water, especially during rain events. Erosion from exposed soils during clearing activities or stockpiled material may be transferred from the Project site and enter the drainage ditches at the Property. However, since the currently established drainage ditches discharge to ESC ponds or vegetated areas, the potential for sediment to migrate off the Project site or overall site is determined to be very low.

To the south of the Project site, a natural drainage corridor extends between constructed ditching (from an ESC pond) to a small wetland. No surface water flow has been observed in this drainage corridor. During site preparation and operations activities, there is potential for sediment laden stormwater associated with the Project Area to enter the drainage corridor and discharge into the wetland.

Further, accidental spills may occur along the access road or within the Project Area during both site preparation activities and operations.

To minimize any potential impacts to surface water, the following mitigation measures will be implemented during all life stages of the Undertaking:

- Implement a site-specific ESC plan in accordance with practices outlined in the latest version of the NSE Erosion and Sedimentation Control Handbook for Construction Sites. The ESC Plan will be adjusted as required, throughout the life of the Undertaking;
- Stockpiled cover material will be stored in an area with ESC measures to prevent mobilization of sediment laden surface water;
- Undertake regular maintenance of ditches and other ESC measures to minimize sediment build-up;
- Employ progressive reclamation practices to minimize and stabilize disturbed areas;
- Update the C&D facility surface water monitoring program as required, so that sampling locations are inclusive of the new Undertaking;
- Store all petroleum, oils and lubricants and chemicals in accordance with all provincial regulations and Approval conditions;
- Refuel and maintain construction machinery only in designated areas, that are greater than 30 m from any stormwater management or ESC measures;
- Maintain an emergency spill kit on site; and
- Develop a Spill Response and Contingency plan to address any accidental spills.

The ESC plan is presented in Appendix B. A spill Response and Contingency Plan is presented in Appendix F.

With the mitigation measures any impact is anticipated to be negligible.
7.3.3 Groundwater

7.3.3.1 Existing Conditions

During the investigation activities at the site, in addition to open hole observations of shallow groundwater during the geotechnical investigation, several monitor wells were installed to assess deeper groundwater. The findings of the assessment are summarized in Table 7-4.

Table 7-4. Summary of groundwater investigation.

<table>
<thead>
<tr>
<th>Location</th>
<th>Groundwater Depth (m)</th>
<th>Surface Elevation (m)</th>
<th>Groundwater Elevation (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MW1</td>
<td>0.13</td>
<td>98.2</td>
<td>98.1</td>
</tr>
<tr>
<td>MW2</td>
<td>4.7</td>
<td>104.7</td>
<td>100</td>
</tr>
<tr>
<td>TP4</td>
<td>3.7</td>
<td>102.9</td>
<td>99.2</td>
</tr>
<tr>
<td>TP5</td>
<td>3.7</td>
<td>104.3</td>
<td>100.6</td>
</tr>
</tbody>
</table>

In the test pits, groundwater was typically not encountered, or consisted of slight inflow at the base of the test pit. Given the very shallow measured ground water level in MW1 and the absence of groundwater observations during drilling, we suspect that the actual groundwater level is much deeper within the native Till, and the confining environment of the native Till has led to groundwater conditions that are close to artesian (i.e. a very shallow potentiometric surface) in MW1. At MW2, there appears to be less confining action of the native Till, leading to stabilized groundwater levels near the bedrock surface.

Drinking water in Middle Stewiacke is supplied by potable drinking water wells (see Figure 3, Appendix D). The Project area and site are a localized topographic high, and shallow groundwater is expected to flow radially from the site; however, regional groundwater is expected to flow southwards, towards the Stewiacke River.

The NSE well database identified 96 wells constructed within a 5km radius of the site. A summary of these wells and their characteristics is provided in Table 7-5. The nearest of the potable drinking water wells is approximately 1.2km from the site and is presented on Figure 3, Appendix D. One of the most important characteristics of the hydrogeology obtained from water well records is indicated by the depth of casing required in well construction. Casing lengths up to 19 metres were required to stabilize the wells, and most of the drilled wells are bottomed in overburden. This indicates thicknesses of the overburden deposits may be as much as approximately 20 metres.

Table 7-5. Summary of Well Construction Data in 5km radius.

<table>
<thead>
<tr>
<th>Well Type</th>
<th>Well Depth</th>
<th>Casing Depth</th>
<th>Static Water Level</th>
<th>Estimated Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drilled</td>
<td>24.8 m</td>
<td>19.4 m</td>
<td>7.2 m</td>
<td>46.4 Lpm</td>
</tr>
<tr>
<td>n = 84</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dug</td>
<td>6.2 m</td>
<td>NA</td>
<td>3.8 m</td>
<td>NA</td>
</tr>
<tr>
<td>n = 12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Groundwater monitoring is not currently required under the existing NSE Approval for the C&D operations. However, groundwater samples were collected from MW1 and MW2 during a baseline assessment and analyzed for parameters listed in Column 1 of the NSE Approval to identify the current groundwater quality and provide a baseline to evaluate for changes resulting from operations at the facility. The samples were submitted for petroleum hydrocarbons, general chemistry, total suspended solids (TSS), total chemical oxygen demand (COD),
dissolved organic carbon (DOC), total phosphorous, dissolved metals (including total mercury), phenols and volatile organic compounds (VOCs) analyses.

The groundwater analytical results were compared with the 2013 NSE Tier 1 Environmental Quality Standards (EQS) for a commercial, potable site with fine-grained soil; note the commercial EQS are equivalent to residential EQS for protection of potable water. Since there is potential for groundwater to discharge to surface water, the NSE Tier 2 Pathway Specific Standards (PSS) for monitor wells more than 10m from freshwater (surface water) bodies was also evaluated. These guidelines are intended to be protective of sensitive receiving water bodies, although direct surface water monitoring and testing of the surface water bodies is more representative. Both groundwater samples satisfied all NSE Tier 1 EQS and Tier 2 PSS. The laboratory analytical results are summarized in Appendix G.

7.3.3.2 Predicted Environmental Effects, Proposed Mitigation and Monitoring

The Undertaking will not alter or impact the groundwater resources (including any domestic wells) since operations will not extend into the groundwater table; the base of the asbestos waste cell(s) will be a minimum of 1 metre above the local groundwater table. Bedrock will not be encountered during any site works.

Since the asbestos waste cell(s) will be constructed of impermeable material (i.e. clay) and significant areas of the site and surrounding area have natural clay deposits, additional inputs to the groundwater resource via recharge from surface water are not likely.

7.3.4 Flora, Habitat and Species at Risk

7.3.4.1 Existing Conditions

A Botanical field survey was undertaken by Marbicon on June 18 and August 10, 2018. Findings, details and methodology of the study can be found in Appendix H. Subsequent to the field studies, the area of the proposed waste asbestos cell was tree-cleared (but not grubbed) in late December 2018 to facilitate acquisition of topographic information for final design.

The southern portion of the property (from the Project area to southern property boundary) consisted mostly secondary growth softwoods such as Balsam Fir (Abies balsamea), Red Spruce (Picea rubra), and White Spruce (Picea glauca). White Pine (Pinus strobus) was present, but not common. Tamarack (Larix laricina) inhabited wetter areas. The most common hardwoods were Red Maple (Acer rubra), Paper Birch (Betula papyrifera), and some young specimens of Yellow Birch (Betula alleghaniensis). Gray Birch (Betula populifolia) and Trembling Aspen (Populus tremuloides) were mostly along roadsides. The understory, other than woodland mosses, was minimal under the softwood thickets, but where the canopy was more open, an understory layer had developed. Typical herbaceous vegetation, where present, included common woodland plants such as Wild Lily-of-the-Valley (Maianthemum canadense), Wild Sarsaparilla (Aralia nudicaulis) and Northern Star-Flower (Trientalis borealis). The occasional clearing allowed ferns such as Hay-scented Fern (Dennstaedtia punctilobula) and Interrupted Fern (Osmunda claytoniana) to flourish. A complete listing of the floral species observed during the field survey is included in the botanical report (Appendix H).

The Atlantic Canada Conservation Data Centre (ACCDC) provided information on recorded significant plant species and habitats found within 100km radius of the property; species and habitat preferences within 10km of the property were reviewed; a copy of the ACCDC report is provided in Appendix I. Many of the ACCDC species records were for riparian or wetland sites.
adjacent to the Stewiacke River, although there were wetlands on the subject site, and a small stream was noted downstream of the wetland. The site was assessed for the listed species that could be present based on habitat types; none were observed.

In summary, no rare plants, habitats or species at risk were identified during the surveys.

7.3.4.2 Predicted Environmental Effects, Proposed Mitigation and Monitoring

Although some tree clearing has occurred, additional removal of vegetation will be required for construction of the asbestos waste disposal cell(s). Currently, there are no plans for disturbance on the southern portion of the site.

No rare plants or species at risk are present at the site.

The construction of the facility may include the following adverse impacts:

► The elimination of forest vegetation may also create new forest edges that expose the remaining vegetation to increased noise, and dust. Although, as areas are decommissioned, rehabilitated and colonized with native vegetation, lost forested areas will be replaced;
► Modification of wildlife habitat – the quality of the habitat could be reduced and the existing habitat could be fragmented due to construction activities. This may be the result of the removal of vegetation that may provide nesting habitat for birds and other wildlife as well as feeding areas;
► Wildlife susceptibility/mortality – the use of heavy machinery and additional traffic related to construction activities may increase the potential for human/wildlife interactions that may result in injury to local wildlife species; and
► Accidental release of fuels or other contaminants in the surrounding environments.

To minimize the impacts to vegetation and to protect the adjacent vegetation and habitat features from being impacted from construction activities, the following mitigation measures will be implemented:

► Implement a site-specific ESC plan in accordance with practices outlined in the latest version of the NSE Erosion and Sedimentation Control Handbook for Construction Sites. The ESC Plan will be adjusted as required, throughout the life of the Undertaking;
► Areas to be cleared and grubbed should be clearly marked to minimize the extent to be impacted;
► Employ progressive reclamation using native vegetation and seed mixes as soon as possible to re-establish vegetation growth in advance of future decommissioning activities.
► Minimize the active extent of disturbance for the Project;
► Vegetation clearing will be scheduled outside of the bird breeding season (April 1st to August 31st);
► All construction related debris will be appropriately contained during construction and disposed of at an approved facility;
► No petroleum product storage, maintenance or refueling is permitted within 30 m of a watercourse; and
► Petroleum product spill cleanup materials will be kept on site during construction activities.

With the mitigation measures any impact is anticipated to be negligible.
7.3.5 Fauna, Habitat and Species at Risk

7.3.5.1 Existing Conditions

A Wildlife Fauna and Habitat field survey was undertaken by Mr. John Wile during three site visits in April, May and June 2018, as well as a desktop review. Findings, details and methodology of the study can be found in Appendix J. Subsequent to the field studies, the area of the proposed waste asbestos cell was tree-cleared (but not grubbed) in late December 2018 to facilitate acquisition of topographic information for final design.

The southern portion of the property is a young regenerating forest, although farther south of the proposed asbestos waste disposal cell, several tall dead trees and snags, and occasional older pine and hemlocks were present. Previous C&D cells had been rehabilitated, stabilized with grasses and slowly being colonized with native shrub species. Surrounding land use has mostly been tree harvested, and is in varying stages of regeneration.

The ACCDC provided information on recorded significant fauna species and habitats found within 100km radius of the property; species and habitat preferences within 10km of the property were reviewed; a copy of the ACCDC report is provided in Appendix I. The Maritime Breeding Bird Atlas (MBBA) was also consulted for historical breeding bird information. Habitat surveys and bird counts were conducted over three separate site visits that were conducted on April 24, May 27 and June 27.

Seven point count locations supplemented by observations during transects of the survey area were used to conduct the surveys; the point locations and habitat types are summarized in Table 7-6. The point locations are provided on Figure 2 (Appendix D), the transects are provided in the Fauna Assessment report in Appendix J. Due to the narrow width of the property, the point counts were set up around the perimeter. This allowed for hearing birds singing well into the central part of the property, while reducing the chances of counting the same birds twice. All bird surveys were 10-minute time frames and were conducted in dry weather conditions with light winds.

Table 7-6. Bird Count Locations.

<table>
<thead>
<tr>
<th>Point Count Location No.</th>
<th>Coordinates (NAD83 UTM20)</th>
<th>Location and Habitat Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Easting: 494021 Northing: 5010056</td>
<td>South east corner of property; young dense conifer dominated forest</td>
</tr>
<tr>
<td>2</td>
<td>Easting: 489889 Northing: 5010052</td>
<td>Along southern boundary; open mature mixed species forest</td>
</tr>
<tr>
<td>3</td>
<td>Easting: 489831 Northing: 5010068</td>
<td>South west corner of property adjacent to a recent tree harvest</td>
</tr>
<tr>
<td>4</td>
<td>Easting: 490079 Northing: 5010378</td>
<td>On road edge near gate; mixed species regenerating forest and disturbed area</td>
</tr>
<tr>
<td>5</td>
<td>Easting: 489613 Northing: 5010164</td>
<td>At scales; dense fir forest and open grass area</td>
</tr>
<tr>
<td>6</td>
<td>Easting: 490087 Northing: 5010699</td>
<td>Dense young balsam fir stands and open gravel pits</td>
</tr>
<tr>
<td>7</td>
<td>Easting: 489896 Northing: 5010533</td>
<td>Mid aged mixed species forest and grassed over old disposal site</td>
</tr>
</tbody>
</table>

The following is a discussion of observed species associated with the property, by major groups.
Birds

The bird species observed during the breeding bird survey are listed in the Fauna Assessment report (Appendix J). There were 157 individual birds (from 40 species) observed. Most of the bird species observed (37 of the species and 154 of the individual bird sightings) were land birds. No owls were observed. The other bird types included one shore bird (Killdeer), two waterfowl (Hooded Merganser), two game birds (Ruffed Grouse) and two raptors (Sharp-shinned Hawk and Northern Goshawk).

Of the 40 species of birds observed during the survey period, the raptors would be categorized as "observed" or breeding status undetermined, the American Robin, White Throated Sparrow, Hairy Woodpecker, and Killdeer would be "probable" breeders based on their agitated behavior. The Hooded Merganser and Common Yellow Throat would be "confirmed" breeders based on this species being seen visiting a nest site or carrying food to its young. Most of the other species would have "possible" breeding status based on their being in suitable breeding habit during breeding season and singing. None of the observed species are currently considered significant or at risk.

Mammals

Mammal sightings during the survey period included White-tailed Deer (*Odocoileus virginianus*), Porcupine (*Erithizon dorsatum*), Snowshoe Hare (*Lepus americanus*), Red Squirrel (*Tamiasciurus hudsonicus*), Eastern Chipmunk (*Tamias striatus*), Eastern Coyote (*Canis latrans*), and Red-backed Vole (*Myodes rutilus*). A large recently occupied bear den was also present in the northern area of the site. Due to a lack of wetlands and streams, no aquatic or semi aquatic mammals were observed.

Reptiles

No reptile species were encountered during the site visits.

Amphibians

Spring peeper (*Pseudacris crucifer*) and Wood Frogs (*Rana sylvatica*) were heard singing in road ditches and in a flooded gravel pit pond.

Invertebrate Fauna

While species of *Lepidoptera* sp. and *Odonata* sp. may use the property to a limited extent for foraging, none were seen during the survey periods.

Species at Risk

There were 197 fauna species considered significant, that ACCDC records have reported within 100km of the property. However, most of these species do not prefer the habitat present at the site, or are specific to different geographical locations. Table 7-7 summarizes the species that could be present or expected to use the site, based on habitat preference.

The species at risk outlined the table above are further discussed in the sections below.
Table 7-7. Fauna Species from ACCDC Report with potential to be found on the Property.

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>COSEWIC</th>
<th>SARA</th>
<th>Provincial Legal Protection</th>
<th>Provincial Rarity Rank</th>
<th>Distance (km)</th>
<th>Observed (Y/N)?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Myotis lucifugus</td>
<td>Little Brown Myotis</td>
<td>Endangered</td>
<td>Endangered</td>
<td>Endangered</td>
<td>S1</td>
<td>27.0 ± 0.0</td>
<td>N</td>
</tr>
<tr>
<td>Myotis septentrionalis</td>
<td>Northern Long-eared Myotis</td>
<td>Endangered</td>
<td>Endangered</td>
<td>Endangered</td>
<td>S1</td>
<td>31.4 ± 0.0</td>
<td>N</td>
</tr>
<tr>
<td>Perimyotis subflavus</td>
<td>Eastern Pipistrelle</td>
<td>Endangered</td>
<td>Endangered</td>
<td>Endangered</td>
<td>S1</td>
<td>31.4 ± 0.0</td>
<td>N</td>
</tr>
<tr>
<td>Chordeiles minor</td>
<td>Common Nighthawk</td>
<td>Threatened</td>
<td>Threatened</td>
<td>Threatened</td>
<td>S2B</td>
<td>7.3 ± 7.0</td>
<td>N</td>
</tr>
<tr>
<td>Contopus cooperi</td>
<td>Olive-sided Flycatcher</td>
<td>Threatened</td>
<td>Threatened</td>
<td>Threatened</td>
<td>S2B</td>
<td>2.4 ± 0.0</td>
<td>N</td>
</tr>
<tr>
<td>Riparia riparia</td>
<td>Bank Swallow</td>
<td>Threatened</td>
<td>Threatened</td>
<td>Endangered</td>
<td>S2S3B</td>
<td>6.9 ± 7.0</td>
<td>N</td>
</tr>
<tr>
<td>Hirundo rustica</td>
<td>Barn Swallow</td>
<td>Threatened</td>
<td>Threatened</td>
<td>Endangered</td>
<td>S2S3B</td>
<td>6.7 ± 7.0</td>
<td>N</td>
</tr>
<tr>
<td>Wilsonia canadensis</td>
<td>Canada Warbler</td>
<td>Threatened</td>
<td>Threatened</td>
<td>Endangered</td>
<td>S3B</td>
<td>5.5 ± 0.0</td>
<td>N</td>
</tr>
<tr>
<td>Hylocichla mustelina</td>
<td>Wood Thrush</td>
<td>Threatened</td>
<td>Threatened</td>
<td>Special Concern</td>
<td>S3S4B</td>
<td>3.6 ± 0.0</td>
<td>N</td>
</tr>
<tr>
<td>Contopus virens</td>
<td>Eastern Wood-Pewee</td>
<td>Special Concern</td>
<td>Special Concern</td>
<td>Vulnerable</td>
<td>S3S4B</td>
<td>3.6 ± 0.0</td>
<td>N</td>
</tr>
<tr>
<td>Coccothraustes vespertinus</td>
<td>Evening Grosbeak</td>
<td>Special Concern</td>
<td>Vulnerable</td>
<td>S3S4B,S3N</td>
<td>6.9 ± 7.0</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Alces americanus</td>
<td>Moose</td>
<td>Endangered</td>
<td>S1</td>
<td></td>
<td></td>
<td>33.8 ± 0.0</td>
<td>N</td>
</tr>
</tbody>
</table>

**Bats**

Bats could be present during migration or foraging, but not likely dependent upon the property as habitat. While no bats were seen during the daytime survey period Little Brown Bat (*Myotis lucifugus*), Eastern Pipistrelle (*Perimyotis subflavus*) and Northern Long-eared Bat (*Myotis septentrionalis*) are species of concern and records do exist for these species within 30 km of the property. No hibernacula are known to exist on the property.

**Moose**

Moose (*Alces americanus*), as a part of the remnant mainland population, have been seen within 30 km of the property and could potentially find this property suitable habitat at least for a part of its range.

**Birds**

Common Nighthawks (*Chordeiles minor*) are attracted to open gravel or barren areas for nesting, some of which exists on the property as roads or disturbed areas. Barn Swallows (*Hirundo rustica*) might venture into the air space above the property from neighbouring farms for foraging purposes. Bank Swallows (*Riparia riparia*) might find some of the steep gravel pit faces suitable for nesting, but no birds or bank nests were seen during the survey. Olive-sided Flycatcher (*Contopus cooperi*), Wood Thrush (*Hylocichla mustelina*), Eastern Wood-Pewee...
(Contopus virens) and Evening Grosbeak (Coccothraustes vesperinus) prefer this type of mixed forest habitat, but again none were seen during this survey time frame. Canada Warbler (Wilsonia canadensis) and Rusty Blackbird (Euphagus carolinus) prefers dense alder or shrub swamp habitats, but little of this habitat exists within the property.

**Lepidoptera and Odonata**

No specific searches for butterflies, dragonflies or damselflies were conducted, nor were any incidentally sited during the early morning bird surveys. The lack of wetlands and lack of suitable flowering plants would make the property less attractive to these invertebrates in their adult stage of life, but none-the-less they could be present there in late spring and summer.

**Turtles**

Information from the ACCDC report (expert opinion maps) and Environment Canada indicates that Wood Turtles (Glyptemys insculpta) and Snapping Turtles (Chelydra serpentine) have been found 1 km and 7 km respectively from the site. Even though these turtles do travel away from their preferred wetland habitats to nest and feed, based on the lack of riverine and riparian habitats on the site, there is little potential for these species to be present.

Recently completed (July 2018) turtle surveys of 38 km of riverine habitats on the Stewiacke River by East Coast Aquatics resulted in no Wood Turtles being observed, although Snapping Turtles were present at one location near where the Rutherford Brook merges with the Stewiacke River, approximately 3 km from the site.

### 7.3.5.2 Predicted Environmental Effects, Proposed Mitigation and Monitoring

Although large areas of the site are young regenerating forest, habitat for significant mammal, amphibian, reptile and invertebrate fauna does not seem to be present to any great degree on the proposed project footprint. The Undertaking will not involve large open faces that would encourage nesting birds, although cover material and grubbings for rehabilitation may be stored nearby. Although suitable habitat was present, no species at risk were observed at the site.

The construction of the facility may include the following adverse impacts:

- The elimination of forest vegetation may also create new forest edges that will force some fauna species found here now to move to adjacent forested habitats nearby. Although, as areas are decommissioned, rehabilitated and colonized with native vegetation, lost forested areas will be replaced;
- Modification of wildlife habitat – the quality of the habitat could be reduced, and the existing habitat could be fragmented due to construction activities. This may be the result of the removal of vegetation that may provide nesting habitat for birds and other wildlife as well as feeding areas;
- Wildlife susceptibility/mortality – the use of heavy machinery and additional traffic related to construction activities may increase the potential for human/wildlife interactions that may result in injury to local wildlife species; and
- Accidental release of fuels or other contaminants in the surrounding environments.

To minimize the impacts to fauna and species at risk and to protect the adjacent vegetation and habitat features from being impacted from construction and operation activities, the following mitigation measures will be implemented:
Implement a site-specific ESC plan in accordance with practices outlined in the latest version of the NSE *Erosion and Sedimentation Control Handbook for Construction Sites*. The ESC Plan will be adjusted as required, throughout the life of the Undertaking;

- Areas to be cleared and grubbed should be clearly marked to minimize the extent to be impacted;
- Employ progressive reclamation using native vegetation and seed mixes as soon as possible to re-establish vegetation growth in advance of future decommissioning activities.
- Minimize the active extent of disturbance for project;
- Vegetation clearing will be scheduled outside of the bird breeding season (April 1st to August 31st). Any observed bird nests or colonies will not be disturbed until the fledglings have left the nests;
- Equipment operators will be trained to recognize and avoid migratory birds that may occupy the site and made aware of possible interactions with wildlife, including birds;
- All construction related debris will be appropriately contained during construction and disposed of at an approved facility;
- No petroleum product storage, maintenance or refueling is permitted within 30 m of a watercourse; and
- Petroleum product spill cleanup materials will be kept on site during construction activities.

The main operation activities that may impact the surrounding environment include noise from the movement of vehicle traffic for the delivery of waste material or placement of daily cover. To some extent these impacts are already occurring with the nearby C&D cell. These operations impacts are predictable, temporary and limited in extent, and therefore can be managed through the implementation of standard construction related mitigation measures. Wildlife within the local area will avoid the new Project site during the operational phase. As noted above, progressive reclamation activities during operations and decommissioning will ultimately replace lost habitat.

### 7.3.6 Fish, Fish Habitat and Species at Risk

#### 7.3.6.1 Existing Conditions

The endangered Atlantic Salmon (*Salmo salar*), Inner Bay of Fundy population is recorded in the Stewiacke River; no fish habitat is present in the project footprint. Although surface water features at the site ultimately discharge to Bear Brook, and ultimately to the Stewiacke River.

#### 7.3.6.2 Predicted Environmental Effects, Proposed Mitigation and Monitoring

There is no fish habitat in the project footprint.

To minimize any potential impacts to fish habitat, from surface water discharges onsite, the following mitigation measures will be implemented:

- Continue the surface water quality monitoring program to verify that the onsite infrastructure (C&D and waste asbestos cells) are functioning as designed;
- Follow practices outlined in the latest version of the NSE Erosion and Sedimentation Control Handbook for Construction Sites and adjust surface water, erosion and sediment control measures accordingly if conditions change; and
Develop a Spill Response and Contingency plan to address any accidental spills (see Appendix F).

With the mitigation measures, any impact to surface water (and subsequently fish habitat) is anticipated to be negligible.

### 7.3.7 Atmospheric Conditions /Air Quality

#### 7.3.7.1 Existing Conditions

The site is currently operating under an *Industrial Approval* for C&D disposal. Dust is being generated by operations and emissions are being generated by on-site trucks and heavy equipment. Dust is currently being managed by a combination of water application and vegetated buffers. Emissions are being managed by properly operating equipment.

The site is surrounded by a forested buffer in all directions.

#### 7.3.7.2 Predicted Environmental Effects, Proposed Mitigation and Monitoring

Asbestos waste delivered to the site is contained in sealed bags that will be placed as delivered in the waste asbestos disposal cell(s). Transportation and acceptance procedures will be enforced, and damaged bags will be rejected. There is the potential for the breakage of containers/packaging containing asbestos waste being handled on the site. Contingency measures to address such a situation have been included in the Operation Manual and Contingency Plan (Appendix F).

Other potential impacts to air quality may be caused due to airborne dust and engine emissions during site preparation and operations. Dust has the potential to negatively impact air quality with subsequent potential impacts to human health and flora (dust deposition). The disturbed area will be kept to a minimum as much as possible with progressive reclamation; impacts to air quality due to airborne dust and particulates will be negative, negligible in magnitude, occurring intermittently on a local scale. Impacts to surface water may be affected by the application of dust suppressants.

There exists potential for negative air quality impacts due to emissions from equipment operating on-site during site preparation and operations. Vehicle and equipment exhaust emissions are anticipated to result in a potentially minor decrease in air quality on the site and a negligible decrease in air quality off the site. The site is in a rural location approximately 1.5km from the nearest neighbouring human receptor. Therefore, the impacts to human receptors are expected to be minimal. These negative impacts will be of short term duration, potentially occurring on a continuous basis during working hours of waste placement and transportation.

To minimize the impacts from site preparation and operations activities, the following mitigation measures will be implemented:

- Follow the *Operations Manual* and *Contingency Plan* related to the handling of asbestos waste;
- Use water and/or other approved dust suppressants to reduce and manage dust levels. Oil or calcium chloride will not be used for dust suppression;
- Maintain and upgrade access roads as required;
- Control vehicle speed on the site to control dust;
► Maintain the equipment in good working condition;
► Use properly sized and maintained equipment; idling of equipment and vehicles will be kept to a minimum;
► Re-vegetate exposed areas as soon as practical, and
► Post a sign indicating proponent contact information in case of concern or complaint.

With the mitigation measures any impact is anticipated to be negligible. Particulate monitoring will be conducted on an “as required” basis through sampling when requested by NSE.

### 7.3.8 Noise

#### 7.3.8.1 Existing Conditions

The site is currently operating under an *Industrial Approval* as a C&D facility. Noise is being generated by on site heavy equipment and on- and off-site truck transportation. Currently trucks, excavators, front end loaders and the occasional bull dozer are used at the site.

The site is surrounded by undeveloped forest and wood lands. Low density residential housing farther to the south (approximately 1.5km away). The access road extends between two residential dwellings, the closest approximately 20 m away. The neighbouring property use will also contribute to existing noise in the area from activities such as road traffic and agricultural.

Sound is expressed as a logarithmic basis, so the result of increasing a sound intensity by 2 (or doubling) is raising its level by 3 dBA and increasing sound intensity by a factor of 10 raises its level by 10 dB. Table 7-8 lists some normal sounds.

Table 7-8. Normal outdoor and construction sounds.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Noise Level (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threshold of hearing</td>
<td>0</td>
</tr>
<tr>
<td>Rural Ambient background (7am-7pm)</td>
<td>45</td>
</tr>
<tr>
<td>Normal conversation (1m)</td>
<td>60</td>
</tr>
<tr>
<td>Vacuum</td>
<td>75</td>
</tr>
<tr>
<td>Front End Loader (at 15m)</td>
<td>80</td>
</tr>
<tr>
<td>Automobile (60 km/h, at 20m)</td>
<td>80</td>
</tr>
<tr>
<td>Diesel truck (50 km/hr at 20m)</td>
<td>85</td>
</tr>
<tr>
<td>Tractor</td>
<td>85</td>
</tr>
<tr>
<td>Lawn mower (at 1m)</td>
<td>110</td>
</tr>
<tr>
<td>Jet plane (at 30m)</td>
<td>130</td>
</tr>
</tbody>
</table>

#### 7.3.8.2 Predicted Environmental Effects, Proposed Mitigation and Monitoring

Noise will be generated during site preparation and operations by the movement of vehicles and heavy equipment used on site. It may affect both wildlife and surrounding land users. To minimize the impact to the wildlife during site preparation and operations, the construction and transportation equipment will be kept in good operating condition. Clearing and grubbing will occur outside nesting periods for birds.
Noise from trucks on the access road already occurs. Only one to two additional trucks per week is anticipated. Given the current site and surrounding property use, and distance to neighbouring residential dwellings, no additional noise impacts are anticipated.

Operations at the project site will be limited to the daylight working hours (M to F, 8am to 5pm); the anticipated additional noise is not expected to be greater than that already experienced at the site. The operations will not exceed the sound level exposure limits presented in the NSE C&D Approval, as presented below:

Table 7-9. NSE Sound Level Limits.

<table>
<thead>
<tr>
<th>Time of Day</th>
<th>Time Period</th>
<th>Leq. Sound Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Night*</td>
<td>23:00 to 07:00</td>
<td>55 dBA</td>
</tr>
<tr>
<td>Evening</td>
<td>19:00 to 23:00</td>
<td>60 dBA</td>
</tr>
<tr>
<td>Day</td>
<td>07:00 to 19:00</td>
<td>65 dBA</td>
</tr>
</tbody>
</table>

*Includes all day Sunday and Statutory Holidays

With the mitigation measures, noise will not increase over the current level of and is anticipated to be negligible. Noise monitoring will be conducted on an “as required” basis when requested by NSE. A sign will be posted indicating proponent contact information in case of concern or complaint.

7.4 Socio-Economic Environment

7.4.1 Existing Conditions

The project is located in Middle Stewiacke, a small community in Colchester County. Based on discussion with the Municipality of Colchester Planning Office, the Middle Stewiacke area is an unincorporated area, that falls outside of zoning and bylaws of the Truro and Tatamagouche areas. The population of the Middle Stewiacke area is not tracked; rather, a portion of the County of Colchester (census subdivision C) is tracked. Population numbers as reported by Statistic Canada are presented in Table 7-10.

Table 7-10. Colchester Subdivision C population.

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>13000</td>
</tr>
<tr>
<td>2001</td>
<td>13391</td>
</tr>
<tr>
<td>2006</td>
<td>13312</td>
</tr>
<tr>
<td>2011</td>
<td>13339</td>
</tr>
<tr>
<td>2016</td>
<td>13098</td>
</tr>
</tbody>
</table>

Since prior to 1997, the site has operated as a C&D Facility. Historic tree harvesting has also taken place.

The C&D operations will continue at the site, currently 10 to 12 trucks per day leave the site via the private access road and enter the public Highway 289. The waste asbestos cell(s) will increase the truck traffic by one to two trucks per week. Griffin Transportation group conducted a traffic study to assess traffic flow changes including future changes to the number of trucks
entering and leaving the facility. Findings, details and methodology of the study can be found in Appendix K.

There are no parks or formal recreation activities conducted in the immediate surrounding area. Private recreational activities (hunting, ATV use, etc.) at the site are not permitted. Local woodlot owners and tree-harvesters do use the private access road; there is no formal land use agreement in place to provide access, although access is not restricted to these groups. Access to the C&D facility and to the future waste asbestos cell(s) is restricted through gates outside of operating hours (M-F, 8am to 5pm).

7.4.2 Predicted Environmental Effects, Proposed Mitigation and Monitoring

7.4.2.1 Economy

The socio-economic impacts of the waste asbestos cell will be limited due to its small scale of operations. Since the proposed activity will offer an additional service at the site, no new job creation is anticipated; however, existing jobs will be maintained. Also, project will offer a cost-effective disposal location for waste asbestos, which can reduce illegal dumping.

The C&D facility, and current project, is an important component of the local construction industry in the area and surrounding counties. The C&D cell provides a local disposal option, allowing inert wastes to be diverted from high cost municipal landfills. The new asbestos waste cell will support responsible disposal of asbestos waste.

7.4.2.2 Land Use

The site is privately owned, a portion of the land is currently used as a C&D Facility, and the entire parcel is zone “Forestry Resource”; the land use or municipal zoning will not be changing. The proposed Project is an expansion of the adjacent existing C&D facility operations.

The site, and project area are located more than 1.5 km from nearby residential dwellings, other nearby land uses are agricultural and forestry. There are no sight lines between the site and Highway 289 and nearby residential dwellings.

No land use impacts are anticipated. Signage is already posted indicating proponent contact information in case of concern or complaint.

7.4.2.3 Transportation

The volume of traffic on public streets is not anticipated to significantly increase from current conditions. Sight lines on Highway 289 are adequate for traffic using the private access road.

To minimize any impacts from site preparation and operations activities, the following mitigation measures will be implemented:

► Maintain and upgrade access roads as required.
► Control vehicle speed on the site to control dust.
► Install a stop sign on the southbound approach of the site access road intersection with Highway 289.
► Confirm with NSTIR that the slight increase in truck traffic can be accommodated within the current pavement and strength rating and spring weight restrictions.
Request that NSTIR review the requirement for Truck Entrance warning signs to be posted on Highway 289.

With the mitigation measures the impact of the project on local transportation is anticipated to be negligible.

### 7.4.2.4 Recreation and Tourism

Since an additional service is simply being added to the existing C&D facility, there are no anticipated recreation and tourism impacts.

### 7.4.2.5 Human Health

During the course of the clearing and excavation activities, dust, exhaust emissions and noise will be generated by the heavy machinery during cell construction. The disturbed area will be kept to a minimum as much as possible. The project site is in a rural area, more than 1.5 km to the nearest human receptor. Impacts due to air emissions and noise will be negative, negligible in magnitude, occurring intermittently on a local scale.

During the operational phase of the Project there is potential for dust, exhaust emissions and noise from vehicles travelling around the site. Due to the Project site’s location next to an operating C&D disposal facility, any impact is expected to be of short duration, local in nature and reversible. Therefore, impacts from both the exhaust emissions and noise are anticipated to be negligible.

The proposed mitigation measures to protect human health to surrounding occupants are the same as those for both Air Quality (Section 7.3.7) and Noise (Section 7.3.8).

There is the potential for the breakage of containers/packaging containing asbestos waste being delivered to the site. Contingency measures to address such a situation have been included in the *Operation Manual* and *Contingency Plan* (Appendix F).

The proposed activities at the site are not hazardous in nature; however, there is potential for accidents. All workers will be trained to meet the requirements of the *Asbestos Waste Management Regulations* and *Occupational Health and Safety Regulations*.

### 7.5 Culture and Heritage

#### 7.5.1 Existing Conditions

Davis MacIntyre and Associates Limited (Davis MacIntyre) conducted an archaeological resource impact assessment (ARIA) of the project site and surrounding area in 2018. A copy of the complete Davis report is included in Appendix L. The assessment consisted of a background study and a reconnaissance of the study area. This assessment was completed under Category C Heritage Research Permit A2018NS070 issued by the Nova Scotia Culture and Heritage Development Division (NS Heritage). The ARIA conforms to the standards required by the Department of Communities, Culture and Heritage as specified under the guidelines of the *Special Places Protection Act* (R.S., c.438, s.1.).

A historic background study was conducted to understand the area’s history and topography. This included consultation of historic maps and manuscripts and published literature focussed specifically on the current study area. The Maritime Archaeological Resource Inventory, a
database of known archaeological resources in the Maritime region, was searched in an effort to understand prior archaeological research and known archaeological resources neighbouring the study area. Finally, the Archaeology Research Division at Kwilmu’kw Maw-klusuaqn (KMKNO-ARD) was contacted as part of this assessment to elicit information regarding past and traditional land use in the study area. A field reconnaissance of the entire property was conducted by Vanessa McKillop and Laura de Boer on August 3, 2018.

The historic background study indicates that although historic European and Mi’kmaw settlement occurred in the general area of the Stewiacke Valley, there is little evidence of such activity directly within or adjacent to the impact zone. A field reconnaissance of the study area has revealed very little evidence of historical cultural landscape alteration or areas of elevated archeological potential and has been determined to be of low potential for archaeological resources, of either First Nations or European-descended origin.

The report was submitted to NS Heritage and accepted as submitted on December 24, 2018 (Appendix L).

7.5.2 Predicted Environmental Effects, Proposed Mitigation and Monitoring

During the course of the site preparation and operations, although unlikely, artifacts and archaeological resources may be encountered. The archaeological assessment of the project footprint indicated that there is a low potential for both archaeological and First Nations resources.

In the event that any archaeological material is encountered during activities, the following mitigation measures shall be implemented:

► All work activities in the area shall be stopped if an artifact/archaeological resource is encountered.
► Contact the Coordinator of Special Places (902-424-6475), notify of the discovery and establish a suitable mitigation method.
► Should the impact area be modified to expand beyond the currently known range, a qualified archaeologist should be consulted to evaluate whether archaeological mitigation may be required.

With the mitigation measures any impact is anticipated to be negligible.
8 Effects of the Undertaking on the Environment

The current site has operated as a C&D Facility under NSE Industrial Approval since 1997. The new asbestos waste disposal cell will offer an additional service at an already operating facility. Activities associated with the proposed operation will be conducted in accordance with terms and conditions of this EA, an amended NSE Industrial Approval, and adherence to the NSE Asbestos Waste Management Regulations and specific mitigative measures described in this assessment and all other applicable legislation, policies, and guidelines.

As detailed in the previous sections, the proposed Project for the construction of the asbestos waste disposal cell(s) will result in some bio-physical and socio-economic impacts during construction and during the operation of the Project site. Assuming the mitigative and progressive rehabilitation measures specified in this report are implemented, and the facility is operated according to existing provincial guidelines and approvals, no significant adverse residual environmental or socioeconomic effects are likely.

Effects are expected to be of negligible to small in magnitude, low frequency, short duration, and/or limited geographical extent. Continued operation of the facility will result in economic benefits, including employment and a local, cost effective disposal option for asbestos waste.

Environmental effects will include the loss of habitat within the proposed cell area. The cell area has been the subject of past logging activities, and there is already localized wildlife disturbance through the existing C&D operations.

A summary of the potential for significant adverse effects and the required mitigative measures is provided in Table 8-1.
<table>
<thead>
<tr>
<th><strong>VEC</strong></th>
<th><strong>Project Activity</strong></th>
<th><strong>Potential Impact</strong></th>
<th><strong>Mitigation</strong></th>
<th><strong>Significance after Mitigation and Residual Effect</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Surficial and Bedrock Geology</td>
<td>Clearing and Grubbing Operations</td>
<td>Sediment laden stormwater associated with the Project Area to enter the drainage corridor and discharge into the wetland. Accidental spills may occur along the access road or within the Project Area during both site preparation activities and operations</td>
<td>Implement a site-specific ESC plan in accordance with practices outlined in the latest version of the NSE <em>Erosion and Sedimentation Control Handbook for Construction Sites</em>. The ESC Plan will be adjusted as required, throughout the life of the Undertaking. Stockpiled cover material will be stored in an area with ESC measures to prevent mobilization of sediment laden surface water. Undertake regular maintenance of ditches and other ESC measures to minimize sediment build-up. Employ progressive reclamation practices to minimize and stabilize disturbed areas</td>
<td>Minimal No residual effect</td>
</tr>
<tr>
<td>Surface Water and Wetlands</td>
<td>Clearing and Grubbing Operations</td>
<td>Sediment laden stormwater associated with the Project Area to enter the drainage corridor and discharge into the wetland. Accidental spills may occur along the access road or within the Project Area during both site preparation activities and operations</td>
<td>Implement a site-specific ESC plan in accordance with practices outlined in the latest version of the NSE <em>Erosion and Sedimentation Control Handbook for Construction Sites</em>. The ESC Plan will be adjusted as required, throughout the life of the Undertaking. Stockpiled cover material will be stored in an area with ESC measures to prevent mobilization of sediment laden surface water. Undertake regular maintenance of ditches and other ESC measures to minimize sediment build-up. Employ progressive reclamation practices to minimize and stabilize disturbed areas. Update the C&amp;D facility surface water monitoring program, as required, so that sampling locations are inclusive of the new Undertaking. Store all petroleum, oils and lubricants and chemicals in accordance with all provincial regulations and <em>Approval</em> conditions. Refuel and maintain construction machinery only in designated areas, that are greater than 30 m from any stormwater management or ESC measures. Maintain an emergency spill kit on site. Develop a Spill Response and Contingency plan to address any accidental spills</td>
<td>Minimal No residual effect</td>
</tr>
<tr>
<td>Flora, Habitat and Species at Risk</td>
<td>Clearing and Grubbing Operations</td>
<td>The elimination of forest vegetation may create new forest edges that expose the remaining vegetation to increased dust. Although, as areas are decommissioned, rehabilitated and colonized with native vegetation, lost forested areas will be replaced. Modification of wildlife habitat – the quality of the habitat could be reduced and the existing habitat could be fragmented due to construction activities. This may be the result of the removal of vegetation that may provide nesting habitat for birds and other wildlife as well as feeding areas. Accidental release of fuels or other contaminants in the surrounding environments.</td>
<td>Implement a site-specific ESC plan in accordance with practices outlined in the latest version of the NSE Erosion and Sedimentation Control Handbook for Construction Sites. The ESC Plan will be adjusted as required, throughout the life of the Undertaking. Areas to be cleared and grubbed should be clearly marked to minimize the extent to be impacted. Employ progressive reclamation using native vegetation and seed mixes as soon as possible to re-establish vegetation growth in advance of future decommissioning activities. Minimize the active extent of disturbance for project. Vegetation clearing will be scheduled outside of the bird breeding season (April 1st to August 31st). All construction related debris will be appropriately contained during construction and disposed of at an approved facility. No petroleum product storage, maintenance or refueling is permitted within 30 m of a watercourse. Petroleum product spill cleanup materials will be kept on site during construction activities.</td>
<td>Minimal No residual effect</td>
</tr>
<tr>
<td>VEC</td>
<td>Project Activity</td>
<td>Potential Impact</td>
<td>Mitigation</td>
<td>Significance after Mitigation and Residual Effect</td>
</tr>
<tr>
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<td>----------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Fauna, Habitat and Species at Risk</td>
<td>Clearing and Grubbing Operations</td>
<td>Implement a site-specific ESC plan in accordance with practices outlined in the latest version of the NSE Erosion and Sedimentation Control Handbook for Construction Sites. The ESC Plan will be adjusted as required, throughout the life of the Undertaking. Areas to be cleared and grubbed should be clearly marked to minimize the extent to be impacted. Employ progressive reclamation using native vegetation and seed mixes as soon as possible to re-establish vegetation growth in advance of future decommissioning activities. Minimize the active extent of disturbance for project. Vegetation clearing will be scheduled outside of the bird breeding season (April 1st to August 31st). Any observed bird nests or colonies will not be disturbed until the fledglings have left the nests. Equipment operators will be trained to recognize and avoid migratory birds that may occupy the site and made aware of possible interactions with wildlife, including birds. All construction related debris will be appropriately contained during construction and disposed of at an approved facility. No petroleum product storage, maintenance or refueling is permitted within 30 m of a watercourse. Petroleum product spill cleanup materials will be kept on site during construction activities. Standard construction related mitigation measures.</td>
<td>Minimal  No residual effect</td>
</tr>
<tr>
<td>VEC</td>
<td>Project Activity</td>
<td>Potential Impact</td>
<td>Mitigation</td>
<td>Significance after Mitigation and Residual Effect</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Atmospheric</td>
<td>Clearing and grubbing Operations</td>
<td>Generation of dust and engine emissions disturbing the natural environment and local land users. Impacts to surface water from the application of dust suppressants. Negative air quality impacts due to emissions from equipment operating on-site and trucks transporting on- and off-site. Potential for the breakage of containers/packaging containing asbestos waste being handled on the site.</td>
<td>Use water and/or other approved dust suppressants to reduce and manage dust levels. Oil or calcium chloride will not be used for dust suppression. Maintain and upgrade access roads as required. Control vehicle speed on the site to control dust. Maintain the equipment in good working condition. Use properly sized and maintained equipment; idling of equipment and vehicles will be kept to a minimum. Re-vegetate exposed areas as soon as practical. Post a sign indicating proponent contact information in case of concern or complaint. Follow the Operation Manual and Contingency Plan to mitigate against release of asbestos fibres to the atmosphere.</td>
<td>Minimal No residual effect</td>
</tr>
<tr>
<td>Noise</td>
<td>Clearing and grubbing Operations</td>
<td>Noise will be generated during site preparation and operations by the movement of vehicles and heavy equipment used on-site</td>
<td>Construction and transportation equipment will be kept in good operating condition. Clearing and grubbing will occur outside nesting periods for birds. Operations at the project site will be limited to the daylight working hours (M to F, 8am – 5pm). Operations will not exceed the sound level exposure limits presented in the NSE Approval. A sign will be posted indicating proponent contact information in case of concern or complaint.</td>
<td>Minimal No residual effect</td>
</tr>
<tr>
<td>Transportation</td>
<td>Clearing and grubbing Operations</td>
<td>Slight increase of traffic loading.</td>
<td>Maintain and upgrade access roads as required. Control vehicle speed on the site to control dust. Install a stop sign on the southbound approach of the site access road intersection with Highway 289. Confirm with NTSIR that the slight increase in truck traffic can be accommodated within the current pavement and strength rating and spring weight restrictions. Request that NSTIR review the requirement for Truck Entrance warning signs to be posted on Highway 289.</td>
<td>Minimal No residual effect</td>
</tr>
<tr>
<td>VEC</td>
<td>Project Activity</td>
<td>Potential Impact</td>
<td>Mitigation</td>
<td>Significance after Mitigation and Residual Effect</td>
</tr>
<tr>
<td>-------</td>
<td>------------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Clearing and grubbing</td>
<td>Noise (discussed above) Air quality (discussed above) Breakage of containers/packaging containing asbestos waste being delivered to the site</td>
<td>Contingency measures to address such a situation have been included in the Operation Manual and Contingency Plan. All workers will be trained to meet the requirements of the Asbestos Waste Management Regulations and Occupational Health and Safety Regulations</td>
<td>Minimal No residual effect</td>
</tr>
<tr>
<td>Human Health</td>
<td>Clearing and grubbing</td>
<td>Artifacts and archaeological resources may be encountered</td>
<td>All work activities in the area shall be stopped if an artifact/archaeological resource is encountered. Contact the Coordinator of Special Places (902-424-6475), notify of the discovery and establish a suitable mitigation method. Should the impact area be modified to expand beyond the currently known range, a qualified archaeologist should be consulted to evaluate whether archaeological mitigation may be required.</td>
<td>Minimal No residual effect</td>
</tr>
<tr>
<td>Culture and Heritage</td>
<td>Clearing and grubbing</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9 EFFECTS OF THE ENVIRONMENT ON THE PROJECT

The environment can have an impact during both the site preparation and operational phases of the project through climate change and meteorological events.

Given the spatial and temporal boundaries of the undertaking, climate change through increased severity of precipitation events is not anticipated to be a concern since there are no permanent constructed features and no water features within the project footprint that would be subject to flooding from increased water levels.

Short duration rain events may temporarily affect site preparation or operations activities. Site preparation will be completed in the spring and summer; winter site preparation activities are not anticipated. Asbestos deliveries will be carefully scheduled during spring thaw and storm events, and postponed if conditions are not suitable for delivery. Therefore the operations will not be affected by weather. A site specific ESC will be implemented. As part of the plan, regular checks and upgrades will be carried out as required based on site conditions and forecasted weather; erosion and sediment control from heavy precipitation events is not anticipated to impact the project. Heavy wind events can also mobilize fugitive dust; however, the vegetated buffers in place would mitigate transport off-site.
10 References

Atlantic Canada Conservation Data Centre. 2018. Data Report 6070: Middle Stewiacke, NS.


Marbicon, Inc. 2018. Colchester Containers Limited, Middle Stewiacke Colchester County, Nova Scotia.

Municipality of the County of Colchester, planning department. Nov 2018. Personal communication.


NSDOE. Erosion and Sedimentation Control Handbook for Construction Sites.


Appendix A  Registry of Joint Stocks
Profile

PROFILE - COLCHESTER CONTAINERS LIMITED - as of: 2019-04-23 04:01 PM

<table>
<thead>
<tr>
<th>Business/Organization Name:</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Registry ID:</td>
<td>3085004</td>
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<tr>
<td>Type:</td>
<td>N.S. Limited Company</td>
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<tr>
<td>Nature of Business:</td>
<td></td>
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<td>Status:</td>
<td>Active</td>
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<td>Jurisdiction:</td>
<td>Nova Scotia</td>
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<tr>
<td>Registered Office:</td>
<td>171 CHAIN LAKE DRIVE</td>
</tr>
<tr>
<td></td>
<td>HALIFAX NS Canada B3S 1B3</td>
</tr>
<tr>
<td>Mailing Address:</td>
<td>171 CHAIN LAKE DRIVE</td>
</tr>
<tr>
<td></td>
<td>HALIFAX NS Canada B3S 1B3</td>
</tr>
</tbody>
</table>

PEOPLE

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Civic Address</th>
<th>Mailing Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>JONATHAN ROSS</td>
<td>Director</td>
<td>171 CHAIN LAKE DRIVE Halifax NS B3S 1B3</td>
<td></td>
</tr>
<tr>
<td>NORMAN ROSS</td>
<td>Director</td>
<td>171 CHAIN LAKE DRIVE Halifax NS B3S 1B3</td>
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<td>JONATHAN ROSS</td>
<td>SECRETARY</td>
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<td>NORMAN ROSS</td>
<td>PRESIDENT</td>
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<td>NORMAN ROSS</td>
<td>Recognized Agent</td>
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ACTIVITIES

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There are no related registrations on file for this company.
Appendix B  Design Plans
Appendix C  Project Correspondence
August 29, 2018

2715 Highway 289
Middle Stewiacke, NS
B0N 1C0

Subject: Proposed Asbestos Waste Disposal Cell
Colchester Containers Ltd., Highway 289, Middle Stewiacke, Nova Scotia
Our ref.: P-0011963-0-01-201

I am writing to notify you of the proposed construction of an asbestos waste disposal cell at the existing Colchester Containers Ltd. Construction and Demolition (C&D) waste disposal site, located in Middle Stewiacke, NS. The current C&D facility is located on the north side of Highway 289. The Stewiacke River is located south of the subject property on the opposite side of Highway 289, Rutherford Creek is located farther to the east of the site and Bear Brook is located farther to the west of the site. None of these water courses cross or intersect the site. There is no civic number, but the property is identified by PID No. 20436325 and owned by Colchester Containers Ltd. The current C&D facility at the site operates under an Approval from Nova Scotia Environment (NSE). This project will allow Colchester Containers Ltd. to expand its operations capabilities by providing asbestos waste management services at the existing C&D waste disposal site. The asbestos waste disposal cell will be located above the groundwater table only, and will operate following NSE’s Asbestos Waste Management Regulations.

The site is approximately 30.4 hectares. The initial project site layout is approximately 7500 m², and will involve an Environmental Assessment (EA) to satisfy the NSE Environmental Assessment Regulations requirements. The EA will be conducted by Englobe Corp. All relevant ecological features are being assessed. A traffic study is being conducted. We do not anticipate any effects to groundwater or drinking water.

On the following page is a satellite image showing the location of the Colchester Containers Ltd. property, the proposed location of the asbestos waste disposal cell, and the location of your property.
Subject: Proposed Asbestos Waste Disposal Cell

August 29, 2018

We would like to hear from you about any concerns you may have. Should any additional information be required, please contact the undersigned at your convenience.

Kind Regards,

Englobe Corp.

Ashley Zottarelli, P.Eng.
Project Manager, Environmental Engineering
August 29, 2018

2741 Highway 289
Middle Stewiacke, NS
B0N 1C0

Subject: Proposed Asbestos Waste Disposal Cell
Colchester Containers Ltd., Highway 289, Middle Stewiacke, Nova Scotia
Our ref.: P-0011963-0-01-201

I am writing to notify you of the proposed construction of an asbestos waste disposal cell at the existing Colchester Containers Ltd. Construction and Demolition (C&D) waste disposal site, located in Middle Stewiacke, NS. The current C&D facility is located on the north side of Highway 289. The Stewiacke River is located south of the subject property on the opposite side of Highway 289, Rutherford Creek is located farther to the east of the site and Bear Brook is located farther to the west of the site. None of these water courses cross or intersect the site. There is no civic number, but the property is identified by PID No. 20436325 and owned by Colchester Containers Ltd. The current C&D facility at the site operates under an Approval from Nova Scotia Environment (NSE). This project will allow Colchester Containers Ltd. to expand its operations capabilities by providing asbestos waste management services at the existing C&D waste disposal site. The asbestos waste disposal cell will be located above the groundwater table only, and will operate following NSE’s Asbestos Waste Management Regulations.

The site is approximately 30.4 hectares. The initial project site layout is approximately 7500 m², and will involve an Environmental Assessment (EA) to satisfy the NSE Environmental Assessment Regulations requirements. The EA will be conducted by Englobe Corp. All relevant ecological features are being assessed. A traffic study is being conducted. We do not anticipate any effects to groundwater or drinking water.

On the following page is a satellite image showing the location of the Colchester Containers Ltd. property, the proposed location of the asbestos waste disposal cell, and the location of your property.
We would like to hear from you about any concerns you may have. Should any additional information be required, please contact the undersigned at your convenience.

Kind Regards,

Englobe Corp.

Ashley Zottarelli, P.Eng.
Project Manager, Environmental Engineering
August 29, 2018

Ms. Fisher:

I am writing to notify you of the proposed construction of an asbestos waste disposal cell at the existing Colchester Containers Ltd. Construction and Demolition (C&D) waste disposal site, located in Middle Stewiacke, NS. The current C&D facility is located on the north side of Highway 289. The Stewiacke River is located south of the subject property on the opposite side of Highway 289, Rutherford Creek is located farther to the east of the site and Bear Brook is located farther to the west of the site. None of these water courses cross or intersect the site. There is no civic number, but the property is identified by PID No. 20436325 and owned by Colchester Containers Ltd. The current C&D facility at the site operates under an Approval from Nova Scotia Environment (NSE). This project will allow Colchester Containers Ltd. to expand its operations capabilities by providing asbestos waste management services at the existing C&D waste disposal site. The asbestos waste disposal cell will be located above the groundwater table only, and will operate following NSE’s Asbestos Waste Management Regulations.

The site is approximately 30.4 hectares. The initial project site layout is approximately 7500 m², and will involve an Environmental Assessment (EA) to satisfy the NSE Environmental Assessment Regulations requirements. The EA will be conducted by Englobe Corp. All relevant ecological features are being assessed. A traffic study is being conducted. We do not anticipate any effects to groundwater or drinking water.

On the following page is a satellite image showing the location of the Colchester Containers Ltd. property, the proposed location of the asbestos waste disposal cell, and the location of your property.
We would like to hear from you about any concerns you may have. Should any additional information be required, please contact the undersigned at your convenience.

Kind Regards,

Englobe Corp.

Ashley Zottarelli, P.Eng.
Project Manager, Environmental Engineering
July 12, 2018

Ms. Twila Gaudet  
Kwilmu'kw Maw-klusuaqn Negotiation Office  
75 Treaty Trail, Millbrook, NS B6L 1W3

Subject: Proposed Asbestos Waste Disposal Cell  
Colchester Containers Ltd., Highway 289, Middle Stewiacke, Nova Scotia  
Our ref.: P-0011963-0-01-201

Dear Ms. Gaudet:

I am writing to notify you of the proposed construction of an asbestos waste disposal cell at the existing Colchester Containers Ltd. Construction and Demolition (C&D) waste disposal site, located in Middle Stewiacke, NS. The current C&D facility is located on the north side of Highway 289. The Stewiacke River is located south of the subject property on the opposite side of Highway 289, Rutherford Creek is located farther to the east of the site and Bear Brook is located farther to the west of the site. None of these water courses cross or intersect the site. There is no civic number, but the property is identified by PID No. 20436325 and owned by Colchester Containers Ltd. The current C&D facility at the site operates under an Approval from Nova Scotia Environment (NSE). This project will allow Colchester Containers Ltd. to expand its operations capabilities by providing asbestos waste management services at the existing C&D waste disposal site. The asbestos waste disposal cell will be located above the groundwater table only, and will operate following NSE’s Asbestos Waste Management Regulations.

The site is approximately 30.4 hectares. The initial project site layout is approximately 7500 m², and will involve an Environmental Assessment (EA) to satisfy the NSE Environmental Assessment Regulations requirements. The EA will be conducted by Englobe Corp. and an Archaeology Assessment will be conducted by Davis MacIntyre & Associates as part of the work. The Davis MacIntyre report will be submitted to NS Heritage once completed in the summer of 2018.

We would like to hear from the Mi'kmaq of Nova Scotia about any concerns you may have. Should any additional information be required, please contact the undersigned at your convenience.

Kind Regards,

Englobe Corp.

Ashley Zottarelli, P.Eng.  
Project Manager, Environmental Engineering
July 12, 2018

Chief Bob Gloade  
Millbrook First Nation  
820 Willow Street, Truro, NS, B2N 6N7

Subject: Proposed Asbestos Waste Disposal Cell  
Colchester Containers Ltd., Highway 289, Middle Stewiacke, Nova Scotia  
Our ref.: P-0011963-0-01-201

I am writing to notify you of the proposed construction of an asbestos waste disposal cell at the existing Colchester Containers Ltd. Construction and Demolition (C&D) waste disposal site, located in Middle Stewiacke, NS. The current C&D facility is located on the north side of Highway 289. The Stewiacke River is located south of the subject property on the opposite side of Highway 289, Rutherford Creek is located farther to the east of the site and Bear Brook is located farther to the west of the site. None of these water courses cross or intersect the site. There is no civic number, but the property is identified by PID No. 20436325 and owned by Colchester Containers Ltd. The current C&D facility at the site operates under an Approval from Nova Scotia Environment (NSE). This project will allow Colchester Containers Ltd. to expand its operations capabilities by providing asbestos waste management services at the existing C&D waste disposal site. The asbestos waste disposal cell will be located above the groundwater table only, and will operate following NSE’s Asbestos Waste Management Regulations.

The site is approximately 30.4 hectares. The initial project site layout is approximately 7500 m², and will involve an Environmental Assessment (EA) to satisfy the NSE Environmental Assessment Regulations requirements. The EA will be conducted by Englobe Corp. and an Archaeology Assessment will be conducted by Davis MacIntyre & Associates as part of the work. The Davis MacIntyre report will be submitted to NS Heritage once completed in the summer of 2018.

We would like to hear from the Mi’kmaq of Nova Scotia about any concerns you may have. Should any additional information be required, please contact the undersigned at your convenience.

Kind Regards,
Englobe Corp.

[Signature]

Ashley Zottarelli, P.Eng.  
Project Manager, Environmental Engineering
July 12, 2018

Chief Rufus Copage
Sipekne’katik First Nation
522 Church Street, Indian Brook, NS

Subject: Proposed Asbestos Waste Disposal Cell
Colchester Containers Ltd., Highway 289, Middle Stewiacke, Nova Scotia
Our ref.: P-0011963-0-01-201

I am writing to notify you of the proposed construction of an asbestos waste disposal cell at the existing Colchester Containers Ltd. Construction and Demolition (C&D) waste disposal site, located in Middle Stewiacke, NS. The current C&D facility is located on the north side of Highway 289. The Stewiacke River is located south of the subject property on the opposite side of Highway 289, Rutherford Creek is located farther to the east of the site and Bear Brook is located farther to the west of the site. None of these water courses cross or intersect the site. There is no civic number, but the property is identified by PID No. 20436325 and owned by Colchester Containers Ltd. The current C&D facility at the site operates under an Approval from Nova Scotia Environment (NSE). This project will allow Colchester Containers Ltd. to expand its operations capabilities by providing asbestos waste management services at the existing C&D waste disposal site. The asbestos waste disposal cell will be located above the groundwater table only, and will operate following NSE’s Asbestos Waste Management Regulations.

The site is approximately 30.4 hectares. The initial project site layout is approximately 7500 m², and will involve an Environmental Assessment (EA) to satisfy the NSE Environmental Assessment Regulations requirements. The EA will be conducted by Englobe Corp. and an Archaeology Assessment will be conducted by Davis MacIntyre & Associates as part of the work. The Davis MacIntyre report will be submitted to NS Heritage once completed in the summer of 2018.

We would like to hear from the Mi’kmaw of Nova Scotia about any concerns you may have. Should any additional information be required, please contact the undersigned at your convenience.

Kind Regards,
Englobe Corp.

Ashley Zottarelli, P.Eng.
Project Manager, Environmental Engineering